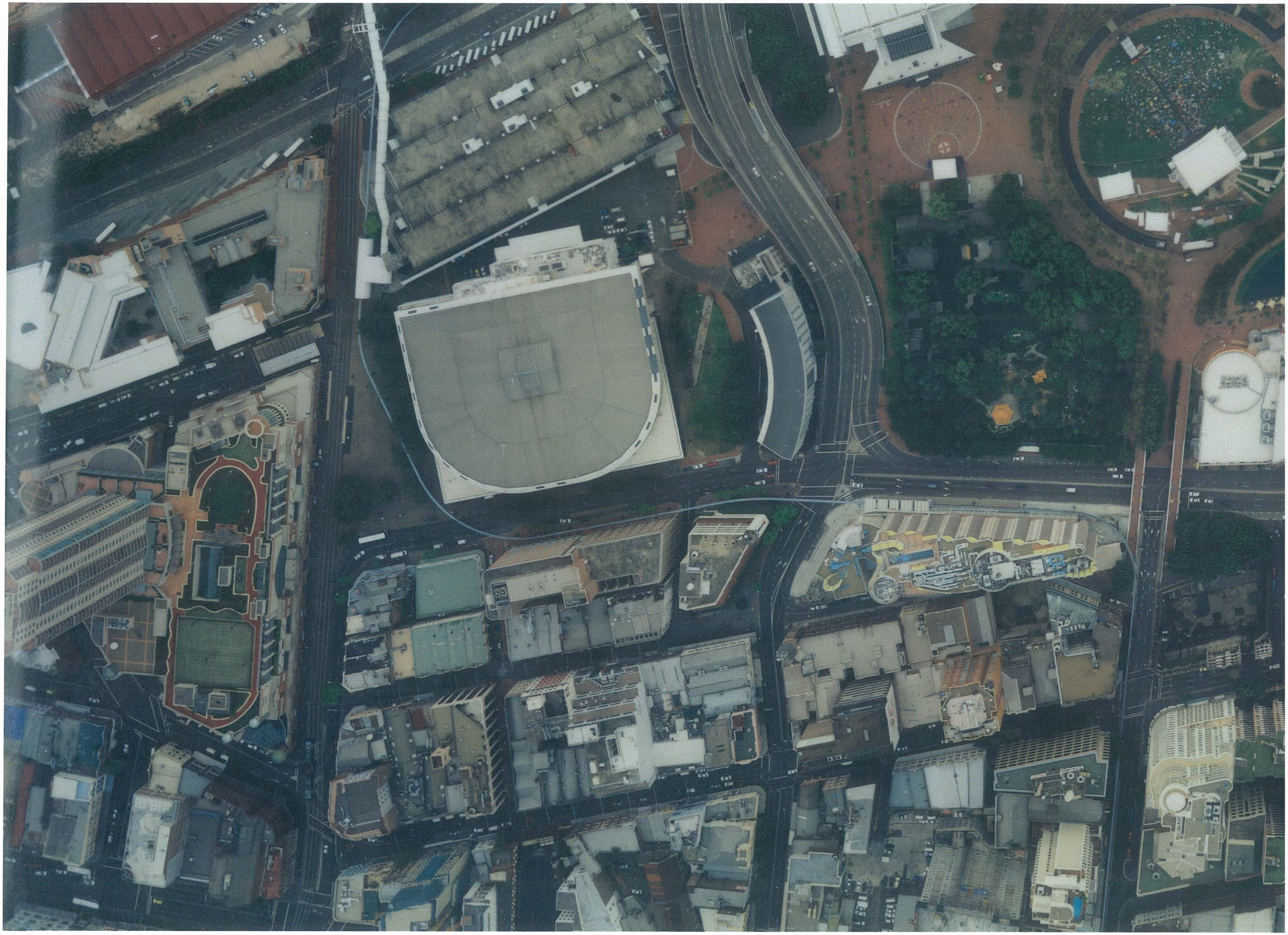
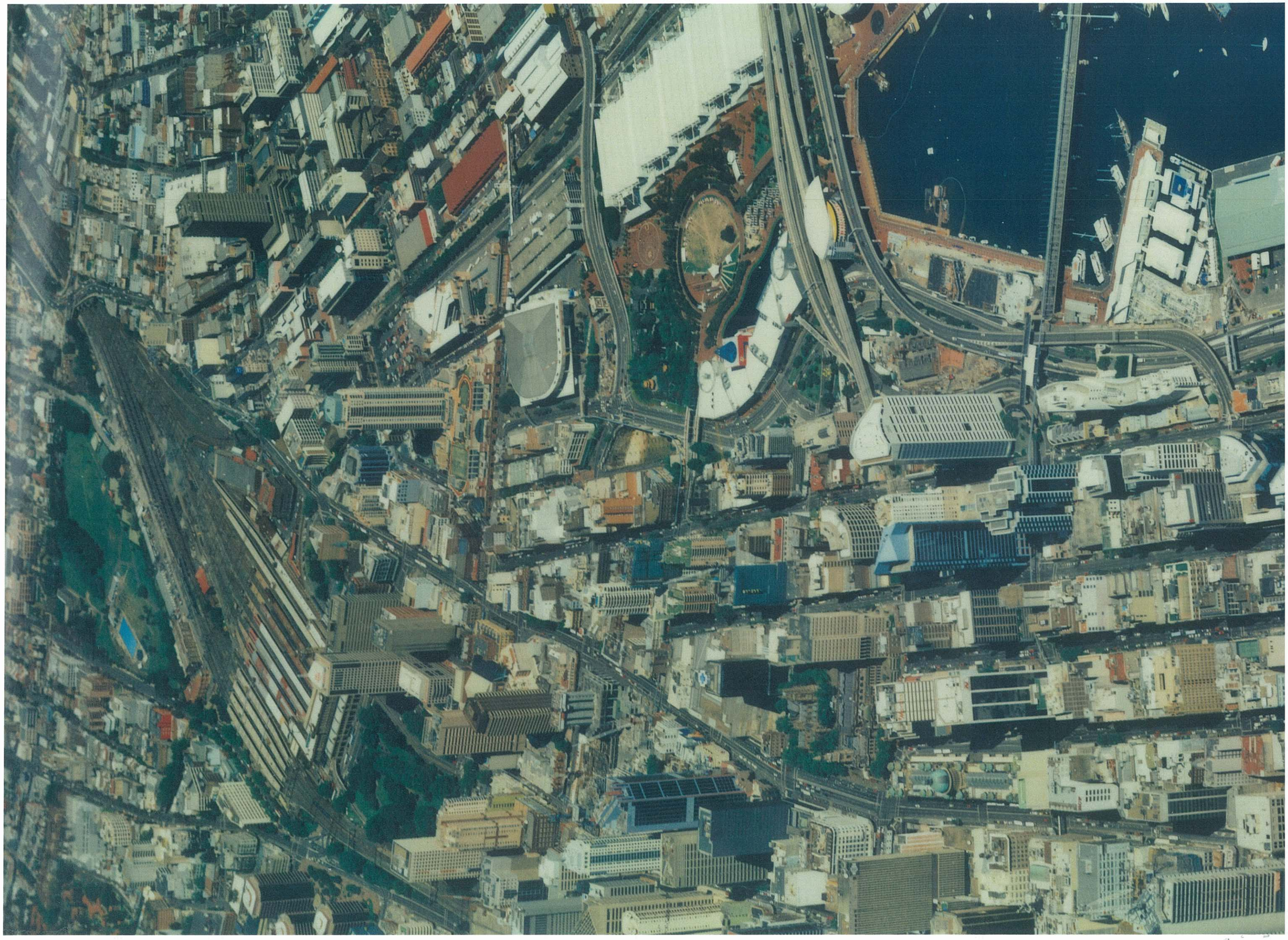


SYDNEY OBLIQUES
(OCTOBER 1997)
NSW4377 (M2081)

RUN 1
11-10-97
168-185

1829 M ASL
303.71 mm




0073
73
SYDNEY OBLIQUES (PT A)
NSW4270 (M1998)
03-07-95
71-75
2743 M ASL
152.76 mm

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of #3103800

coffey environments
SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE

Consigning Office: Chatswood
Report Results to: Matthew Locke — Mobile: — Email: matthew_locke @coffey.com
Invoices to: Matthew Locke — Phone: — Email: matthew_locke @coffey.com

Project No: GEOTLCOV24303AF Task No:
Project Name: SICEEP Laboratory: MGT Lab Mark
Sampler's Name: Priya Dass Project Manager: Matthew Locke
Special Instructions:
TPH/BTEX/PAH TESTED AS SUITE B4 / METALS TESTED AS M8

Analysis Request Section

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	TPH/BTEX/PAH (B4)	Metals (M8)	Asbestos	VOC	SVOC	TCLP - Metals	TCLP - PAHs (low level)	ASLP - Metals	ASLP - PAHs (low level)	Hold	NOTES
	BH105_(0.12-0.22M)	19/12/12		Soil		Standard	X										
	BH105_(0.12-0.22M)_A																
	BH105_(0.5-0.6M)						X	X									
	BH105_(1.0-1.1M)																
	BH105_(1.5-1.6M)																
	QC36																
	BH105_(2.0-2.1M)						X										
	BH105_(2.0-2.1M)_A																
	BH105_(2.5-2.6M)																
	BH105_(2.8-2.9M)																
	BH105_(3.5-3.6M)						X										
	BH105_(3.5-3.6M)_A																
	BH105_(4.0-4.1M)																
	BH105_(4.4-4.5M)																
	BH105_(5.0-5.1M)						X										
	BH105_(5.0-5.1M)_A																
	BH105_(5.5-5.6M)																
	QC37																

RELINQUISHED BY

Name: Priya Dass — Date: 19/12/12 — Time:
Coffey Environments

Name: — Date: — Time:
Company:

RECEIVED BY

Name: SUE — Date: 19/12/12 — Time: 3-30
Company: MGT Labmark

Name: — Date: — Time:
Company:

Sample Receipt Advice: (Lab Use Only)

All Samples Recieved in Good Condition ☐
All Documentation is in Proper Order ☐
Samples Received Properly Chilled ☐
Lab. Ref/Batch No.

*Container Type & Preservation Codes: **P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock Bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric Acid Preserved, **S** - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative, **OP** - Other Preservative

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

 107201

coffey environments
SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE

Consigning Office: Chatswood
Report Results to: Matthew Locke — Mobile: — Email: matthew_locke @coffey.com
Invoices to: Matthew Locke — Phone: — Email: matthew_locke @coffey.com

Project No: GEOTLCOV24303AF Task No:
Project Name: SICEEP Laboratory: MGT LabMark
Sampler's Name: Priya Dass Project Manager: Matthew Locke
Special Instructions:
AS PER PAGE 1

Analysis Request Section

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	TPH/BTEX/PAH (BA)	TPH C6-C9/BTEX	Metals (MTS)	Asbestos	VOC	SVOC	TCLP - Metals	TCLP - PAHs (low level)	ASLP - Metals	ASLP - PAHs (low level)	Hold	MGT TO ADVISE	NOTES
	QC37A	19/12/12		Soil		Standard													Send to Envirolab
	BH105_(5.9-6.0M)						X										X		TRIP SPIKE
	BH105_(5.9-6.0M)_A																		
	TB3																		
	TS3																		
	RB3			Water															
	BH104_(0.12-0.22M)			Soil			X	X											
	BH104_(0.69-0.79M)						X	X											
	BH104_(0.69-0.79M)_A																		
	BH104_(1.0-1.1M)																		
	BH104_(1.5-1.6M)							X											
	BH104_(1.5-1.6M)_A																		
	BH104_(2.0-2.1M)																		
	QC38																		
	BH104_(2.5-2.6M)																		
	BH104_(3.0-3.1M)																		
	BH104_(3.0-3.1M)_A																		
	BH104_(3.4-3.5M)																		
	(3.3-3.4)																		

RELINQUISHED BY

Name: Priya Dass Date: 19/12/12 Time:
Coffey Environments

Name: Date: Time:
Company:

RECEIVED BY

Name: SUE Date: 19/12/12 Time: 3-30
Company: MGT LabMark

Name: Date: Time:
Company:

Sample Receipt Advice: (Lab Use Only)

All Samples Recieved in Good Condition ☐
All Documentation is in Proper Order ☐
Samples Received Properly Chilled ☐
Lab. Ref/Batch No.

*Container Type & Preservation Codes: **P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock Bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric Acid Preserved, **S** - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative, **OP** - Other Preservative

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

 107202

coffey environments
SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE

Consigning Office: Chatswood
Report Results to: Matthew Locke — Mobile: — Email: Matthew_locke @coffey.com
Invoices to: Matthew Locke — Phone: — Email: Matthew_locke @coffey.com

Project No: GEOTLCOV24303AF Task No:
Project Name: SICEEP Laboratory: MGTLabMark
Sampler's Name: Priya Dass Project Manager: Matthew Locke
Special Instructions:
AS PER PAGE 1

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)
	BH104_(3.4-3.6M)	19/12/12		Soil		Standard

Analysis Request Section

TPH/BTEX/PAH (BH)
Metals (MB)
Asbestos
NOC
SVOC
TCLP - Metals
TCLP - PAHs (low level)
ASLP - Metals
ASLP - PAHs (low level)
Hold

NOTES

RELINQUISHED BY		RECEIVED BY	
Name: Priya Dass	Date: 19/12/12	Name: SUE	Date: 19/12/12
Coffey Environments	Time: 3:30 p.m	Company: MGT Labmark	Time: 3-30 PM
Name:	Date:	Name:	Date:
Company:	Time:	Company:	Time:

Sample Receipt Advice: (Lab Use Only)
All Samples Recieved in Good Condition ☐
All Documentation is in Proper Order ☐
Samples Received Properly Chilled ☐
Lab. Ref/Batch No.

*Container Type & Preservation Codes: P - Plastic, G- Glass Bottle, J - Glass Jar, V- Vial, Z - Ziplock Bag, N - Nitric Acid Preserved, C - Hydrochloric Acid Preserved, S - Sulphuric Acid Preserved, I - Ice, ST - Sodium Thiosulfate, NP - No Preservative, OP - Other Preservative

mgt LabMark ENVIRONMENTAL LABORATORIES

ABN – 50 005 085 521 e.mail : enviro@mgtlabmark.com.au web : www.mgtlabmark.com.au

Melbourne
3-5 Kingston Town Close
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NATA # 1261
Site # 1254 & 14271

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Unit F6, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Sample Receipt Advice

Company name: **Coffey Geotechnics Pty Ltd Chatswood**

Contact name: Matthew Locke
Client job number: SICEEP GEOTLCOV24303AF
COC number: 103800, 107201-02
Turn around time: 5 Day
Date/Time received: Dec 19, 2012 4:35 PM
mgt-LabMark reference: **363976**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ Sample Temperature of a random sample selected from the batch as recorded by mgt-LabMark Sample Receipt : 5 degrees Celsius.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Organic samples had Teflon liners.

☑ Sample containers for volatile analysis received with zero headspace.

☑ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Samples QC37A sent to Envirolab as requested | Asbestos analysis condcuted by ASET | Extra sample received BH105_(5.9-6.0m) placed on HOLD | Sample R3 metals container unspecified analysis of total M8 conducted unless otherwise stated
Samples received by the laboratory after 4pm are deemed to have been received the following working day.

Contact notes

If you have any questions with respect to these samples please contact:

Jean Heng on Phone : (+61) (2) 9900 8400 or by e.mail: jean.heng@mgtlabmark.com.au

Results will be delivered electronically via e.mail to Matthew Locke - Matthew_Locke@coffey.com.

mgt LabMark
ENVIRONMENTAL LABORATORIES

Certificate of Analysis

Coffey Geotechnics Pty Ltd Chatswood
Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention:Matthew Locke

Report	**363976-S-V2**
Client Reference	SICEEP GEOTLCOV24303AF
Received Date	Dec 19, 2012

Client Sample ID			**BH105_(0.12-0.22m)**	**BH105_(0.12-0.22m)_A**	**BH105_(1.0-1.1m)**	**BH105_(2.0-2.1m)**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
mgt-LabMark Sample No.			**S12-De17227**	**S12-De17228**	**S12-De17230**	**S12-De17233**
Date Sampled			**Dec 19, 2012**	**Dec 19, 2012**	**Dec 19, 2012**	**Dec 19, 2012**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	10	mg/kg	< 10	< 10	< 10	< 10
TRH C10-C14	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36	100	mg/kg	< 100	< 100	< 100	< 100
TRH C10-36 (Total)	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
m&p-Xylenes	1	mg/kg	< 1	< 1	< 1	< 1
o-Xylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes - Total	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Total BTEX	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
4-Bromofluorobenzene (surr.)	1	%	88	97	105	105
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b)fluoranthene & Benzo(k)fluoranthene	1	mg/kg	< 1	< 1	< 1	< 1
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			BH105_(0.12-0.22m)	BH105_(0.12-0.22m)_A	BH105_(1.0-1.1m)	BH105_(2.0-2.1m)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
mgt-LabMark Sample No.			**S12-De17227**	**S12-De17228**	**S12-De17230**	**S12-De17233**
Date Sampled			**Dec 19, 2012**	**Dec 19, 2012**	**Dec 19, 2012**	**Dec 19, 2012**
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH	1	mg/kg	< 1	< 1	< 1	< 1
2-Fluorobiphenyl (surr.)	1	%	67	99	93	95
p-Terphenyl-d14 (surr.)	1	%	70	112	101	102
Heavy Metals						
Arsenic	2	mg/kg	3.1	2.3	2.3	-
Cadmium	0.4	mg/kg	0.5	0.4	< 0.4	-
Chromium	5	mg/kg	8.7	6.2	6.4	-
Copper	5	mg/kg	62	55	6.5	-
Lead	5	mg/kg	< 5	< 5	12	-
Mercury	0.05	mg/kg	< 0.05	< 0.05	0.20	-
Nickel	5	mg/kg	91	82	< 5	-
Zinc	5	mg/kg	43	39	28	-
% Moisture	0.1	%	5.4	5.1	7.2	8.7
Asbestos			see attached	-	-	-

Client Sample ID			BH105_(2.8-2.9m)	BH105_(4.0-4.1m)	BH105_(5.0-5.1m)	TB3
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
mgt-LabMark Sample No.			**S12-De17236**	**S12-De17239**	**S12-De17241**	**S12-De17246**
Date Sampled			**Dec 19, 2012**	**Dec 19, 2012**	**Dec 19, 2012**	**Dec 19, 2012**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	10	mg/kg	< 10	< 10	< 10	< 10
TRH C10-C14	50	mg/kg	< 50	< 50	< 50	-
TRH C15-C28	100	mg/kg	< 100	< 100	< 100	-
TRH C29-C36	100	mg/kg	< 100	< 100	< 100	-
TRH C10-36 (Total)	100	mg/kg	< 100	< 100	< 100	-
BTEX						
Benzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
m&p-Xylenes	1	mg/kg	< 1	< 1	< 1	< 1
o-Xylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes - Total	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Total BTEX	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
4-Bromofluorobenzene (surr.)	1	%	97	95	88	109
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	-
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	-

Client Sample ID			BH105_(2.8-2.9m)	BH105_(4.0-4.1m)	BH105_(5.0-5.1m)	TB3
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
mgt-LabMark Sample No.			**S12-De17236**	**S12-De17239**	**S12-De17241**	**S12-De17246**
Date Sampled			**Dec 19, 2012**	**Dec 19, 2012**	**Dec 19, 2012**	**Dec 19, 2012**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	-
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	-
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Benzo(b)fluoranthene & Benzo(k)fluoranthene	1	mg/kg	< 1	< 1	< 1	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Total PAH	1	mg/kg	< 1	< 1	< 1	-
2-Fluorobiphenyl (surr.)	1	%	92	93	89	-
p-Terphenyl-d14 (surr.)	1	%	99	98	100	-
% Moisture	0.1	%	23	22	17	-

Client Sample ID			TS3	BH104_(0.12-0.22m)	BH104_(0.69-0.79m)	BH104_(1.5-1.6m)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
mgt-LabMark Sample No.			**S12-De17247**	**S12-De17250**	**S12-De17251**	**S12-De17254**
Date Sampled			**Dec 19, 2012**	**Dec 19, 2012**	**Dec 19, 2012**	**Dec 19, 2012**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	10	mg/kg	-	< 10	< 10	< 10
TRH C10-C14	50	mg/kg	-	410	< 50	< 50
TRH C15-C28	100	mg/kg	-	2500	< 100	< 100
TRH C29-C36	100	mg/kg	-	< 100	< 100	< 100
TRH C10-36 (Total)	100	mg/kg	-	2900	< 100	< 100
BTEX						
Benzene	0.5	mg/kg	104%	< 0.5	< 0.5	< 0.5
Toluene	0.5	mg/kg	104%	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	mg/kg	105%	< 0.5	< 0.5	< 0.5
m&p-Xylenes	1	mg/kg	106%	< 1	< 1	< 1
o-Xylene	0.5	mg/kg	105%	< 0.5	< 0.5	< 0.5
Xylenes - Total	1.5	mg/kg	105%	< 1.5	< 1.5	< 1.5
Total BTEX	1.5	mg/kg	105%	< 1.5	< 1.5	< 1.5
4-Bromofluorobenzene (surr.)	1	%	126	112	114	100

Client Sample ID			TS3	BH104_(0.12-0.22m)	BH104_(0.69-0.79m)	BH104_(1.5-1.6m)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
mgt-LabMark Sample No.			**S12-De17247**	**S12-De17250**	**S12-De17251**	**S12-De17254**
Date Sampled			**Dec 19, 2012**	**Dec 19, 2012**	**Dec 19, 2012**	**Dec 19, 2012**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene[N02]	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	-	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	-	1300	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	1300	< 50	< 50
TRH >C16-C34	100	mg/kg	-	1400	< 100	< 100
TRH >C34-C40	100	mg/kg	-	< 100	< 100	< 100
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Benzo(b)fluoranthene & Benzo(k)fluoranthene	1	mg/kg	-	< 1	< 1	< 1
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	-	< 0.5	0.9	< 0.5
Fluorene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	-	2.1	< 0.5	< 0.5
Pyrene	0.5	mg/kg	-	< 0.5	0.8	< 0.5
Total PAH	1	mg/kg	-	2.1	1.7	< 1
2-Fluorobiphenyl (surr.)	1	%	-	90	93	98
p-Terphenyl-d14 (surr.)	1	%	-	101	93	99
Heavy Metals						
Arsenic	2	mg/kg	-	-	11	13
Cadmium	0.4	mg/kg	-	-	1.9	1.3
Chromium	5	mg/kg	-	-	27	5.1
Copper	5	mg/kg	-	-	130	100
Lead	5	mg/kg	-	-	230	500
Mercury	0.05	mg/kg	-	-	0.16	0.12
Nickel	5	mg/kg	-	-	34	13
Zinc	5	mg/kg	-	-	630	410
% Moisture	0.1	%	-	6.7	10	22
Asbestos			-	-	see attached	-

Client Sample ID			BH104_(1.5-1.6m)_A	BH104_(2.0-2.1m)	BH104_(3.0-3.1m)	BH104_(3.3-3.4m)
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
mgt-LabMark Sample No.			**S12-De17255**	**S12-De17256**	**S12-De17259**	**S12-De17261**
Date Sampled			**Dec 19, 2012**	**Dec 19, 2012**	**Dec 19, 2012**	**Dec 19, 2012**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	10	mg/kg	< 10	< 10	< 10	< 10
TRH C10-C14	50	mg/kg	< 50	< 50	< 50	< 50
TRH C15-C28	100	mg/kg	< 100	< 100	< 100	< 100
TRH C29-C36	100	mg/kg	< 100	< 100	< 100	< 100
TRH C10-36 (Total)	100	mg/kg	< 100	< 100	< 100	< 100
BTEX						
Benzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
m&p-Xylenes	1	mg/kg	< 1	< 1	< 1	< 1
o-Xylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes - Total	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
Total BTEX	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5
4-Bromofluorobenzene (surr.)	1	%	94	90	94	78
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b)fluoranthene & Benzo(k)fluoranthene	1	mg/kg	< 1	< 1	< 1	< 1
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	0.6	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	0.6	< 0.5	< 0.5
Total PAH	1	mg/kg	< 1	1.2	< 1	< 1
2-Fluorobiphenyl (surr.)	1	%	102	100	100	98
p-Terphenyl-d14 (surr.)	1	%	105	84	84	91
% Moisture	0.1	%	22	16	13	15

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.

Description	Testing Site	Extracted	Holding Time
mgt-LabMark Suite 4			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Dec 20, 2012	14 Day
- Method: E004 Petroleum Hydrocarbons (TPH)			
BTEX	Sydney	Jan 29, 2013	14 Day
- Method: E029/E016 BTEX			
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions	Sydney	Dec 20, 2012	14 Day
- Method: LM-LTM-ORG2010			
Polyaromatic Hydrocarbons (PAH)	Sydney	Dec 20, 2012	14 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Metals M8	Sydney	Dec 20, 2012	28 Day
- Method: E022 Acid Extractable metals in Soils & E026 Mercury			
% Moisture	Sydney	Dec 20, 2012	28 Day
- Method: E005 Moisture Content			

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Brisbane
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Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name:	Coffey Geotechnics Pty Ltd Chatswood	**Order No.:**		**Received:**	Dec 19, 2012 4:35 PM
Address:	Level 18, Tower B, Citadel Tower 799 Pacific Highway Chatswood NSW 2067	**Report #:**	363976	**Due:**	Jan 3, 2013
		Phone:	+61 2 9406 1000	**Priority:**	5 Day
		Fax:	+61 2 9406 1002	**Contact Name:**	Matthew Locke
Client Job No.:	SICEEP GEOTLCOV24303AF				

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	HOLD	TRH C6-C9	Metals M8	BTEX	mgt-LabMark Suite 4
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory						X					
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
BH105_(0.12-0.22m)	Dec 19, 2012		Soil	S12-De17227	X	X			X		X
BH105_(0.12-0.22m)_A	Dec 19, 2012		Soil	S12-De17228	X				X		X
BH105_(0.5-0.6m)	Dec 19, 2012		Soil	S12-De17229			X				
BH105_(1.0-1.1m)	Dec 19, 2012		Soil	S12-De17230	X				X		X
BH105_(1.5-1.6m)	Dec 19, 2012		Soil	S12-De17231			X				
QC36	Dec 19, 2012		Soil	S12-De17232			X				

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		Fax:	+61 2 9406 1002	**Contact Name:**	Matthew Locke
Client Job No.:	SICEEP GEOTLCOV24303AF				

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	HOLD	TRH C6-C9	Metals M8	BTEX	mgt-LabMark Suite 4
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory						X					
BH105_(2.0-2.1m)	Dec 19, 2012		Soil	S12-De17233	X						X
BH105_(2.0-2.1m)_A	Dec 19, 2012		Soil	S12-De17234			X				
BH105_(2.5-3.6m)	Dec 19, 2012		Soil	S12-De17235			X				
BH105_(2.8-2.9m)	Dec 19, 2012		Soil	S12-De17236	X						X
BH105_(3.5-3.6m)	Dec 19, 2012		Soil	S12-De17237			X				
BH105_(3.5-3.6m)_A	Dec 19, 2012		Soil	S12-De17238			X				
BH105_(4.0-4.1m)	Dec 19, 2012		Soil	S12-De17239	X						X

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Received:	Dec 19, 2012 4:35 PM	
Due:	Jan 3, 2013	
Priority:	5 Day	
Contact Name:	Matthew Locke	

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	HOLD	TRH C6-C9	Metals M8	BTEX	mgt-LabMark Suite 4
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory						X					
BH105_(4.4-4.5m)	Dec 19, 2012		Soil	S12-De17240			X				
BH105_(5.0-5.1m)	Dec 19, 2012		Soil	S12-De17241	X						X
BH105_(5.0-5.1m)_A	Dec 19, 2012		Soil	S12-De17242			X				
BH105_(5.5-5.6m)	Dec 19, 2012		Soil	S12-De17243			X				
QC37	Dec 19, 2012		Soil	S12-De17244			X				
BH105_(5.9-6.0m)_A	Dec 19, 2012		Soil	S12-De17245			X				
TB3	Dec 19, 2012		Soil	S12-De17246				X			
TS3	Dec 19, 2012		Soil	S12-De17247						X	

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		Fax:	+61 2 9406 1002	**Contact Name:**	Matthew Locke
Client Job No.:	SICEEP GEOTLCOV24303AF				

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	HOLD	TRH C6-C9	Metals M8	BTEX	mgt-LabMark Suite 4
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory						X					
TSLAB3	Dec 19, 2012		Soil	S12-De17248						X	
RB3	Dec 19, 2012		Water	S12-De17249					X		X
BH104_(0.12-0.22m)	Dec 19, 2012		Soil	S12-De17250	X						X
BH104_(0.69-0.79m)	Dec 19, 2012		Soil	S12-De17251	X	X			X		X
BH104_(0.69-0.79m)_A	Dec 19, 2012		Soil	S12-De17252			X				
BH104_(1.0-1.1m)	Dec 19, 2012		Soil	S12-De17253			X				
BH104_(1.5-1.6m)	Dec 19, 2012		Soil	S12-De17254	X				X		X

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Received:	Dec 19, 2012 4:35 PM	
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Contact Name:	Matthew Locke	

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	HOLD	TRH C6-C9	Metals M8	BTEX	mgt-LabMark Suite 4
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory						X					
BH104_(1.5-1.6m)_A	Dec 19, 2012		Soil	S12-De17255	X						X
BH104_(2.0-2.1m)	Dec 19, 2012		Soil	S12-De17256	X						X
QC38	Dec 19, 2012		Soil	S12-De17257			X				
BH104_(2.5-2.6m)	Dec 19, 2012		Soil	S12-De17258			X				
BH104_(3.0-3.1m)	Dec 19, 2012		Soil	S12-De17259	X						X
BH104_(3.0-3.1m)_A	Dec 19, 2012		Soil	S12-De17260			X				
BH104_(3.3-3.4m)	Dec 19, 2012		Soil	S12-De17261	X						X

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mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	HOLD	TRH C6-C9	Metals M8	BTEX	mgt-LabMark Suite 4
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory						X					
BH104_(3.4-3.6m)	Dec 19, 2012		Soil	S12-De17262			X				
BH105_(5.9-6.0m)	Dec 19, 2012		Soil	S12-De17385			X				

mgt-LabMark Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Units

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environment Protection Authority
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC was performed on samples not pertaining to this report, however QC is representative of the sequence or batch that client samples were analysed within

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions E004 Petroleum Hydrocarbons (TPH)							
TRH C6-C9	mg/kg	< 10			10	Pass	
TRH C10-C14	mg/kg	< 50			50	Pass	
TRH C15-C28	mg/kg	< 100			100	Pass	
TRH C29-C36	mg/kg	< 100			100	Pass	
Method Blank							
BTEX E029/E016 BTEX							
Benzene	mg/kg	< 0.5			0.5	Pass	
Toluene	mg/kg	< 0.5			0.5	Pass	
Ethylbenzene	mg/kg	< 0.5			0.5	Pass	
m&p-Xylenes	mg/kg	< 1			1	Pass	
o-Xylene	mg/kg	< 0.5			0.5	Pass	
Xylenes - Total	mg/kg	< 1.5			1.5	Pass	
Total BTEX	mg/kg	< 1.5			1.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions LM-LTM-ORG2010							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH C6-C10 less BTEX (F1)	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polyaromatic Hydrocarbons (PAH) E007 Polyaromatic Hydrocarbons (PAH)							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	mg/kg	< 1			1	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Metals M8 E022 Acid Extractable metals in Soils & E026 Mercury							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.05			0.05	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions E004 Petroleum Hydrocarbons (TPH)							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C6-C9	%	79			70-130	Pass	
TRH C10-C14	%	80			70-130	Pass	
LCS - % Recovery							
BTEX E029/E016 BTEX							
Benzene	%	89			70-130	Pass	
Toluene	%	87			70-130	Pass	
Ethylbenzene	%	87			70-130	Pass	
m&p-Xylenes	%	87			70-130	Pass	
o-Xylene	%	86			70-130	Pass	
Xylenes - Total	%	87			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions LM-LTM-ORG2010							
Naphthalene	%	90			70-130	Pass	
TRH C6-C10	%	87			70-130	Pass	
TRH >C10-C16	%	74			70-130	Pass	
LCS - % Recovery							
Polyaromatic Hydrocarbons (PAH) E007 Polyaromatic Hydrocarbons (PAH)							
Acenaphthene	%	106			70-130	Pass	
Acenaphthylene	%	92			70-130	Pass	
Anthracene	%	104			70-130	Pass	
Benz(a)anthracene	%	80			70-130	Pass	
Benzo(a)pyrene	%	80			70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	%	85			70-130	Pass	
Benzo(g.h.i)perylene	%	83			70-130	Pass	
Chrysene	%	107			70-130	Pass	
Dibenz(a.h)anthracene	%	75			70-130	Pass	
Fluoranthene	%	89			70-130	Pass	
Fluorene	%	96			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	78			70-130	Pass	
Naphthalene	%	101			70-130	Pass	
Phenanthrene	%	99			70-130	Pass	
Pyrene	%	95			70-130	Pass	
LCS - % Recovery							
Metals M8 E022 Acid Extractable metals in Soils & E026 Mercury							
Arsenic	%	81			70-130	Pass	
Cadmium	%	84			70-130	Pass	
Chromium	%	85			70-130	Pass	
Copper	%	125			70-130	Pass	
Lead	%	85			70-130	Pass	
Mercury	%	123			70-130	Pass	
Nickel	%	86			70-130	Pass	
Zinc	%	94			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S12-De18948	NCP	%	84			70-130	Pass	
TRH C10-C14	S12-De17227	CP	%	94			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions				Result 1					
TRH >C10-C16	S12-De17227	CP	%	86			70-130	Pass	
Spike - % Recovery									
Polyaromatic Hydrocarbons (PAH)				Result 1					
Acenaphthene	S12-De17227	CP	%	98			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthylene	S12-De17227	CP	%	88			70-130	Pass	
Anthracene	S12-De17227	CP	%	102			70-130	Pass	
Benz(a)anthracene	S12-De17227	CP	%	88			70-130	Pass	
Benzo(a)pyrene	S12-De17227	CP	%	85			70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S12-De17227	CP	%	91			70-130	Pass	
Benzo(g.h.i)perylene	S12-De17227	CP	%	78			70-130	Pass	
Chrysene	S12-De17227	CP	%	101			70-130	Pass	
Dibenz(a.h)anthracene	S12-De17227	CP	%	74			70-130	Pass	
Fluoranthene	S12-De17227	CP	%	95			70-130	Pass	
Fluorene	S12-De17227	CP	%	90			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S12-De17227	CP	%	79			70-130	Pass	
Naphthalene	S12-De17227	CP	%	98			70-130	Pass	
Phenanthrene	S12-De17227	CP	%	94			70-130	Pass	
Pyrene	S12-De17227	CP	%	98			70-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Arsenic	S12-De17267	NCP	%	82			70-130	Pass	
Cadmium	S12-De17267	NCP	%	96			70-130	Pass	
Chromium	S12-De17267	NCP	%	95			70-130	Pass	
Copper	S12-De17267	NCP	%	72			70-130	Pass	
Lead	N12-De16999	NCP	%	94			70-130	Pass	
Mercury	S12-De17267	NCP	%	110			70-130	Pass	
Nickel	S12-De17267	NCP	%	82			70-130	Pass	
Zinc	N12-De16999	NCP	%	122			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S12-De18948	NCP	%	86			70-130	Pass	
Toluene	S12-De18948	NCP	%	88			70-130	Pass	
Ethylbenzene	S12-De18948	NCP	%	88			70-130	Pass	
m&p-Xylenes	S12-De18948	NCP	%	87			70-130	Pass	
o-Xylene	S12-De18948	NCP	%	88			70-130	Pass	
Xylenes - Total	S12-De18948	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions				Result 1					
Naphthalene	S12-De18948	NCP	%	77			70-130	Pass	
TRH C6-C10	S12-De18948	NCP	%	92			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S12-De18948	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
TRH C10-C14	S12-De17227	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C15-C28	S12-De17227	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH C29-C36	S12-De17227	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S12-De17227	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S12-De17227	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S12-De17227	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Polyaromatic Hydrocarbons (PAH)				Result 1	Result 2	RPD			
Acenaphthene	S12-De17227	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S12-De17227	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S12-De17227	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S12-De17227	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polyaromatic Hydrocarbons (PAH)				Result 1	Result 2	RPD			
Benzo(a)pyrene	S12-De17227	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S12-De17227	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Benzo(g.h.i)perylene	S12-De17227	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S12-De17227	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S12-De17227	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S12-De17227	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S12-De17227	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S12-De17227	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S12-De17227	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S12-De17227	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S12-De17227	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S12-De18948	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Toluene	S12-De18948	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Ethylbenzene	S12-De18948	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
m&p-Xylenes	S12-De18948	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
o-Xylene	S12-De18948	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Xylenes - Total	S12-De18948	NCP	mg/kg	< 1.5	< 1.5	<1	30%	Pass	
Total BTEX	S12-De18948	NCP	mg/kg	< 1.5	< 1.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S12-De18948	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S12-De18948	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	S12-De18948	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	S12-De17254	CP	mg/kg	13	15	13	30%	Pass	
Cadmium	S12-De17254	CP	mg/kg	1.3	1.5	13	30%	Pass	
Chromium	S12-De17254	CP	mg/kg	5.1	5.1	1.0	30%	Pass	
Copper	S12-De17254	CP	mg/kg	100	110	8.0	30%	Pass	
Lead	S12-De17254	CP	mg/kg	500	150	110	30%	Fail	Q15
Mercury	S12-De17254	CP	mg/kg	0.12	0.12	3.0	30%	Pass	
Nickel	S12-De17254	CP	mg/kg	13	13	2.0	30%	Pass	
Zinc	S12-De17254	CP	mg/kg	410	450	10	30%	Pass	

Comments

Please note: Asbestos analysed by ASET (Job : ASET32006/35186/1-2) NATA Accreditation : 14484

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
Q15	The RPD reported passes mgt-LabMark's Acceptance Criteria as stipulated in SOP 05. Refer to Glossary Page of this report for further details

Authorised By

Jean Heng	Client Services
Laura Schofield	Senior Analyst-Volatile (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
James Norford	Senior Analyst-Metal (NSW)

Dr. Bob Symons

Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

mgt LabMark ENVIRONMENTAL LABORATORIES

Certificate of Analysis

Coffey Geotechnics Pty Ltd Chatswood
Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention:Matthew Locke

Report	**363976-W**
Client Reference	SICEEP GEOTLCOV24303AF
Received Date	Dec 19, 2012

Client Sample ID			**RB3**
Sample Matrix			**Water**
mgt-LabMark Sample No.			**S12-De17249**
Date Sampled			**Dec 19, 2012**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-36 (Total)	0.1	mg/L	< 0.1
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
Total m+p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes(ortho.meta and para)	0.003	mg/L	< 0.003
Total BTEX	0.01	mg/L	< 0.01
4-Bromofluorobenzene (surr.)	1	%	91
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *			
Naphthalene[N02]	0.005	mg/L	< 0.005
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1
Polyaromatic Hydrocarbons (PAH)			
Acenaphthene	0.001	mg/L	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001
Anthracene	0.001	mg/L	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001
Benzo(b)fluoranthene & Benzo(k)fluoranthene	0.002	mg/L	< 0.002
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001
Chrysene	0.001	mg/L	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001
Fluoranthene	0.001	mg/L	< 0.001
Fluorene	0.001	mg/L	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001
Naphthalene	0.001	mg/L	< 0.001
Phenanthrene	0.001	mg/L	< 0.001

Client Sample ID			RB3
Sample Matrix			Water
mgt-LabMark Sample No.			S12-De17249
Date Sampled			Dec 19, 2012
Test/Reference	LOR	Unit	
Polyaromatic Hydrocarbons (PAH)			
Pyrene	0.001	mg/L	< 0.001
Total PAH	0.002	mg/L	< 0.002
2-Fluorobiphenyl (surr.)	1	%	103
p-Terphenyl-d14 (surr.)	1	%	102
Heavy Metals			
Arsenic	0.005	mg/L	< 0.005
Cadmium	0.0005	mg/L	< 0.0005
Chromium	0.005	mg/L	< 0.005
Copper	0.005	mg/L	< 0.005
Lead	0.005	mg/L	< 0.005
Mercury	0.0001	mg/L	< 0.0001
Nickel	0.005	mg/L	< 0.005
Zinc	0.005	mg/L	< 0.005

Description	Testing Site	Extracted	Holding Time
mgt-LabMark Suite 4			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Dec 21, 2012	7 Day
- Method: E004 Petroleum Hydrocarbons (TPH)			
BTEX	Sydney	Dec 19, 2012	14 Day
- Method: E029/E016 BTEX			
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *	Sydney	Dec 21, 2012	7 Day
- Method: LM-LTM-ORG2010			
Polyaromatic Hydrocarbons (PAH)	Sydney	Dec 21, 2012	7 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Metals M8	Sydney	Dec 20, 2012	28 Day
- Method: E022/E030 Unfiltered Metals in Water & E026 Mercury			

mgt LabMark ENVIRONMENTAL LABORATORIES

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NATA # 1261
Site # 1254 & 14271

Sydney
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Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Company Name:	Coffey Geotechnics Pty Ltd Chatswood	**Order No.:**		**Received:**	Dec 19, 2012 4:35 PM
Address:	Level 18, Tower B, Citadel Tower 799 Pacific Highway Chatswood NSW 2067	**Report #:**	363976	**Due:**	Jan 3, 2013
		Phone:	+61 2 9406 1000	**Priority:**	5 Day
		Fax:	+61 2 9406 1002	**Contact Name:**	Matthew Locke
Client Job No.:	SICEEP GEOTLCOV24303AF				

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	HOLD	TRH C6-C9	Metals M8	BTEX	mgt-LabMark Suite 4
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory						X					
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**							
BH105_(0.12-0.22m)	Dec 19, 2012		Soil	S12-De17227	X	X			X		X
BH105_(0.12-0.22m)_A	Dec 19, 2012		Soil	S12-De17228	X				X		X
BH105_(0.5-0.6m)	Dec 19, 2012		Soil	S12-De17229			X				
BH105_(1.0-1.1m)	Dec 19, 2012		Soil	S12-De17230	X				X		X
BH105_(1.5-1.6m)	Dec 19, 2012		Soil	S12-De17231			X				
QC36	Dec 19, 2012		Soil	S12-De17232			X				

mgt LabMark ENVIRONMENTAL LABORATORIES

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Site # 1254 & 14271

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NATA # 1261 Site # 18217

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

Company Name: Coffey Geotechnics Pty Ltd Chatswood
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Client Job No.: SICEEP GEOTLCOV24303AF

Order No.:
Report #: 363976
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Dec 19, 2012 4:35 PM
Due: Jan 3, 2013
Priority: 5 Day
Contact Name: Matthew Locke

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	HOLD	TRH C6-C9	Metals M8	BTEX	mgt-LabMark Suite 4
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory						X					
BH105_(2.0-2.1m)	Dec 19, 2012		Soil	S12-De17233	X						X
BH105_(2.0-2.1m)_A	Dec 19, 2012		Soil	S12-De17234			X				
BH105_(2.5-3.6m)	Dec 19, 2012		Soil	S12-De17235			X				
BH105_(2.8-2.9m)	Dec 19, 2012		Soil	S12-De17236	X						X
BH105_(3.5-3.6m)	Dec 19, 2012		Soil	S12-De17237			X				
BH105_(3.5-3.6m)_A	Dec 19, 2012		Soil	S12-De17238			X				
BH105_(4.0-4.1m)	Dec 19, 2012		Soil	S12-De17239	X						X

mgt LabMark ENVIRONMENTAL LABORATORIES

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NATA # 1261
Site # 1254 & 14271

Sydney
Unit F6, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Company Name:	Coffey Geotechnics Pty Ltd Chatswood	**Order No.:**		**Received:**	Dec 19, 2012 4:35 PM
Address:	Level 18, Tower B, Citadel Tower 799 Pacific Highway Chatswood NSW 2067	**Report #:**	363976	**Due:**	Jan 3, 2013
		Phone:	+61 2 9406 1000	**Priority:**	5 Day
		Fax:	+61 2 9406 1002	**Contact Name:**	Matthew Locke
Client Job No.:	SICEEP GEOTLCOV24303AF				

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	HOLD	TRH C6-C9	Metals M8	BTEX	mgt-LabMark Suite 4
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory						X					
BH105_(4.4-4.5m)	Dec 19, 2012		Soil	S12-De17240			X				
BH105_(5.0-5.1m)	Dec 19, 2012		Soil	S12-De17241	X						X
BH105_(5.0-5.1m)_A	Dec 19, 2012		Soil	S12-De17242			X				
BH105_(5.5-5.6m)	Dec 19, 2012		Soil	S12-De17243			X				
QC37	Dec 19, 2012		Soil	S12-De17244			X				
BH105_(5.9-6.0m)_A	Dec 19, 2012		Soil	S12-De17245			X				
TB3	Dec 19, 2012		Soil	S12-De17246				X			
TS3	Dec 19, 2012		Soil	S12-De17247						X	

mgt LabMark ENVIRONMENTAL LABORATORIES

ABN – 50 005 085 521 e.mail : enviro@mgtlabmark.com.au web : www.mgtlabmark.com.au

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Client Job No.:	SICEEP GEOTLCOV24303AF				

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	HOLD	TRH C6-C9	Metals M8	BTEX	mgt-LabMark Suite 4
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory						X					
TSLAB3	Dec 19, 2012		Soil	S12-De17248						X	
RB3	Dec 19, 2012		Water	S12-De17249					X		X
BH104_(0.12-0.22m)	Dec 19, 2012		Soil	S12-De17250	X						X
BH104_(0.69-0.79m)	Dec 19, 2012		Soil	S12-De17251	X	X			X		X
BH104_(0.69-0.79m)_A	Dec 19, 2012		Soil	S12-De17252			X				
BH104_(1.0-1.1m)	Dec 19, 2012		Soil	S12-De17253			X				
BH104_(1.5-1.6m)	Dec 19, 2012		Soil	S12-De17254	X				X		X

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Company Name:	Coffey Geotechnics Pty Ltd Chatswood	**Order No.:**	
Address:	Level 18, Tower B, Citadel Tower 799 Pacific Highway Chatswood NSW 2067	**Report #:** **Phone:** **Fax:**	363976 +61 2 9406 1000 +61 2 9406 1002
Client Job No.:	SICEEP GEOTLCOV24303AF		

Received:	Dec 19, 2012 4:35 PM	
Due:	Jan 3, 2013	
Priority:	5 Day	
Contact Name:	Matthew Locke	

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	HOLD	TRH C6-C9	Metals M8	BTEX	mgt-LabMark Suite 4
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory						X					
BH104_(1.5-1.6m)_A	Dec 19, 2012		Soil	S12-De17255	X						X
BH104_(2.0-2.1m)	Dec 19, 2012		Soil	S12-De17256	X						X
QC38	Dec 19, 2012		Soil	S12-De17257			X				
BH104_(2.5-2.6m)	Dec 19, 2012		Soil	S12-De17258			X				
BH104_(3.0-3.1m)	Dec 19, 2012		Soil	S12-De17259	X						X
BH104_(3.0-3.1m)_A	Dec 19, 2012		Soil	S12-De17260			X				
BH104_(3.3-3.4m)	Dec 19, 2012		Soil	S12-De17261	X						X

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Client Job No.:	SICEEP GEOTLCOV24303AF				

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Asbestos	HOLD	TRH C6-C9	Metals M8	BTEX	mgt-LabMark Suite 4
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X		X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory						X					
BH104_(3.4-3.6m)	Dec 19, 2012		Soil	S12-De17262			X				
BH105_(5.9-6.0m)	Dec 19, 2012		Soil	S12-De17385			X				

mgt-LabMark Internal Quality Control Review

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual PQLs are matrix dependant. Quoted PQLs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

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

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

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

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

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Units

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environment Protection Authority
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC was performed on samples not pertaining to this report, however QC is representative of the sequence or batch that client samples were analysed within

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions E004 Petroleum Hydrocarbons (TPH)							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX E029/E016 BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
Total m+p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes(ortho.meta and para)	mg/L	< 0.003			0.003	Pass	
Total BTEX	mg/L	< 0.01			0.01	Pass	
Method Blank							
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions * LM-LTM-ORG2010							
Naphthalene	mg/L	< 0.005			0.005	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH C6-C10 less BTEX (F1)	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Polyaromatic Hydrocarbons (PAH) E007 Polyaromatic Hydrocarbons (PAH)							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	mg/L	< 0.002			0.002	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Metals M8 E022/E030 Unfiltered Metals in Water & E026 Mercury							
Arsenic	mg/L	< 0.005			0.005	Pass	
Cadmium	mg/L	< 0.0005			0.0005	Pass	
Chromium	mg/L	< 0.005			0.005	Pass	
Copper	mg/L	< 0.005			0.005	Pass	
Lead	mg/L	< 0.005			0.005	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.005			0.005	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions E004 Petroleum Hydrocarbons (TPH)							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C6-C9	%	99			70-130	Pass	
TRH C10-C14	%	95			70-130	Pass	
LCS - % Recovery							
BTEX E029/E016 BTEX							
Benzene	%	101			70-130	Pass	
Toluene	%	101			70-130	Pass	
Ethylbenzene	%	101			70-130	Pass	
Total m+p-Xylenes	%	100			70-130	Pass	
o-Xylene	%	99			70-130	Pass	
Xylenes(ortho.meta and para)	%	100			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions * LM-LTM-ORG2010							
Naphthalene	%	84			70-130	Pass	
TRH C6-C10	%	100			70-130	Pass	
TRH >C10-C16	%	83			70-130	Pass	
LCS - % Recovery							
Polyaromatic Hydrocarbons (PAH) E007 Polyaromatic Hydrocarbons (PAH)							
Acenaphthene	%	71			70-130	Pass	
Acenaphthylene	%	71			70-130	Pass	
Anthracene	%	72			70-130	Pass	
Benz(a)anthracene	%	78			70-130	Pass	
Benzo(a)pyrene	%	79			70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	%	90			70-130	Pass	
Benzo(g.h.i)perylene	%	71			70-130	Pass	
Chrysene	%	74			70-130	Pass	
Dibenz(a.h)anthracene	%	75			70-130	Pass	
Fluoranthene	%	73			70-130	Pass	
Fluorene	%	71			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	75			70-130	Pass	
Naphthalene	%	86			70-130	Pass	
Phenanthrene	%	71			70-130	Pass	
Pyrene	%	73			70-130	Pass	
LCS - % Recovery							
Metals M8 E022/E030 Unfiltered Metals in Water & E026 Mercury							
Arsenic	%	101			70-130	Pass	
Cadmium	%	104			70-130	Pass	
Chromium	%	98			70-130	Pass	
Copper	%	102			70-130	Pass	
Lead	%	97			70-130	Pass	
Mercury	%	109			70-130	Pass	
Nickel	%	100			70-130	Pass	
Zinc	%	106			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Metals M8				Result 1					
Arsenic	S12-De17830	NCP	%	102			70-130	Pass	
Cadmium	S12-De17830	NCP	%	107			70-130	Pass	
Chromium	S12-De17830	NCP	%	104			70-130	Pass	
Copper	S12-De17830	NCP	%	105			70-130	Pass	
Lead	S12-De17830	NCP	%	97			70-130	Pass	
Mercury	S12-De17562	NCP	%	98			70-130	Pass	
Nickel	S12-De17830	NCP	%	106			70-130	Pass	
Zinc	S12-De17830	NCP	%	105			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S12-De17249	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	S12-De17249	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	S12-De17249	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1	Result 2	RPD			
TRH >C10-C16	S12-De17249	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	S12-De17249	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	S12-De17249	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Polyaromatic Hydrocarbons (PAH)				Result 1	Result 2	RPD			
Acenaphthene	S12-De17249	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	S12-De17249	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	S12-De17249	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	S12-De17249	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	S12-De17249	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S12-De17249	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Benzo(g.h.i)perylene	S12-De17249	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	S12-De17249	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	S12-De17249	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	S12-De17249	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	S12-De17249	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S12-De17249	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	S12-De17249	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	S12-De17249	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	S12-De17249	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	S12-De17829	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Cadmium	S12-De17829	NCP	mg/L	< 0.0005	< 0.0005	8.0	30%	Pass	
Chromium	N12-De17270	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Copper	S12-De17829	NCP	mg/L	0.012	0.011	12	30%	Pass	
Lead	S12-De17829	NCP	mg/L	0.010	0.0080	15	30%	Pass	
Mercury	S12-De17561	NCP	mg/L	< 0.0001	< 0.0001	25	30%	Pass	
Nickel	S12-De17829	NCP	mg/L	0.020	0.020	1.0	30%	Pass	
Zinc	S12-De17829	NCP	mg/L	0.083	0.071	15	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Organic samples had Teflon liners	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	Yes

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised By

Jean Heng	Client Services
Laura Schofield	Senior Analyst-Volatile (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
James Norford	Senior Analyst-Metal (NSW)

Dr. Bob Symons

Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref: ASET32006/ 35186 / 1 - 2
Your ref: 363976
NATA Accreditation No: 14484

2 January 2013

MGT- Labmark Environmental Pty Ltd
Unit F3, Building F, 16, Mars Road
Lane Cove
NSW 2066

Attn: Mr Robert Symonds

Dear Bob

Asbestos Identification
This report presents the results of two samples, forwarded by MGT- Labmark Environmental Pty Ltd on 21 December 2012, for analysis for asbestos.

1.Introduction: Two samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method. **(Safer Environment Method 1.)**

3. Results : **Sample No. 1. ASET32006 / 35186 / 1. BH105 - (0.12 - 0.22m) - De17227.**
Approx dimensions 5.8 cm x 5.6 cm x 4.7 cm
The sample consisted of a mixture of soil, stones and plant matter.
No asbestos detected.

Sample No. 2. ASET32006 / 35186 / 2. BH104 - (0.69 - 0.79m) - De17251.
Approx dimensions 4.5 cm x 3.6 cm x 3.2 cm
The sample consisted of a mixture of soil, stones, plant matter, fragments of plaster and bitumen.
No asbestos detected.

Analysed and reported by,

Laxman Dias. BSc
Analyst / Approved Identifier.
Approved Signatory

NATA
WORLD RECOGNISED ACCREDITATION

This document is issued in accordance with NATA's Accreditation requirements. Accredited for compliance with ISO/IEC 17025.

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CERTIFICATE OF ANALYSIS 82441

Client:
Coffey Environment
Level 19, Tower B, Citadel Tower
799 Pacific Hwy
Chatswood
NSW 2067

Attention: Matthew Locke

Sample log in details:

Your Reference:	**GEOTLCOV24303AF**
No. of samples:	1 Soil
Date samples received / completed instructions received	30/11/12 / 30/11/12

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:	7/12/12 / 5/12/12
Date of Preliminary Report:	Not issued

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Accredited for compliance with ISO/IEC 17025. **Tests not covered by NATA are denoted with *.**

Results Approved By:

Jacinta Hurst
Laboratory Manager

Rhian Morgan
Reporting Supervisor

Jeremy Faircloth
Chemist

vTRH & BTEX in Soil		
Our Reference:	UNITS	82441-1
Your Reference	----------	QC1A
Date Sampled	----------	29/11/2012
Type of sample		Soil
Date extracted	-	03/12/2012
Date analysed	-	03/12/2012
TRHC$_6$ - C$_9$	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	101

sTRH in Soil (C10-C36)		
Our Reference:	UNITS	82441-1
Your Reference	----------	QC1A
Date Sampled	----------	29/11/2012
Type of sample		Soil
Date extracted	-	03/12/2012
Date analysed	-	04/12/2012
TRHC$_{10}$ - C$_{14}$	mg/kg	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100
Surrogate o-Terphenyl	%	101

PAHs in Soil		
Our Reference:	UNITS	82441-1
Your Reference	----------	QC1A
Date Sampled	----------	29/11/2012
Type of sample		Soil
Date extracted	-	03/12/2012
Date analysed	-	04/12/2012
Naphthalene	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+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Surrogate p-Terphenyl-d_{14}	%	102

Acid Extractable metals in soil		
Our Reference:	UNITS	82441-1
Your Reference	----------	QC1A
Date Sampled	----------	29/11/2012
Type of sample		Soil
Date digested	-	03/12/2012
Date analysed	-	03/12/2012
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.5
Chromium	mg/kg	10
Copper	mg/kg	3
Lead	mg/kg	9
Mercury	mg/kg	<0.1
Nickel	mg/kg	3
Zinc	mg/kg	58

Moisture		
Our Reference:	UNITS	82441-1
Your Reference	----------	QC1A
Date Sampled	----------	29/11/2012
Type of sample		Soil
Date prepared	-	03/12/12
Date analysed	-	04/12/12
Moisture	%	4.7

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 draft Guideline on Investigation Levels for Soil and Groundwater.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 draft Guideline on Investigation Levels for Soil and Groundwater.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM draft B1 Guideline on Investigation Levels for Soil and Groundwater.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.

QUALITY CONTROL vTRH & BTEX in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			03/12/2012	[NT]	[NT]	LCS-4	03/12/2012
Date analysed	-			03/12/2012	[NT]	[NT]	LCS-4	03/12/2012
TRHC$_6$ - C$_9$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-4	88%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-4	90%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-4	88%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-4	84%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-4	88%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-4	85%
Surrogate aaa-Trifluorotoluene	%		Org-016	96	[NT]	[NT]	LCS-4	98%

QUALITY CONTROL sTRH in Soil (C10-C36)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			03/12/2012	[NT]	[NT]	LCS-4	03/12/2012
Date analysed	-			04/12/2012	[NT]	[NT]	LCS-4	04/12/2012
TRHC$_{10}$ - C$_{14}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-4	90%
TRHC$_{15}$ - C$_{28}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-4	108%
TRHC$_{29}$ - C$_{36}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-4	98%
Surrogate o-Terphenyl	%		Org-003	100	[NT]	[NT]	LCS-4	107%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			03/12/2012	[NT]	[NT]	LCS-4	03/12/2012
Date analysed	-			04/12/2012	[NT]	[NT]	LCS-4	04/12/2012
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	101%
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-4	99%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	92%
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-4	97%
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	92%
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-4	95%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
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-4	122%
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-d_{14}	%		Org-012 subset	97	[NT]	[NT]	LCS-4	97%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date digested	-			03/12/2012	[NT]	[NT]	LCS-3	03/12/2012
Date analysed	-			03/12/2012	[NT]	[NT]	LCS-3	03/12/2012
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-3	86%
Cadmium	mg/kg	0.5	Metals-020 ICP-AES	<0.5	[NT]	[NT]	LCS-3	80%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	88%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	88%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	86%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-3	93%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	88%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	88%

QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank
Date prepared	-			[NT]
Date analysed	-			[NT]
Moisture	%	0.1	Inorg-008	[NT]

Report Comments:

Asbestos ID was analysed by Approved Identifier:	Not applicable for this job
Asbestos ID was authorised by Approved Signatory:	Not applicable for this job

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NA: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	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, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

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CERTIFICATE OF ANALYSIS 82623

Client:
Coffey Environment
Level 19, Tower B, Citadel Tower
799 Pacific Hwy
Chatswood
NSW 2067

Attention: Matthew Locke

Sample log in details:

Your Reference:	**GEOTL00V04303AF**
No. of samples:	1 Soil
Date samples received / completed instructions received	05/12/2012 / 07/12/12

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:	14/12/12 / 12/12/12
Date of Preliminary Report:	Not issued

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Results Approved By:

Nancy Zhang
Chemist

Rhian Morgan
Reporting Supervisor

Jeremy Faircloth
Chemist

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	82623-1
Your Reference	----------	QC9A
Type of sample	----------	Soil
Date extracted	-	10/12/2012
Date analysed	-	11/12/2012
TRHC$_6$ - C$_9$	mg/kg	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	102

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	82623-1
Your Reference	----------	QC9A
Type of sample	----------	Soil
Date extracted	-	10/12/2012
Date analysed	-	11/12/2012
TRHC$_{10}$ - C$_{14}$	mg/kg	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	<100
TRHC$_{29}$ - C$_{36}$	mg/kg	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	<100
TRH>C$_{34}$-C$_{40}$	mg/kg	<100
Surrogate o-Terphenyl	%	90

PAHs in Soil Our Reference: Your Reference Type of sample	UNITS ---------- ----------	82623-1 QC9A Soil
Date extracted	-	10/12/2012
Date analysed	-	12/12/2012
Naphthalene	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	0.4
Pyrene	mg/kg	0.4
Benzo(a)anthracene	mg/kg	0.1
Chrysene	mg/kg	0.2
Benzo(b+k)fluoranthene	mg/kg	0.3
Benzo(a)pyrene	mg/kg	0.18
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1
Benzo(a)pyrene TEQ	mg/kg	<0.5
Surrogate p-Terphenyl-d_{14}	%	105

Acid Extractable metals in soil Our Reference: Your Reference Type of sample	UNITS ---------- ----------	82623-1 QC9A Soil
Date digested	-	10/12/2012
Date analysed	-	11/12/2012
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.5
Chromium	mg/kg	10
Copper	mg/kg	15
Lead	mg/kg	19
Mercury	mg/kg	<0.1
Nickel	mg/kg	8
Zinc	mg/kg	41

Moisture Our Reference: Your Reference Type of sample	 UNITS ---------- ----------	 82623-1 QC9A Soil
Date prepared	-	10/12/12
Date analysed	-	11/12/12
Moisture	%	11

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 draft Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 draft Guideline on Investigation Levels for Soil and Groundwater.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM draft B1 Guideline on Investigation Levels for Soil and Groundwater.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.