QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			10/12/2012	[NT]	[NT]	LCS-8	10/12/2012
Date analysed	-			11/12/2012	[NT]	[NT]	LCS-8	12/12/2012
TRH C_6 - C_9	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-8	120%
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-8	120%
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	25	Org-016	[NT]	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-8	124%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-8	118%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-8	117%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-8	121%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-8	119%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	112	[NT]	[NT]	LCS-8	118%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			10/12/2012	[NT]	[NT]	LCS-3	10/12/2012
Date analysed	-			11/12/2012	[NT]	[NT]	LCS-3	11/12/2012
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-3	78%
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	102%
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	93%
TRH>C_{10}-C_{16}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-3	78%
TRH>C_{10} - C_{16} less Naphthalene (F2)	mg/kg	50	Org-003	[NT]	[NT]	[NT]	[NR]	[NR]
TRH>C_{16}-C_{34}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	102%
TRH>C_{34}-C_{40}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	93%
Surrogate o-Terphenyl	%		Org-003	97	[NT]	[NT]	LCS-3	113%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			10/12/2012	[NT]	[NT]	LCS-3	10/12/2012
Date analysed	-			11/12/2012	[NT]	[NT]	LCS-3	12/12/2012
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	102%
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-3	100%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	100%
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-3	100%
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	100%
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-3	100%
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-3	106%
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]
Benzo(a)pyrene TEQ	mg/kg	0.5	Org-012 subset	[NT]	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		Org-012 subset	93	[NT]	[NT]	LCS-3	102%

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	-			10/12/2012	[NT]	[NT]	LCS-2	10/12/2012
Date analysed	-			11/12/2012	[NT]	[NT]	LCS-2	11/12/2012
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-2	97%
Cadmium	mg/kg	0.5	Metals-020 ICP-AES	<0.5	[NT]	[NT]	LCS-2	97%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-2	101%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-2	101%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-2	98%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-2	99%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-2	101%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-2	101%

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 82992

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	12/12/2012 / 12/12/2012

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:	19/12/12 / 17/12/12
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:

Nancy Zhang
Chemist

Rhian Morgan
Reporting Supervisor

ACCREDITED FOR TECHNICAL COMPETENCE

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	82992-1
Your Reference	----------	QC15A
Date Sampled	----------	7/12/2012
Type of sample		Soil
Date extracted	-	13/12/2012
Date analysed	-	14/12/2012
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	%	116

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	82992-1
Your Reference	----------	QC15A
Date Sampled	----------	7/12/2012
Type of sample		Soil
Date extracted	-	13/12/2012
Date analysed	-	14/12/2012
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	%	88

PAHs in Soil		
Our Reference:	UNITS	82992-1
Your Reference	----------	QC15A
Date Sampled	----------	7/12/2012
Type of sample		Soil
Date extracted	-	13/12/2012
Date analysed	-	14/12/2012
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	0.2
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	0.3
Pyrene	mg/kg	0.3
Benzo(a)anthracene	mg/kg	0.2
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}	%	101

Acid Extractable metals in soil		
Our Reference:	UNITS	82992-1
Your Reference	----------	QC15A
Date Sampled	----------	7/12/2012
Type of sample		Soil
Date digested	-	13/12/2012
Date analysed	-	13/12/2012
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.5
Chromium	mg/kg	13
Copper	mg/kg	30
Lead	mg/kg	37
Mercury	mg/kg	<0.1
Nickel	mg/kg	7
Zinc	mg/kg	35

Moisture		
Our Reference:	UNITS	82992-1
Your Reference	----------	QC15A
Date Sampled	----------	7/12/2012
Type of sample		Soil
Date prepared	-	13/12/2012
Date analysed	-	14/12/2012
Moisture	%	7.2

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.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			13/12/2012	[NT]	[NT]	LCS-4	13/12/2012
Date analysed	-			14/12/2012	[NT]	[NT]	LCS-4	14/12/2012
TRH C_6 - C_9	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-4	120%
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-4	120%
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	25	Org-016	[NT]	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-4	127%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-4	127%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-4	106%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-4	121%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-4	123%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	109	[NT]	[NT]	LCS-4	108%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			13/12/2012	[NT]	[NT]	LCS-2	13/12/2012
Date analysed	-			14/12/2012	[NT]	[NT]	LCS-2	14/12/2012
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	79%
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	98%
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	88%
TRH>C_{10}-C_{16}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	79%
TRH>C_{10} - C_{16} less Naphthalene (F2)	mg/kg	50	Org-003	[NT]	[NT]	[NT]	[NR]	[NR]
TRH>C_{16}-C_{34}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	98%
TRH>C_{34}-C_{40}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	88%
Surrogate o-Terphenyl	%		Org-003	94	[NT]	[NT]	LCS-2	120%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			13/12/2012	[NT]	[NT]	LCS-2	13/12/2012
Date analysed	-			14/12/2012	[NT]	[NT]	LCS-2	14/12/2012
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	95%
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-2	93%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	96%
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-2	95%
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	97%
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-2	95%
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-2	103%
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]
Benzo(a)pyrene TEQ	mg/kg	0.5	Org-012 subset	[NT]	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		Org-012 subset	103	[NT]	[NT]	LCS-2	98%

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	-			13/12/2012	[NT]	[NT]	LCS-3	13/12/2012
Date analysed	-			13/12/2012	[NT]	[NT]	LCS-3	13/12/2012
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-3	97%
Cadmium	mg/kg	0.5	Metals-020 ICP-AES	<0.5	[NT]	[NT]	LCS-3	98%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	96%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	98%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	95%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-3	90%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	95%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	96%

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 83091

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	13/12/12 / 13/12/12

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:	20/12/12 / 19/12/12
Date of Preliminary Report:	Not issued

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Results Approved By:

Rhian Morgan
Reporting Supervisor

Hinoko Miyazaki
Chemist

Jeremy Faircloth
Chemist

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	83091-1
Your Reference	----------	QC19A
Date Sampled	----------	12/12/2012
Type of sample		Soil
Date extracted	-	14/12/2012
Date analysed	-	14/12/2012
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	%	103

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	83091-1
Your Reference	----------	QC19A
Date Sampled	----------	12/12/2012
Type of sample		Soil
Date extracted	-	14/12/2012
Date analysed	-	15/12/2012
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	%	94

PAHs in Soil		
Our Reference:	UNITS	83091-1
Your Reference	----------	QC19A
Date Sampled	----------	12/12/2012
Type of sample		Soil
Date extracted	-	14/12/2012
Date analysed	-	14/12/2012
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
Benzo(a)pyrene TEQ	mg/kg	<0.5
Surrogate p-Terphenyl-d_{14}	%	#

Acid Extractable metals in soil		
Our Reference:	UNITS	83091-1
Your Reference	----------	QC19A
Date Sampled	----------	12/12/2012
Type of sample		Soil
Date digested	-	14/12/2012
Date analysed	-	14/12/2012
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.5
Chromium	mg/kg	4
Copper	mg/kg	15
Lead	mg/kg	23
Mercury	mg/kg	0.3
Nickel	mg/kg	4
Zinc	mg/kg	25

Moisture		
Our Reference:	UNITS	83091-1
Your Reference	----------	QC19A
Date Sampled	----------	12/12/2012
Type of sample		Soil
Date prepared	-	14/12/12
Date analysed	-	17/12/12
Moisture	%	28

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.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			14/12/2012	[NT]	[NT]	LCS-5	14/12/2012
Date analysed	-			14/12/2012	[NT]	[NT]	LCS-5	14/12/2012
TRH C_6 - C_9	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-5	120%
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-5	120%
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	25	Org-016	25	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-5	120%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-5	116%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-5	111%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-5	117%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-5	127%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	119	[NT]	[NT]	LCS-5	117%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			14/12/2012	[NT]	[NT]	LCS-7	14/12/2012
Date analysed	-			15/12/2012	[NT]	[NT]	LCS-7	15/12/2012
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-7	85%
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	101%
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	89%
TRH>C_{10}-C_{16}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-7	85%
TRH>C_{10} - C_{16} less Naphthalene (F2)	mg/kg	50	Org-003	50	[NT]	[NT]	[NR]	[NR]
TRH>C_{16}-C_{34}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	101%
TRH>C_{34}-C_{40}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	89%
Surrogate o-Terphenyl	%		Org-003	102	[NT]	[NT]	LCS-7	85%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			14/12/2012	[NT]	[NT]	LCS-5	14/12/2012
Date analysed	-			14/12/2012	[NT]	[NT]	LCS-5	14/12/2012
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-5	102%
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-5	100%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-5	103%
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-5	104%
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-5	104%
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-5	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-5	104%
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]
Benzo(a)pyrene TEQ	mg/kg	0.5	Org-012 subset	0.5	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		Org-012 subset	108	[NT]	[NT]	LCS-5	96%

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	-			14/12/2012	[NT]	[NT]	LCS-3	14/12/2012
Date analysed	-			14/12/2012	[NT]	[NT]	LCS-3	14/12/2012
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-3	89%
Cadmium	mg/kg	0.5	Metals-020 ICP-AES	<0.5	[NT]	[NT]	LCS-3	88%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	89%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	90%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	89%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-3	100%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	90%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	90%

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

Report Comments:

PAH(in soil)# Percent recovery is not possible to report due to interference from analytes (other than those being tested) in the sample/s.

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 83249

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:	2 Soils
Date samples received / completed instructions received	17/12/2012 / 17/12/2012

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:	4/01/13 / 2/01/13
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:

Nancy Zhang
Chemist

Rhian Morgan
Reporting Supervisor

Alex MacLean
Chemist

Jeremy Faircloth
Chemist

ACCREDITED FOR TECHNICAL COMPETENCE

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	83249-1
Your Reference	----------	QC23A
Date Sampled	----------	13/12/2012
Type of sample		Soil
Date extracted	-	18/12/2012
Date analysed	-	19/12/2012
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	%	99

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	83249-1
Your Reference	----------	QC23A
Date Sampled	----------	13/12/2012
Type of sample		Soil
Date extracted	-	18/12/2012
Date analysed	-	19/12/2012
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	%	96

PAHs in Soil		
Our Reference:	UNITS	83249-1
Your Reference	----------	QC23A
Date Sampled	----------	13/12/2012
Type of sample		Soil
Date extracted	-	18/12/2012
Date analysed	-	18/12/2012
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	0.2
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	0.7
Pyrene	mg/kg	0.8
Benzo(a)anthracene	mg/kg	0.4
Chrysene	mg/kg	0.3
Benzo(b+k)fluoranthene	mg/kg	0.7
Benzo(a)pyrene	mg/kg	0.50
Indeno(1,2,3-c,d)pyrene	mg/kg	0.3
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	0.2
Benzo(a)pyrene TEQ	mg/kg	1
Surrogate p-Terphenyl-d_{14}	%	102

Acid Extractable metals in soil		
Our Reference:	UNITS	83249-1
Your Reference	----------	QC23A
Date Sampled	----------	13/12/2012
Type of sample		Soil
Date digested	-	18/12/2012
Date analysed	-	18/12/2012
Arsenic	mg/kg	7
Cadmium	mg/kg	<0.5
Chromium	mg/kg	11
Copper	mg/kg	50
Lead	mg/kg	75
Mercury	mg/kg	0.2
Nickel	mg/kg	11
Zinc	mg/kg	110

Moisture		
Our Reference:	UNITS	83249-1
Your Reference	----------	QC23A
Date Sampled	----------	13/12/2012
Type of sample		Soil
Date prepared	-	18/12/2012
Date analysed	-	19/12/2012
Moisture	%	7.5

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.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/12/2012	[NT]	[NT]	LCS-1	18/12/2012
Date analysed	-			19/12/2012	[NT]	[NT]	LCS-1	19/12/2012
TRH C_6 - C_9	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	115%
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	115%
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	25	Org-016	[NT]	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-1	126%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-1	96%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	105%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-1	121%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	122%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	104	[NT]	[NT]	LCS-1	102%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/12/2012	[NT]	[NT]	LCS-1	18/12/2012
Date analysed	-			19/12/2012	[NT]	[NT]	LCS-1	19/12/2012
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	91%
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	107%
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	96%
TRH>C_{10}-C_{16}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	140%
TRH>C_{10} - C_{16} less Naphthalene (F2)	mg/kg	50	Org-003	[NT]	[NT]	[NT]	[NR]	[NR]
TRH>C_{16}-C_{34}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	93%
TRH>C_{34}-C_{40}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	96%
Surrogate o-Terphenyl	%		Org-003	96	[NT]	[NT]	LCS-1	105%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/12/2012	[NT]	[NT]	LCS-1	18/12/2012
Date analysed	-			18/12/2012	[NT]	[NT]	LCS-1	18/12/2012
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	102%
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-1	104%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	106%
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-1	108%
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	109%
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-1	103%
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-1	108%
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]
Benzo(a)pyrene TEQ	mg/kg	0.5	Org-012 subset	[NT]	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		Org-012 subset	105	[NT]	[NT]	LCS-1	96%

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	-			18/12/2012	[NT]	[NT]	LCS-2	18/12/2012
Date analysed	-			18/12/2012	[NT]	[NT]	LCS-2	18/12/2012
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-2	98%
Cadmium	mg/kg	0.5	Metals-020 ICP-AES	<0.5	[NT]	[NT]	LCS-2	99%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-2	98%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-2	102%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-2	95%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-2	99%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-2	98%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-2	97%

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 83601

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:	2 Soils		
Date samples received / completed instructions received	21/12/12	/	21/12/12

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:	10/01/13	/	3/01/13
Date of Preliminary Report:	Not issued		

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Results Approved By:

Giovanni Agosti
Technical Manager

Jeremy Faircloth
Chemist

vTRH(C6-C10)/BTEXN in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	83601-1 QC33A 17/12/2012 Soil	83601-2 QC35A 17/12/2012 Soil
Date extracted	-	28/12/2012	28/12/2012
Date analysed	-	29/12/2012	29/12/2012
TRHC$_6$ - C$_9$	mg/kg	<25	<25
TRHC$_6$ - C$_{10}$	mg/kg	<25	<25
vTPHC$_6$ - C$_{10}$ less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
naphthalene	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	120	111

svTRH (C10-C40) in Soil			
Our Reference:	UNITS	83601-1	83601-2
Your Reference	----------	QC33A	QC35A
Date Sampled	----------	17/12/2012	17/12/2012
Type of sample		Soil	Soil
Date extracted	-	28/12/2012	28/12/2012
Date analysed	-	02/01/2013	02/01/2013
TRHC$_{10}$ - C$_{14}$	mg/kg	<50	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	180	250
TRHC$_{29}$ - C$_{36}$	mg/kg	150	180
TRH>C$_{10}$-C$_{16}$	mg/kg	<50	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	<50	<50
TRH>C$_{16}$-C$_{34}$	mg/kg	270	390
TRH>C$_{34}$-C$_{40}$	mg/kg	<100	<100
Surrogate o-Terphenyl	%	122	123

PAHs in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ---------- ----------	83601-1 QC33A 17/12/2012 Soil	83601-2 QC35A 17/12/2012 Soil
Date extracted	-	28/12/2012	28/12/2012
Date analysed	-	28/12/2012	28/12/2012
Naphthalene	mg/kg	1.4	0.3
Acenaphthylene	mg/kg	0.2	0.9
Acenaphthene	mg/kg	0.3	<0.1
Fluorene	mg/kg	0.5	0.3
Phenanthrene	mg/kg	1.6	4.6
Anthracene	mg/kg	0.5	1.4
Fluoranthene	mg/kg	2.1	7.9
Pyrene	mg/kg	2.0	8.0
Benzo(a)anthracene	mg/kg	1.1	4.6
Chrysene	mg/kg	1.0	3.9
Benzo(b+k)fluoranthene	mg/kg	1.8	6.5
Benzo(a)pyrene	mg/kg	1.1	4.7
Indeno(1,2,3-c,d)pyrene	mg/kg	0.7	2.7
Dibenzo(a,h)anthracene	mg/kg	0.1	0.4
Benzo(g,h,i)perylene	mg/kg	0.6	2.1
Benzo(a)pyrene TEQ	mg/kg	2	7.0
Surrogate p-Terphenyl-d_{14}	%	114	117

Moisture			
Our Reference:	UNITS	83601-1	83601-2
Your Reference	----------	QC33A	QC35A
Date Sampled	----------	17/12/2012	17/12/2012
Type of sample		Soil	Soil
Date prepared	-	28/12/12	28/12/12
Date analysed	-	02/01/13	02/01/13
Moisture	%	20	21

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.
Inorg-008	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			28/12/2012	[NT]	[NT]	LCS-6	28/12/2012
Date analysed	-			29/12/2012	[NT]	[NT]	LCS-6	29/12/2012
TRH C_6 - C_9	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-6	119%
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-6	119%
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	25	Org-016	[NT]	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-6	125%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-6	119%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-6	111%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-6	119%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-6	122%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	120	[NT]	[NT]	LCS-6	112%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			28/12/2012	[NT]	[NT]	LCS-6	28/12/2012
Date analysed	-			02/01/2013	[NT]	[NT]	LCS-6	02/01/2013
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-6	94%
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-6	111%
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-6	99%
TRH>C_{10}-C_{16}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-6	94%
TRH>C_{10} - C_{16} less Naphthalene (F2)	mg/kg	50	Org-003	[NT]	[NT]	[NT]	[NR]	[NR]
TRH>C_{16}-C_{34}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-6	111%
TRH>C_{34}-C_{40}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-6	99%
Surrogate o-Terphenyl	%		Org-003	108	[NT]	[NT]	LCS-6	77%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			28/12/2012	[NT]	[NT]	LCS-6	28/12/2012
Date analysed	-			28/12/2012	[NT]	[NT]	LCS-6	28/12/2012
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-6	111%
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-6	111%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-6	107%
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-6	106%
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-6	108%
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-6	109%
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-6	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]
Benzo(a)pyrene TEQ	mg/kg	0.5	Org-012 subset	[NT]	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		Org-012 subset	121	[NT]	[NT]	LCS-6	117%

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 83602

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, SICEEP**
No. of samples:	3 Soils
Date samples received / completed instructions received	21/12/12 / 21/12/12

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:	10/01/13 / 3/01/13
Date of Preliminary Report:	Not issued

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Results Approved By:

Rhian Morgan
Reporting Supervisor

Jeremy Faircloth
Chemist

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	83602-3
Your Reference	----------	QC31A
Date Sampled	----------	17/12/2012
Type of sample		Soil
Date extracted	-	28/12/2012
Date analysed	-	29/12/2012
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	%	90

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	83602-3
Your Reference	----------	QC31A
Date Sampled	----------	17/12/2012
Type of sample		Soil
Date extracted	-	28/12/2012
Date analysed	-	02/01/2013
TRHC$_{10}$ - C$_{14}$	mg/kg	<50
TRHC$_{15}$ - C$_{28}$	mg/kg	100
TRHC$_{29}$ - C$_{36}$	mg/kg	330
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	320
TRH>C$_{34}$-C$_{40}$	mg/kg	250
Surrogate o-Terphenyl	%	117

PAHs in Soil		
Our Reference:	UNITS	83602-3
Your Reference	----------	QC31A
Date Sampled	----------	17/12/2012
Type of sample		Soil
Date extracted	-	28/12/2012
Date analysed	-	28/12/2012
Naphthalene	mg/kg	0.5
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	0.5
Anthracene	mg/kg	0.1
Fluoranthene	mg/kg	0.6
Pyrene	mg/kg	0.6
Benzo(a)anthracene	mg/kg	0.3
Chrysene	mg/kg	0.3
Benzo(b+k)fluoranthene	mg/kg	0.4
Benzo(a)pyrene	mg/kg	0.29
Indeno(1,2,3-c,d)pyrene	mg/kg	0.2
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	0.2
Benzo(a)pyrene TEQ	mg/kg	<0.5
Surrogate p-Terphenyl-d_{14}	%	114

Moisture		
Our Reference:	UNITS	83602-3
Your Reference	----------	QC31A
Date Sampled	----------	17/12/2012
Type of sample		Soil
Date prepared	-	28/12/12
Date analysed	-	02/01/13
Moisture	%	18

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.
Inorg-008	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			28/12/2012	[NT]	[NT]	LCS-3	28/12/2012
Date analysed	-			29/12/2012	[NT]	[NT]	LCS-3	29/12/2012
TRH C_6 - C_9	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-3	104%
TRH C_6 - C_{10}	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-3	104%
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	25	Org-016	[NT]	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-3	109%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-3	102%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-3	100%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-3	104%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-3	105%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	97	[NT]	[NT]	LCS-3	88%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			28/12/2012	[NT]	[NT]	LCS-3	28/12/2012
Date analysed	-			02/01/2013	[NT]	[NT]	LCS-3	02/01/2013
TRH C_{10} - C_{14}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-3	84%
TRH C_{15} - C_{28}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	100%
TRH C_{29} - C_{36}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	94%
TRH>C_{10}-C_{16}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-3	84%
TRH>C_{10} - C_{16} less Naphthalene (F2)	mg/kg	50	Org-003	[NT]	[NT]	[NT]	[NR]	[NR]
TRH>C_{16}-C_{34}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	100%
TRH>C_{34}-C_{40}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	94%
Surrogate o-Terphenyl	%		Org-003	101	[NT]	[NT]	LCS-3	90%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			28/12/2012	[NT]	[NT]	LCS-3	28/12/2012
Date analysed	-			28/12/2012	[NT]	[NT]	LCS-3	28/12/2012
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	108%
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-3	104%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	108%
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-3	111%
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	111%
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-3	109%
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-3	115%
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]
Benzo(a)pyrene TEQ	mg/kg	0.5	Org-012 subset	[NT]	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		Org-012 subset	126	[NT]	[NT]	LCS-3	115%

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.

mgt LabMark ENVIRONMENTAL LABORATORIES

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NATA # 1261
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NATA # 1261 Site # 18217

Brisbane
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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:	ADDITIONAL: SICEEP GEOTLCOV24303AF
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Dec 17, 2012 3:59 PM
mgt-LabMark reference:	**363634**

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 : 4 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.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Additional analysis request from reports: 361385, 361703, 361794, 362175, 362306, and 362572

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 Sample Receipt

mgt LabMark ENVIRONMENTAL LABORATORIES

Certificate of Analysis

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

Attention:Matthew Locke

NATA WORLD RECOGNISED ACCREDITATION

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.

Report	**363634-L**
Client Reference	ADDITIONAL: SICEEP GEOTLCOV24303AF
Received Date	Dec 17, 2012

Client Sample ID			**BH102_(0.5-0.6)_A**	**BH106_(0.13-0.23)_A**	**BH109_(1.5-1.6)**	**BH111_(0.35-0.47)**
Sample Matrix			**TCLP**	**TCLP**	**TCLP**	**TCLP**
mgt-LabMark Sample No.			**S12-De14967**	**S12-De14968**	**S12-De14970**	**S12-De14971**
Date Sampled			**Dec 03, 2012**	**Dec 03, 2012**	**Dec 04, 2012**	**Dec 03, 2012**
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
Benzo(a)pyrene	0.001	mg/L	-	-	< 0.001	-
Heavy Metals						
Lead	0.01	mg/L	-	-	0.03	0.06
Nickel	0.05	mg/L	0.12	< 0.05	-	-
% Moisture	0.1	%	4.3	14	16	11
Toxicity Characteristic Leaching Procedure (TCLP)						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (TCLP - HCl addition)	0.1	units	1.7	1.6	1.6	1.5
pH (TCLP - initial)	0.1	units	7.7	9.7	4.2	8.9
pH (TCLP - off)	0.1	units	5.1	5.3	4.4	5.3

Client Sample ID			**BH115_(0.33-0.43)**	**BH116_(0.7-0.8)**	**BH127_(0.3-0.5)_A**	**BH129_(0.28-0.38)**
Sample Matrix			**TCLP**	**TCLP**	**TCLP**	**TCLP**
mgt-LabMark Sample No.			**S12-De14972**	**S12-De14973**	**S12-De14974**	**S12-De14975**
Date Sampled			**Dec 07, 2012**	**Dec 06, 2012**	**Dec 10, 2012**	**Dec 10, 2012**
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
Benzo(a)pyrene	0.001	mg/L	< 0.001	-	-	-
Heavy Metals						
Lead	0.01	mg/L	0.17	0.02	-	0.08
Nickel	0.05	mg/L	-	< 0.05	0.08	-
% Moisture	0.1	%	9.4	15	7.0	11
Toxicity Characteristic Leaching Procedure (TCLP)						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (TCLP - HCl addition)	0.1	units	1.5	1.5	1.6	1.6
pH (TCLP - initial)	0.1	units	8.2	8.7	9.2	5.7
pH (TCLP - off)	0.1	units	4.8	4.5	5.5	5.1

Client Sample ID			BH102_(0.5-0.6)_A	BH101A_(0.12-0.22)	BH106_(0.13-0.23)_A	BH107_(0.17-0.27)
Sample Matrix			ASLP	ASLP	ASLP	ASLP
mgt-LabMark Sample No.			S12-De14976	S12-De14977	S12-De14978	S12-De14979
Date Sampled			Dec 03, 2012	Nov 29, 2012	Dec 03, 2012	Dec 06, 2012
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Cadmium	0.0005	mg/L	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Copper	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Lead	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Zinc	0.005	mg/L	< 0.005	0.016	< 0.005	< 0.005
% Moisture	0.1	%	4.1	12	15	9.0
Australian Standard Leaching Procedure (ASLP)						
Leachate Fluid[C01]		comment	4.0	4.0	4.0	4.0
pH (ASLP - initial)	0.1	units	8.8	8.6	9.8	10
pH (ASLP - off)	0.1	units	8.8	8.7	9.9	5.5

Client Sample ID			BH109_(1.5-1.6)	BH110_(0.15-0.25)	BH111_(0.35-0.47)	BH112_(0.34-0.4)
Sample Matrix			ASLP	ASLP	ASLP	ASLP
mgt-LabMark Sample No.			S12-De14981	S12-De14982	S12-De14983	S12-De14984
Date Sampled			Dec 04, 2012	Dec 04, 2012	Nov 30, 2012	Nov 30, 2012
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.001	mg/L	< 0.001	-	-	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	-	-	< 0.001
Anthracene	0.001	mg/L	< 0.001	-	-	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	-	-	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	-	-	< 0.001
Benzo(b)fluoranthene & Benzo(k)fluoranthene	0.002	mg/L	< 0.002	-	-	< 0.002
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	-	-	< 0.001
Chrysene	0.001	mg/L	< 0.001	-	-	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	-	-	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	-	-	< 0.001
Fluorene	0.001	mg/L	< 0.001	-	-	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	-	-	< 0.001
Naphthalene	0.001	mg/L	< 0.001	-	-	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	-	-	< 0.001
Pyrene	0.001	mg/L	< 0.001	-	-	< 0.001
Total PAH	0.002	mg/L	< 0.002	-	-	< 0.002
2-Fluorobiphenyl (surr.)	1	%	96	-	-	57
p-Terphenyl-d14 (surr.)	1	%	102	-	-	63
Heavy Metals						
Arsenic	0.005	mg/L	< 0.005	< 0.005	0.008	< 0.005
Cadmium	0.0005	mg/L	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Copper	0.005	mg/L	< 0.005	< 0.005	0.007	< 0.005

Client Sample ID			BH109_(1.5-1.6)	BH110_(0.15-0.25)	BH111_(0.35-0.47)	BH112_(0.34-0.4)
Sample Matrix			**ASLP**	**ASLP**	**ASLP**	**ASLP**
mgt-LabMark Sample No.			**S12-De14981**	**S12-De14982**	**S12-De14983**	**S12-De14984**
Date Sampled			**Dec 04, 2012**	**Dec 04, 2012**	**Nov 30, 2012**	**Nov 30, 2012**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Zinc	0.005	mg/L	0.007	< 0.005	< 0.005	< 0.005
% Moisture	0.1	%	19	7.6	9.3	9.1
Australian Standard Leaching Procedure (ASLP)						
Leachate Fluid[C01]		comment	4.0	4.0	4.0	4.0
pH (ASLP - initial)	0.1	units	4.5	8.3	8.9	7.5
pH (ASLP - off)	0.1	units	6.4	9.4	8.2	8.9

Client Sample ID			BH115_(1.0-1.1)	BH116_(0.04-0.1)	BH117_(0.25-0.35)	BH117_(0.9-1.0)
Sample Matrix			**ASLP**	**ASLP**	**ASLP**	**ASLP**
mgt-LabMark Sample No.			**S12-De14985**	**S12-De14986**	**S12-De14987**	**S12-De14988**
Date Sampled			**Dec 07, 2012**	**Dec 06, 2012**	**Dec 05, 2012**	**Dec 05, 2012**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	0.1	0.3	< 0.1	0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-36 (Total)	0.1	mg/L	0.1	0.3	< 0.1	0.1
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b)fluoranthene & Benzo(k)fluoranthene	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
2-Fluorobiphenyl (surr.)	1	%	110	110	98	84
p-Terphenyl-d14 (surr.)	1	%	122	104	114	104
Heavy Metals						
Arsenic	0.005	mg/L	< 0.005	< 0.005	0.008	< 0.005
Cadmium	0.0005	mg/L	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium	0.005	mg/L	< 0.005	0.014	< 0.005	< 0.005

Client Sample ID			BH115_(1.0-1.1)	BH116_(0.04-0.1)	BH117_(0.25-0.35)	BH117_(0.9-1.0)
Sample Matrix			**ASLP**	**ASLP**	**ASLP**	**ASLP**
mgt-LabMark Sample No.			**S12-De14985**	**S12-De14986**	**S12-De14987**	**S12-De14988**
Date Sampled			**Dec 07, 2012**	**Dec 06, 2012**	**Dec 05, 2012**	**Dec 05, 2012**
Test/Reference	LOR	Unit				
Heavy Metals						
Copper	0.005	mg/L	< 0.005	< 0.005	0.006	< 0.005
Lead	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Zinc	0.005	mg/L	< 0.005	< 0.005	0.005	< 0.005
% Moisture	0.1	%	11	5.4	10	8.2
Australian Standard Leaching Procedure (ASLP)						
Leachate Fluid[C01]		comment	4.0	4.0	4.0	4.0
pH (ASLP - initial)	0.1	units	8.2	10	9.1	7.7
pH (ASLP - off)	0.1	units	8.8	9.8	9.9	8.9

Client Sample ID			BH127_(0.3-0.5)_A	BH129_(0.28-0.38)
Sample Matrix			**ASLP**	**ASLP**
mgt-LabMark Sample No.			**S12-De14989**	**S12-De14990**
Date Sampled			**Dec 10, 2012**	**Dec 10, 2012**
Test/Reference	LOR	Unit		
Heavy Metals				
Arsenic	0.005	mg/L	< 0.005	< 0.005
Cadmium	0.0005	mg/L	< 0.0005	< 0.0005
Chromium	0.005	mg/L	< 0.005	< 0.005
Copper	0.005	mg/L	< 0.005	< 0.005
Lead	0.005	mg/L	< 0.005	< 0.005
Mercury	0.0001	mg/L	< 0.0001	< 0.0001
Nickel	0.005	mg/L	< 0.005	< 0.005
Zinc	0.005	mg/L	< 0.005	< 0.005
% Moisture	0.1	%	6.9	10
Australian Standard Leaching Procedure (ASLP)				
Leachate Fluid[C01]		comment	4.0	4.0
pH (ASLP - initial)	0.1	units	9.2	8.0
pH (ASLP - off)	0.1	units	9.4	8.7

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
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Dec 20, 2012	7 Day
- Method: E004 Petroleum Hydrocarbons (TPH)			
Polyaromatic Hydrocarbons (PAH)	Sydney	Dec 20, 2012	7 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Metals M8	Sydney	Dec 18, 2012	28 Day
- Method: E022 Acid Extractable metals in Soils & E026 Mercury			
Heavy Metals	Sydney	Dec 18, 2012	180 Day
- Method: E022 Acid Extractable metals in Soils			
% Moisture	Sydney	Dec 18, 2012	0 Day
- Method: E005 Moisture Content			
Toxicity Characteristic Leaching Procedure (TCLP)	Sydney	Dec 18, 2012	0 Day
- Method: E019 TCLP Preparation			

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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	**Order No.:**		**Received:**	Dec 17, 2012 3:59 PM
Address:	Level 18, Tower B, Citadel Tower 799 Pacific Highway Chatswood NSW 2067	**Report #:**	363634	**Due:**	Nov 30, 2012
		Phone:	+61 2 9406 1000	**Priority:**	5 Day
		Fax:	+61 2 9406 1002	**Contact Name:**	Matthew Locke
Client Job No.:	ADDITIONAL: SICEEP GEOTLCOV24303AF				

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Benzo(a)pyrene	Lead	Nickel	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Australian Standard Leaching Procedure (ASLP)	Toxicity Characteristic Leaching Procedure (TCLP)	Metals M8	Polyaromatic Hydrocarbons (PAH)
Laboratory where analysis is conducted													
Melbourne Laboratory - NATA Site # 1254 & 14271													
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794													
External Laboratory													
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
BH102_(0.5-0.6)_A	Dec 03, 2012		TCLP	S12-De14967	X			X			X		
BH106_(0.13-0.23)_A	Dec 03, 2012		TCLP	S12-De14968	X			X			X		
BH107_(1.5-1.6)	Dec 06, 2012		TCLP	S12-De14969	X			X			X		
BH109_(1.5-1.6)	Dec 04, 2012		TCLP	S12-De14970	X	X	X				X		
BH111_(0.35-0.47)	Dec 03, 2012		TCLP	S12-De14971	X		X				X		
BH115_(0.33-0.43)	Dec 07, 2012		TCLP	S12-De14972	X	X	X				X		

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NATA # 1261 Site # 18217

Brisbane
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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.: ADDITIONAL: SICEEP GEOTLCOV24303AF

Order No.:
Report #: 363634
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Dec 17, 2012 3:59 PM
Due: Nov 30, 2012
Priority: 5 Day
Contact Name: Matthew Locke

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Benzo(a)pyrene	Lead	Nickel	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Australian Standard Leaching Procedure (ASLP)	Toxicity Characteristic Leaching Procedure (TCLP)	Metals M8	Polyaromatic Hydrocarbons (PAH)
Laboratory where analysis is conducted													
Melbourne Laboratory - NATA Site # 1254 & 14271													
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794													
External Laboratory													
BH116_(0.7-0.8)	Dec 06, 2012		TCLP	S12-De14973	X		X	X			X		
BH127_(0.3-0.5)_A	Dec 10, 2012		TCLP	S12-De14974	X			X			X		
BH129_(0.28-0.38)	Dec 10, 2012		TCLP	S12-De14975	X		X				X		
BH102_(0.5-0.6)_A	Dec 03, 2012		ASLP	S12-De14976	X					X		X	
BH101A_(0.12-0.22)	Nov 29, 2012		ASLP	S12-De14977	X					X		X	
BH106_(0.13-0.23)_A	Dec 03, 2012		ASLP	S12-De14978	X					X		X	
BH107_(0.17-0.27)	Dec 06, 2012		ASLP	S12-De14979	X					X		X	

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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.: ADDITIONAL: SICEEP GEOTLCOV24303AF

Order No.:
Report #: 363634
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Dec 17, 2012 3:59 PM
Due: Nov 30, 2012
Priority: 5 Day
Contact Name: Matthew Locke

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Benzo(a)pyrene	Lead	Nickel	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Australian Standard Leaching Procedure (ASLP)	Toxicity Characteristic Leaching Procedure (TCLP)	Metals M8	Polyaromatic Hydrocarbons (PAH)
Laboratory where analysis is conducted													
Melbourne Laboratory - NATA Site # 1254 & 14271													
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794													
External Laboratory													
BH107_(1.5-1.6)	Dec 06, 2012		ASLP	S12-De14980	X					X		X	X
BH109_(1.5-1.6)	Dec 04, 2012		ASLP	S12-De14981	X					X		X	X
BH110_(0.15-0.25)	Dec 04, 2012		ASLP	S12-De14982	X					X		X	
BH111_(0.35-0.47)	Nov 30, 2012		ASLP	S12-De14983	X					X		X	
BH112_(0.34-0.4)	Nov 30, 2012		ASLP	S12-De14984	X					X		X	X
BH115_(1.0-1.1)	Dec 07, 2012		ASLP	S12-De14985	X				X	X		X	X
BH116_(0.04-0.1)	Dec 06, 2012		ASLP	S12-De14986	X				X	X		X	X

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
Oakleigh VIC 3166
Phone : +61 3 8564 5000
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
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Client Job No.: ADDITIONAL: SICEEP GEOTLCOV24303AF

Order No.:
Report #: 363634
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Dec 17, 2012 3:59 PM
Due: Nov 30, 2012
Priority: 5 Day
Contact Name: Matthew Locke

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Benzo(a)pyrene	Lead	Nickel	Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Australian Standard Leaching Procedure (ASLP)	Toxicity Characteristic Leaching Procedure (TCLP)	Metals M8	Polyaromatic Hydrocarbons (PAH)
Laboratory where analysis is conducted													
Melbourne Laboratory - NATA Site # 1254 & 14271													
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794													
External Laboratory													
BH117_(0.25-0.35)	Dec 05, 2012		ASLP	S12-De14987	X				X	X		X	X
BH117_(0.9-1.0)	Dec 05, 2012		ASLP	S12-De14988	X				X	X		X	X
BH127_(0.3-0.5)_A	Dec 10, 2012		ASLP	S12-De14989	X					X		X	
BH129_(0.28-0.38)	Dec 10, 2012		ASLP	S12-De14990	X					X		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.
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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
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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 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							
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 Acid Extractable metals in Soils & 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)							
TRH C10-C14	%	95			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-De14977	CP	%	109			70-130	Pass	
Cadmium	S12-De14977	CP	%	108			70-130	Pass	
Chromium	S12-De14977	CP	%	107			70-130	Pass	
Copper	S12-De14977	CP	%	112			70-130	Pass	
Lead	S12-De14977	CP	%	107			70-130	Pass	
Mercury	S12-De14977	CP	%	95			70-130	Pass	
Nickel	S12-De14977	CP	%	107			70-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Mercury	S12-De14987	CP	%	82			70-130	Pass	
Spike - % Recovery									
Metals M8				Result 1					
Arsenic	S12-De14988	CP	%	107			70-130	Pass	
Cadmium	S12-De14988	CP	%	98			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chromium	S12-De14988	CP	%	103			70-130	Pass	
Copper	S12-De14988	CP	%	105			70-130	Pass	
Lead	S12-De14988	CP	%	102			70-130	Pass	
Nickel	S12-De14988	CP	%	101			70-130	Pass	
Zinc	S12-De14988	CP	%	108			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	S12-De14976	CP	mg/L	< 0.005	< 0.005	1.0	30%	Pass	
Cadmium	S12-De14976	CP	mg/L	< 0.0005	< 0.0005	<1	30%	Pass	
Chromium	S12-De14976	CP	mg/L	< 0.005	< 0.005	5.0	30%	Pass	
Copper	S12-De14976	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Lead	S12-De14976	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Mercury	S12-De14976	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	S12-De14976	CP	mg/L	< 0.005	< 0.005	8.0	30%	Pass	
Zinc	S12-De14976	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Mercury	S12-De14978	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	S12-De14987	CP	mg/L	0.008	0.008	<1	30%	Pass	
Cadmium	S12-De14987	CP	mg/L	< 0.0005	< 0.0005	<1	30%	Pass	
Chromium	S12-De14987	CP	mg/L	< 0.005	< 0.005	18	30%	Pass	
Copper	S12-De14987	CP	mg/L	0.006	0.005	9.0	30%	Pass	
Lead	S12-De14987	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Nickel	S12-De14987	CP	mg/L	< 0.005	< 0.005	19	30%	Pass	
Zinc	S12-De14987	CP	mg/L	0.005	< 0.005	<1	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	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0, 2 - pH 2.9, 3 - pH 9.2, 4 - Reagent (DI) water, 5 - Client sample, 6 - other

Authorised By

Jean Heng	Client Services
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

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3-5 Kingston Town Close
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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:	ADDITIONAL: SICEEP GEOTLCOV24303AF
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Dec 19, 2012 9:27 AM
mgt-LabMark reference:	**363811**

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 : 4 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.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Original report #362306

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 Sample Receipt

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	**363811-L**
Client Reference	ADDITIONAL: SICEEP GEOTLCOV24303AF
Received Date	Dec 19, 2012

Client Sample ID			**BH107_(1.5-1.6)**
Sample Matrix			**ASLP**
mgt-LabMark Sample No.			**S12-De16043**
Date Sampled			**Dec 06, 2012**
Test/Reference	LOR	Unit	
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
Pyrene	0.001	mg/L	< 0.001
Total PAH	0.002	mg/L	< 0.002
2-Fluorobiphenyl (surr.)	1	%	124
p-Terphenyl-d14 (surr.)	1	%	124
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
% Moisture	0.1	%	10
Australian Standard Leaching Procedure (ASLP)			
Leachate Fluid[C01]		comment	4.0
pH (ASLP - initial)	0.1	units	8.3
pH (ASLP - off)	0.1	units	8.4

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
Polyaromatic Hydrocarbons (PAH)	Sydney	Dec 20, 2012	7 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Metals M8	Sydney	Dec 19, 2012	28 Day
- Method: E022 Acid Extractable metals in Soils & E026 Mercury			
% Moisture	Sydney	Dec 19, 2012	0 Day
- Method: E005 Moisture Content			

mgt LabMark ENVIRONMENTAL LABORATORIES

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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 9:27 AM
Address:	Level 18, Tower B, Citadel Tower 799 Pacific Highway Chatswood NSW 2067	**Report #:** **Phone:** **Fax:**	363811 +61 2 9406 1000 +61 2 9406 1002	**Due:** **Priority:** **Contact Name:**	Jan 2, 2013 5 Day Matthew Locke
Client Job No.:	ADDITIONAL: SICEEP GEOTLCOV24303AF				

mgt-LabMark Client Manager: Jean Heng

Sample Detail					% Moisture	Australian Standard Leaching Procedure (ASLP)	Metals M8	Polyaromatic Hydrocarbons (PAH)
Laboratory where analysis is conducted								
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217					X	X	X	X
Brisbane Laboratory - NATA Site # 20794								
External Laboratory								
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
BH107_(1.5-1.6)	Dec 06, 2012		ASLP	S12-De16043	X	X	X	X

mgt-LabMark Internal Quality Control Review

General

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2. All soil results are reported on a dry basis, unless otherwise stated.
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%: Percentage

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TERMS

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RPD	Relative Percent Difference between two Duplicate pieces of analysis.
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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.
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CP	Client Parent - QC was performed on samples pertaining to this report
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Results >20 times the LOR : RPD must lie between 0-30%

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

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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.
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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							
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 Acid Extractable metals in Soils & 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	0.012			0.005	Fail	
Zinc	mg/L	< 0.005			0.005	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Metals M8				Result 1					
Arsenic	S12-De15696	NCP	%	106			70-130	Pass	
Cadmium	S12-De15696	NCP	%	97			70-130	Pass	
Chromium	S12-De15696	NCP	%	100			70-130	Pass	
Copper	S12-De15696	NCP	%	95			70-130	Pass	
Lead	S12-De15696	NCP	%	92			70-130	Pass	
Mercury	S12-De15696	NCP	%	94			70-130	Pass	
Nickel	S12-De15696	NCP	%	93			70-130	Pass	
Zinc	S12-De13720	NCP	%	89			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Metals M8				Result 1	Result 2	RPD			
Arsenic	S12-De13719	NCP	mg/L	< 0.01	< 0.01	5.0	30%	Pass	
Cadmium	S12-De13719	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Chromium	S12-De13719	NCP	mg/L	< 0.05	< 0.05	1.0	30%	Pass	
Copper	S12-De13719	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Lead	S12-De13719	NCP	mg/L	0.26	0.26	1.0	30%	Pass	
Mercury	S12-De15695	NCP	mg/L	< 0.001	< 0.001	280	30%	Fail	Q15
Nickel	S12-De13719	NCP	mg/L	< 0.05	< 0.05	13	30%	Pass	
Zinc	S12-De13719	NCP	mg/L	1.7	1.7	<1	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	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0, 2 - pH 2.9, 3 - pH 9.2, 4 - Reagent (DI) water, 5 - Client sample, 6 - other
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
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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1 — 107203

coffey environments
SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE

Consigning Office: Coffey Geotech Chatswood.
Report Results to: Matt Locke — Mobile: 0427202493 — Email: matthew-locke @coffey.com
Invoices to: " " — Phone: — Email: @coffey.com

Project No: GEOTLCOV24303AF — Task No:
Project Name: SICEEP — Laboratory: MGT Labmark.
Sampler's Name: Priya Dass / Kori Hartog — Project Manager: Matthew Locke
Special Instructions: 24 hr TAT.

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	TPH C6-C36	metals (8)	PAHs (ultra trace)	BTEX	VOC	SVOC	NOTES
9340	MW15	8/1/13		Water	2V, 2G, 1P	24hr.	/	/	/	/			1 filtered + 1 unfiltered amber
41	MW16	↓		↓	↓		/	/	/	/			
42	MW20						/	/	/	/			
43	MW9						/	/	/	/			
44	DUP1						/	/	/	/			
	DUP1A						/	/	/	/			Send to Envirolab

RELINQUISHED BY		RECEIVED BY	
Name: Priya Dass	Date: 8/1/13	Name: Mitchell Murphy	Date: 8-1-13
Coffey Environments	Time: 4:16 p.m.	Company: MGT LabMark	Time: 4:16 pm
Name:	Date:	Name: Sean O.	Date: 8/1/13
Company:	Time:	Company: MGT LabMark	Time: 4:45

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. 364798

*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

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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

Sample Receipt Advice

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

Contact name: Matthew Locke
Client job number: SICEEP GEOTLCOV24303AF
COC number: 107203
Turn around time: 1 Day
Date/Time received: Jan 8, 2013 4:45 PM
mgt-LabMark reference: **364798**

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 : 19 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

DUP1A forwarded to Envirolab as requested
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	**364798-W**
Client Reference	SICEEP GEOTLCOV24303AF
Received Date	Jan 08, 2013

Client Sample ID **Sample Matrix** **mgt-LabMark Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**MW25** **Water (Ultra-** **S13-Ja01340** **Jan 08, 2013**	**MW16** **Water (Ultra-** **S13-Ja01341** **Jan 08, 2013**	**MW20** **Water (Ultra-** **S13-Ja01342** **Jan 08, 2013**	**MW9** **Water (Ultra-** **S13-Ja01343** **Jan 08, 2013**
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Total BTEX	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Bromofluorobenzene (surr.)	1	%	120	118	115	116
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene[N02]	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.00001	mg/L	0.00002	< 0.00001	< 0.00001	0.00002
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00001	< 0.00001	< 0.00001	0.00005
Benz(a)anthracene	0.00001	mg/L	0.00001	< 0.00001	< 0.00001	0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b)fluoranthene & Benzo(k)fluoranthene	0.00002	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Dibenz(a.h)anthracene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Fluoranthene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Fluorene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Indeno(1.2.3-cd)pyrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Naphthalene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Phenanthrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	0.00008

Client Sample ID			MW25	MW16	MW20	MW9
Sample Matrix			Water (Ultra-	Water (Ultra-	Water (Ultra-	Water (Ultra-
mgt-LabMark Sample No.			S13-Ja01340	S13-Ja01341	S13-Ja01342	S13-Ja01343
Date Sampled			Jan 08, 2013	Jan 08, 2013	Jan 08, 2013	Jan 08, 2013
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
Pyrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Total PAH	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	0.00016
2-Fluorobiphenyl (surr.)	1	%	98	106	86	94
p-Terphenyl-d14 (surr.)	1	%	128	124	112	120
Heavy Metals						
Lead (filtered)	0.001	mg/L	< 0.001	0.001	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.002	0.001	< 0.001	< 0.001
Arsenic (filtered)	0.001	mg/L	0.008	0.001	< 0.001	0.001
Cadmium (filtered)	0.0001	mg/L	0.0001	< 0.0001	< 0.0001	< 0.0001
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	0.001	< 0.001	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005	0.006	< 0.005	< 0.005

Client Sample ID			DUP 1
Sample Matrix			Water (Ultra-
mgt-LabMark Sample No.			S13-Ja01344
Date Sampled			Jan 08, 2013
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
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003
Total BTEX	0.01	mg/L	< 0.01
4-Bromofluorobenzene (surr.)	1	%	113
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	0.00001	mg/L	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001

Client Sample ID			DUP 1
Sample Matrix			Water (Ultra-
mgt-LabMark Sample No.			S13-Ja01344
Date Sampled			Jan 08, 2013
Test/Reference	LOR	Unit	
Polyaromatic Hydrocarbons (PAH)			
Anthracene	0.00001	mg/L	< 0.00001
Benz(a)anthracene	0.00001	mg/L	0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001
Benzo(b)fluoranthene & Benzo(k)fluoranthene	0.00002	mg/L	< 0.00002
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001
Chrysene	0.00005	mg/L	< 0.00005
Dibenz(a.h)anthracene	0.00005	mg/L	< 0.00005
Fluoranthene	0.00005	mg/L	< 0.00005
Fluorene	0.00005	mg/L	< 0.00005
Indeno(1.2.3-cd)pyrene	0.00005	mg/L	< 0.00005
Naphthalene	0.00005	mg/L	< 0.00005
Phenanthrene	0.00005	mg/L	< 0.00005
Pyrene	0.00005	mg/L	< 0.00005
Total PAH	0.00005	mg/L	< 0.00005
2-Fluorobiphenyl (surr.)	1	%	96
p-Terphenyl-d14 (surr.)	1	%	126
Heavy Metals			
Lead (filtered)	0.001	mg/L	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001
Arsenic (filtered)	0.001	mg/L	< 0.001
Cadmium (filtered)	0.0001	mg/L	< 0.0001
Chromium (filtered)	0.001	mg/L	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005

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	Jan 09, 2013	7 Day
- Method: E004 Petroleum Hydrocarbons (TPH)			
BTEX	Sydney	Jan 09, 2013	14 Day
- Method: E029/E016 BTEX			
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *	Sydney	Jan 09, 2013	7 Day
- Method: LM-LTM-ORG2010			
Polyaromatic Hydrocarbons (PAH)	Sydney	Jan 09, 2013	7 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Metals M8 filtered	Sydney	Jan 09, 2013	28 Day
- Method: E020/E030 Filtered Metals in Water & E026 Mercury			

mgt LabMark ENVIRONMENTAL LABORATORIES

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Site # 1254 & 14271

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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 Environments Pty Ltd NSW	**Order No.:**		**Received:**	Jan 8, 2013 4:45 PM
Address:	Level 20, Tower B, Citadel Tower 799 Pacific Highway Chatswood NSW 2067	**Report #:**	364798	**Due:**	Jan 10, 2013
		Phone:	+61 2 9406 1000	**Priority:**	1 Day
		Fax:	+61 2 9406 1004	**Contact Name:**	Matthew Locke
Client Job No.:	SICEEP GEOTLCOV24303AF				

mgt-LabMark Client Manager: Jean Heng

Sample Detail					Metals M8 filtered	BTEX	Polyaromatic Hydrocarbons (PAH)	Total Recoverable Hydrocarbons
Laboratory where analysis is conducted								
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217					X	X	X	X
Brisbane Laboratory - NATA Site # 20794								
External Laboratory								
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
MW25	Jan 08, 2013		Water (Ultra-trace)	S13-Ja01340	X	X	X	X
MW16	Jan 08, 2013		Water (Ultra-trace)	S13-Ja01341	X	X	X	X
MW20	Jan 08, 2013		Water (Ultra-trace)	S13-Ja01342	X	X	X	X
MW9	Jan 08, 2013		Water (Ultra-trace)	S13-Ja01343	X	X	X	X
DUP 1	Jan 08, 2013		Water (Ultra-trace)	S13-Ja01344	X	X	X	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	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	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	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene	mg/L	< 0.00001			0.00001	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	mg/L	< 0.00002			0.00002	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00005			0.00005	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00005			0.00005	Pass	
Fluoranthene	mg/L	< 0.00005			0.00005	Pass	
Fluorene	mg/L	< 0.00005			0.00005	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00005			0.00005	Pass	
Naphthalene	mg/L	< 0.00005			0.00005	Pass	
Phenanthrene	mg/L	< 0.00005			0.00005	Pass	
Pyrene	mg/L	< 0.00005			0.00005	Pass	
Method Blank							
Metals M8 filtered E020/E030 Filtered Metals in Water & E026 Mercury							
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0001			0.0001	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	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	%	100			70-130	Pass	
TRH C10-C14	%	90			70-130	Pass	
LCS - % Recovery							
BTEX E029/E016 BTEX							
Benzene	%	96			70-130	Pass	
Toluene	%	107			70-130	Pass	
Ethylbenzene	%	103			70-130	Pass	
m&p-Xylenes	%	107			70-130	Pass	
o-Xylene	%	103			70-130	Pass	
Xylenes - Total	%	106			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions * LM-LTM-ORG2010							
Naphthalene	%	78			70-130	Pass	
TRH C6-C10	%	112			70-130	Pass	
TRH >C10-C16	%	95			70-130	Pass	
LCS - % Recovery							
Polyaromatic Hydrocarbons (PAH) E007 Polyaromatic Hydrocarbons (PAH)							
Acenaphthene	%	97			70-130	Pass	
Acenaphthylene	%	88			70-130	Pass	
Anthracene	%	110			70-130	Pass	
Benz(a)anthracene	%	112			70-130	Pass	
Benzo(a)pyrene	%	122			70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	%	117			70-130	Pass	
Benzo(g.h.i)perylene	%	111			70-130	Pass	
Chrysene	%	125			70-130	Pass	
Dibenz(a.h)anthracene	%	108			70-130	Pass	
Fluoranthene	%	122			70-130	Pass	
Fluorene	%	101			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	108			70-130	Pass	
Naphthalene	%	93			70-130	Pass	
Phenanthrene	%	108			70-130	Pass	
Pyrene	%	125			70-130	Pass	
LCS - % Recovery							
Metals M8 filtered E020/E030 Filtered Metals in Water & E026 Mercury							
Lead (filtered)	%	118			70-130	Pass	
Mercury (filtered)	%	98			70-130	Pass	
Nickel (filtered)	%	113			70-130	Pass	
Arsenic (filtered)	%	106			70-130	Pass	
Cadmium (filtered)	%	102			70-130	Pass	
Chromium (filtered)	%	108			70-130	Pass	
Copper (filtered)	%	115			70-130	Pass	
Zinc (filtered)	%	109			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Metals M8 filtered				Result 1					
Lead (filtered)	S13-Ja01341	CP	%	85			70-130	Pass	
Mercury (filtered)	S13-Ja01341	CP	%	92			70-130	Pass	
Nickel (filtered)	S13-Ja01341	CP	%	88			70-130	Pass	
Arsenic (filtered)	S13-Ja01341	CP	%	110			70-130	Pass	
Cadmium (filtered)	S13-Ja01341	CP	%	81			70-130	Pass	
Chromium (filtered)	S13-Ja01341	CP	%	106			70-130	Pass	
Copper (filtered)	S13-Ja01341	CP	%	87			70-130	Pass	
Zinc (filtered)	S13-Ja01341	CP	%	88			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Metals M8 filtered				Result 1					
Mercury (filtered)	S13-Ja01344	CP	%	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 C6-C9	S13-Ja01228	NCP	mg/L	< 0.02	< 0.02	6.0	30%	Pass	
TRH C10-C14	S13-Ja00854	NCP	mg/L	0.14	0.18	25	30%	Pass	
TRH C15-C28	S13-Ja00854	NCP	mg/L	4.1	5.1	21	30%	Pass	
TRH C29-C36	S13-Ja00854	NCP	mg/L	0.39	0.46	16	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S13-Ja01228	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S13-Ja01228	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S13-Ja01228	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S13-Ja01228	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S13-Ja01228	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	S13-Ja01228	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Total BTEX	S13-Ja01228	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1	Result 2	RPD			
Naphthalene	S13-Ja01228	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
TRH C6-C10	S13-Ja01228	NCP	mg/L	< 0.02	< 0.02	8.0	30%	Pass	
TRH C6-C10 less BTEX (F1)	S13-Ja01228	NCP	mg/L	< 0.02	< 0.02	8.0	30%	Pass	
TRH >C10-C16	S13-Ja00854	NCP	mg/L	0.45	0.54	18	30%	Pass	
TRH >C16-C34	S13-Ja00854	NCP	mg/L	4.4	5.5	21	30%	Pass	
TRH >C34-C40	S13-Ja00854	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Metals M8 filtered				Result 1	Result 2	RPD			
Lead (filtered)	S13-Ja01340	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury (filtered)	S13-Ja01340	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	S13-Ja01340	CP	mg/L	0.002	0.003	11	30%	Pass	
Arsenic (filtered)	S13-Ja01340	CP	mg/L	0.008	0.008	3.0	30%	Pass	
Cadmium (filtered)	S13-Ja01340	CP	mg/L	0.0001	< 0.0001	<1	30%	Pass	
Chromium (filtered)	S13-Ja01340	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	S13-Ja01340	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc (filtered)	S13-Ja01340	CP	mg/L	< 0.005	< 0.005	9.0	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	No

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
James Norford	Senior Analyst-Metal (NSW)
Laura Schofield	Senior Analyst-Volatile (NSW)
Ryan Hamilton	Senior Analyst-Organic (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

#364828

Enquiries Syd

From: Matthew Locke [Matthew_Locke@coffey.com]
Sent: Wednesday, 9 January 2013 8:23 AM
To: Enviro Syd; Jean Heng
Cc: Keri Hartog; Priya Dass
Subject: RE: mgt-Labmark Sample Receipt Advice - Report 364798 : Site SICEEP GEOTLCOV24303AF

Dear Sample Receipt / Jean,

Further to my email below, I would also request that:

TRH/BTEX/PAH analysis is undertaken as Suite B4.
Metals analysis to be undertaken as Suite M8.

Regards,

Matt

-----Original Message-----
From: Matthew Locke
Sent: Wednesday, 9 January 2013 8:19 AM
To: 'enviro.syd@mgtlabmark.com.au'; jean.heng@mgtlabmark.com.au
Cc: Keri Hartog; Priya Dass
Subject: RE: mgt-Labmark Sample Receipt Advice - Report 364798 : Site SICEEP GEOTLCOV24303AF

Dear Sample Receipt / Jean,

Can you please ensure that both the unfiltered and filtered water samples are analysed for PAH (Ultra Trace).
Please treat this email as an amendment to the COC provided for Report 364798.

Please let me know if there are any queries regarding the above request.

Regards,

Matt

-----Original Message-----
From: enviro.syd@mgtlabmark.com.au [mailto:enviro.syd@mgtlabmark.com.au]
Sent: Tuesday, 8 January 2013 5:36 PM
To: Matthew Locke
Cc: Keri Hartog; Priya Dass
Subject: mgt-Labmark Sample Receipt Advice - Report 364798 : Site SICEEP GEOTLCOV24303AF

Dear Valued Client,
Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample

numbers as well as the requested analysis. If there are any irregularities then please contact your mgt-LabMark Client Services Manager as soon as possible to make certain that they get changed.
Please send all reply correspondence to enviro.syd@mgtlabmark.com.au

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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
Oakleigh Vic 3166
Phone : +61 3 8564 5000
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

Sample Receipt Advice

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

Contact name: Matthew Locke
Client job number: SICEEP GEOTLCOV24303AF
COC number: 107203
Turn around time: 1 Day
Date/Time received: Jan 9, 2013 8:23 AM
mgt-LabMark reference: **364828**

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 : 19 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

Ultra-trace PAH using filtered amber bottles

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 Sample Receipt

mgt LabMark
ENVIRONMENTAL LABORATORIES

Certificate of Analysis

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

Attention:Matthew Locke

NATA
WORLD RECOGNISED ACCREDITATION

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.

Report	**364828-W**
Client Reference	SICEEP GEOTLCOV24303AF
Received Date	Jan 09, 2013

Client Sample ID **Sample Matrix** **mgt-LabMark Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**MW25FILT** **Water (Ultra-** **S13-Ja01429** **Jan 08, 2013**	**MW16FILT** **Water (Ultra-** **S13-Ja01430** **Jan 08, 2013**	**MW20FILT** **Water (Ultra-** **S13-Ja01431** **Jan 08, 2013**	**MW9FILT** **Water (Ultra-** **S13-Ja01432** **Jan 08, 2013**
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b)fluoranthene & Benzo(k)fluoranthene	0.00002	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Dibenz(a.h)anthracene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Fluoranthene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Fluorene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Indeno(1.2.3-cd)pyrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Naphthalene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Phenanthrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Pyrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Total PAH	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
2-Fluorobiphenyl (surr.)	1	%	114	122	84	128
p-Terphenyl-d14 (surr.)	1	%	128	130	102	130

Client Sample ID **Sample Matrix** **mgt-LabMark Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**DUP1FILT** **Water (Ultra-** **S13-Ja01433** **Jan 08, 2013**
Polyaromatic Hydrocarbons (PAH)			
Acenaphthene	0.00001	mg/L	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001
Benzo(b)fluoranthene & Benzo(k)fluoranthene	0.00002	mg/L	< 0.00002
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001
Chrysene	0.00005	mg/L	< 0.00005
Dibenz(a.h)anthracene	0.00005	mg/L	< 0.00005

Client Sample ID			DUP1FILT
Sample Matrix			Water (Ultra-
mgt-LabMark Sample No.			S13-Ja01433
Date Sampled			Jan 08, 2013
Test/Reference	LOR	Unit	
Polyaromatic Hydrocarbons (PAH)			
Fluoranthene	0.00005	mg/L	< 0.00005
Fluorene	0.00005	mg/L	< 0.00005
Indeno(1.2.3-cd)pyrene	0.00005	mg/L	< 0.00005
Naphthalene	0.00005	mg/L	< 0.00005
Phenanthrene	0.00005	mg/L	< 0.00005
Pyrene	0.00005	mg/L	< 0.00005
Total PAH	0.00005	mg/L	< 0.00005
2-Fluorobiphenyl (surr.)	1	%	112
p-Terphenyl-d14 (surr.)	1	%	130

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
Polyaromatic Hydrocarbons (PAH)	Sydney	Jan 09, 2013	7 Day

- Method: E007 Polyaromatic Hydrocarbons (PAH)

mgt LabMark ENVIRONMENTAL LABORATORIES

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Site # 1254 & 14271

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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:**	Jan 9, 2013 8:23 AM
Address:	Level 18, Tower B, Citadel Tower 799 Pacific Highway Chatswood NSW 2067	**Report #:**	364828	**Due:**	Jan 10, 2013
		Phone:	+61 2 9406 1000	**Priority:**	1 Day
		Fax:	+61 2 9406 1002	**Contact Name:**	Matthew Locke
Client Job No.:	SICEEP GEOTLCOV24303AF				

mgt-LabMark Client Manager: Jean Heng

Sample Detail					Polyaromatic Hydrocarbons (PAH)
Laboratory where analysis is conducted					
Melbourne Laboratory - NATA Site # 1254 & 14271					
Sydney Laboratory - NATA Site # 18217					X
Brisbane Laboratory - NATA Site # 20794					
External Laboratory					
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
MW25FILT	Jan 08, 2013		Water (Ultra-trace)	S13-Ja01429	X
MW16FILT	Jan 08, 2013		Water (Ultra-trace)	S13-Ja01430	X
MW20FILT	Jan 08, 2013		Water (Ultra-trace)	S13-Ja01431	X
MW9FILT	Jan 08, 2013		Water (Ultra-trace)	S13-Ja01432	X
DUP1FILT	Jan 08, 2013		Water (Ultra-trace)	S13-Ja01433	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							
Polyaromatic Hydrocarbons (PAH) E007 Polyaromatic Hydrocarbons (PAH)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene	mg/L	< 0.00001			0.00001	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	mg/L	< 0.00002			0.00002	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00005			0.00005	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00005			0.00005	Pass	
Fluoranthene	mg/L	< 0.00005			0.00005	Pass	
Fluorene	mg/L	< 0.00005			0.00005	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00005			0.00005	Pass	
Naphthalene	mg/L	< 0.00005			0.00005	Pass	
Phenanthrene	mg/L	< 0.00005			0.00005	Pass	
Pyrene	mg/L	< 0.00005			0.00005	Pass	
LCS - % Recovery							
Polyaromatic Hydrocarbons (PAH) E007 Polyaromatic Hydrocarbons (PAH)							
Acenaphthene	%	90			70-130	Pass	
Acenaphthylene	%	83			70-130	Pass	
Anthracene	%	102			70-130	Pass	
Benz(a)anthracene	%	109			70-130	Pass	
Benzo(a)pyrene	%	115			70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	%	111			70-130	Pass	
Benzo(g.h.i)perylene	%	96			70-130	Pass	
Chrysene	%	105			70-130	Pass	
Dibenz(a.h)anthracene	%	96			70-130	Pass	
Fluoranthene	%	109			70-130	Pass	
Fluorene	%	97			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	97			70-130	Pass	
Naphthalene	%	87			70-130	Pass	
Phenanthrene	%	100			70-130	Pass	
Pyrene	%	110			70-130	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	No

Authorised By

Jean Heng	Client Services
Ryan Hamilton	Senior Analyst-Organic (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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

 107204

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 / Keri | Project Manager: Matthew Locke

Special Instructions: ultratrace PAH ultra-trace on both filtered + unfiltered ambers.
* BTEX, TPH, PAH analysis on B4 suite, Metals analysis on M8 suite

Analysis Request Section

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	B4 Suite	M8 Suite	NOTES
	MW106	9/1/13		Water	2V, 2G, 1P	24hr	✓	✓	
	MW107	↓		↓	↓		✓	✓	
	DUP2	↓		↓	↓		✓	✓	
	MW5	↓		↓	2V, 1P, 2G		✓	✓	
	MW117	↓		↓	2V, 1P		✓	✓	
	MW104	↓		↓	2V, 1P		✓	✓	
	MW105	↓		↓	2V, 1P, 2G		✓	✓	
	MW13	↓		↓	↓		✓	✓	
	MW110A	↓		↓	↓		✓	✓	
	MW30	↓		↓	↓		✓	✓	

RELINQUISHED BY		RECEIVED BY	
Name: Priya Dass	Date: 9/1/13 →	Name: Mitchell Murphy	Date: 9-1-13
Coffey Environments	Time: 4:15 p.M.	Company: MGT LabMark	Time: 4.15pm
Name:	Date: →	Name: Ellen Wg	Date: 09/01/13
Company:	Time:	Company: mgtlabmark	Time: 16:45

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. #364911

*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

GOWANS PRINTING (02) 9755 3545

Enquiries Syd

From: Enquiries Syd
Sent: Wednesday, 9 January 2013 6:04 PM
To: 'Matthew Locke'
Cc: 'Priya Dass'; 'Keri Hartog'; Enviro Syd
Subject: SICEEP GEOTLCOV24303AF
Attachments: 364911_COC.pdf

Hi Matt,
There is not enough sample volume for MW104 to perform TRHC10-C40 & ultra trace PAH, these analysis can be performed at normal levels currently the sample is HOLD awaiting confirmation.
Only 4 vials and a metals container were received for MW117 thus only TPHC6-C9/BTEX & M8 can be conducted and no PAH nor TRHC10-C40 cannot be performed.
Also MW5 was not distinguished between filtered & unfiltered thus one will be stated as A the other as B to be able to differentiate between the two.

You may received this email again as it is sitting in my outbox as I am having trouble with my mail please discard it if you receive it from myself.

Could you confirm the above analysis upon the stated.

Thank you

Ellen

It is essential to include all correspondence to: enviro.syd@mgtlabmark.com.au

Kind Regards,

364911

Reception
Unit F6, Building F
16 Mars Road
Lane Cove West, NSW 2066
T:(+61) (2) 9900 8400
F:(+61) (2) 9420 2977

Sample Receipt
Unit F3, Building F
16 Mars Road
Lane Cove West, NSW 2066

#364911

Enquiries Syd

From: Keri Hartog [Keri_Hartog@coffey.com]
Sent: Thursday, 10 January 2013 9:07 AM
To: Enquiries Syd; Matthew Locke
Cc: Priya Dass; Enviro Syd
Subject: RE: SICEEP GEOTLCOV24303AF

Hi Ellen,

Matt is out of the office today he asked me to respond regarding the issues.

MW117 don't sample the vials dated 8/1/13 only the ones dated the 9/1/13. Please place the additional vials on hold. Confirming the BTEX an c6-c9 analysis. Additional sample was not able to be taken.

MW104 confirming the regular PAH not enough sample was able to be taken for that one.

MW5 are you able to distinguish any sediment at the base of one of the ambers? Can you confirm this otherwise place the Sample in hold and we will resemble this well.

Please consider this an amendment to the coc

Any questions please don't hesitate to call me. 0409418593

Regards

Keri Hartog

From: Enquiries Syd [Enquiries.Syd@mgtlabmark.com.au]
Sent: Wednesday, 9 January 2013 6:04 PM
To: Matthew Locke
Cc: Priya Dass; Keri Hartog; Enviro Syd
Subject: SICEEP GEOTLCOV24303AF

Hi Matt,
There is not enough sample volume for MW104 to perform TRHC10-C40 & ultra trace PAH, these analysis can be performed at normal levels currently the sample is HOLD awaiting confirmation.
Only 4 vials and a metals container were received for MW117 thus only TPHC6-C9/BTEX & M8 can be conducted and no PAH nor TRHC10-C40 cannot be performed.
Also MW5 was not distinguished between filtered & unfiltered thus one will be stated as A the other as B to be able to differentiate between the two.

You may received this email again as it is sitting in my outbox as I am having trouble with my mail please discard it if you receive it from myself.

Could you confirm the above analysis upon the stated.

Thank you

Ellen

mgt LabMark
ENVIRONMENTAL LABORATORIES

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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

Sample Receipt Advice

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

Contact name: Matthew Locke
Client job number: SICEEP GEOTLCOV24303AF
COC number: 107204
Turn around time: 1 Day
Date/Time received: Jan 10, 2013 9:07 AM
mgt-LabMark reference: **364911**

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 : 10 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

SRA Re-issued: As per client confirmation - Sample MW104 analysed for TRH/BTEX/PAH and M8 at normal LOR's; Only vials dated 9/1/13 for sample MW117 will be analysed for volatile TPH and BTEX; Sample MW5 was able to be distinguished between filtered & unfiltered and as such ultra-trace PAH can be conducted as originally requested. | Filtered amber container not received for MW104 and MW117 thus ultra trace analysis not conducted | Only 4 x vials and a metals container were received for MW117 hence only TPRHC6-C9/BTEX & M8 can be analysed

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	**364911-W**
Client Reference	SICEEP GEOTLCOV24303AF
Received Date	Jan 10, 2013

Client Sample ID **Sample Matrix** **mgt-LabMark Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**MW106** **Water (Ultra-** **S13-Ja01784** **Jan 09, 2013**	**MW107** **Water (Ultra-** **S13-Ja01785** **Jan 09, 2013**	**DUP2** **Water (Ultra-** **S13-Ja01786** **Jan 09, 2013**	**MW5** **Water (Ultra-** **S13-Ja01787** **Jan 09, 2013**
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-36 (Total)	0.1	mg/L	< 0.1	0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Total BTEX	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Bromofluorobenzene (surr.)	1	%	90	93	92	91
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene[N02]	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.00001	mg/L	0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00001	0.00002	0.00002	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	0.00001	0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b)fluoranthene & Benzo(k)fluoranthene	0.00002	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Dibenz(a.h)anthracene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Fluoranthene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Fluorene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Indeno(1.2.3-cd)pyrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Naphthalene	0.00005	mg/L	< 0.00005	0.00006	0.00006	< 0.00005
Phenanthrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005

Client Sample ID			MW106	MW107	DUP2	MW5
Sample Matrix			Water (Ultra-	Water (Ultra-	Water (Ultra-	Water (Ultra-
mgt-LabMark Sample No.			S13-Ja01784	S13-Ja01785	S13-Ja01786	S13-Ja01787
Date Sampled			Jan 09, 2013	Jan 09, 2013	Jan 09, 2013	Jan 09, 2013
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
Pyrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Total PAH	0.00005	mg/L	< 0.00005	0.00009	0.00009	< 0.00005
2-Fluorobiphenyl (surr.)	1	%	126	114	110	128
p-Terphenyl-d14 (surr.)	1	%	130	128	126	128
Heavy Metals						
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001	0.013	0.012	0.001
Arsenic (filtered)	0.001	mg/L	0.001	< 0.001	< 0.001	0.005
Cadmium (filtered)	0.0001	mg/L	0.0002	0.0004	0.0003	< 0.0001
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	0.001	0.002	0.001
Zinc (filtered)	0.005	mg/L	< 0.005	0.007	0.008	0.030

Client Sample ID			MW117	MW104	MW105	MW13
Sample Matrix			Water	Water	Water (Ultra-	Water (Ultra-
mgt-LabMark Sample No.			S13-Ja01788	S13-Ja01789	S13-Ja01790	S13-Ja01791
Date Sampled			Jan 09, 2013	Jan 09, 2013	Jan 09, 2013	Jan 09, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	-	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	-	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	-	< 0.1	< 0.1	< 0.1
TRH C10-36 (Total)	0.1	mg/L	-	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Total BTEX	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Bromofluorobenzene (surr.)	1	%	90	94	92	91
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene[N02]	0.005	mg/L	-	< 0.005	< 0.005	< 0.005
TRH C6-C10	0.02	mg/L	-	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	-	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	-	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	-	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	-	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	-	< 0.1	< 0.1	< 0.1
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.001	mg/L	-	< 0.001	0.00012	0.00002
Acenaphthylene	0.001	mg/L	-	< 0.001	0.00001	0.00001

Client Sample ID			MW117	MW104	MW105	MW13
Sample Matrix			Water	Water	Water (Ultra-	Water (Ultra-
mgt-LabMark Sample No.			S13-Ja01788	S13-Ja01789	S13-Ja01790	S13-Ja01791
Date Sampled			Jan 09, 2013	Jan 09, 2013	Jan 09, 2013	Jan 09, 2013
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
Anthracene	0.001	mg/L	-	< 0.001	0.00005	0.00002
Benz(a)anthracene	0.001	mg/L	-	0.001	0.00001	0.00003
Benzo(a)pyrene	0.001	mg/L	-	< 0.001	0.00001	0.00002
Benzo(b)fluoranthene & Benzo(k)fluoranthene	0.002	mg/L	-	< 0.002	0.00002	0.00004
Benzo(g.h.i)perylene	0.001	mg/L	-	< 0.001	< 0.00001	0.00001
Chrysene	0.001	mg/L	-	0.001	< 0.00005	< 0.00005
Dibenz(a.h)anthracene	0.001	mg/L	-	< 0.001	< 0.00005	< 0.00005
Fluoranthene	0.001	mg/L	-	0.002	0.00011	0.00008
Fluorene	0.001	mg/L	-	< 0.001	0.00011	< 0.00005
Indeno(1.2.3-cd)pyrene	0.001	mg/L	-	< 0.001	< 0.00005	< 0.00005
Naphthalene	0.001	mg/L	-	< 0.001	0.00027	< 0.00005
Phenanthrene	0.001	mg/L	-	< 0.001	0.00028	< 0.00005
Pyrene	0.001	mg/L	-	0.002	0.00009	0.00016
Total PAH	0.002	mg/L	-	0.0060	0.0011	0.00039
2-Fluorobiphenyl (surr.)	1	%	-	112	122	116
p-Terphenyl-d14 (surr.)	1	%	-	121	128	127
Heavy Metals						
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.006	0.003	0.005	0.002
Arsenic (filtered)	0.001	mg/L	0.003	0.003	< 0.001	0.004
Cadmium (filtered)	0.0001	mg/L	0.0002	0.0003	0.0003	0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.001	0.004	0.003	< 0.001
Zinc (filtered)	0.005	mg/L	0.006	0.042	0.028	0.008

Client Sample ID			MW110A	MW30	MW106FILT	MW107FILT
Sample Matrix			Water (Ultra-	Water (Ultra-	Water (Ultra-	Water (Ultra-
mgt-LabMark Sample No.			S13-Ja01792	S13-Ja01793	S13-Ja01794	S13-Ja01795
Date Sampled			Jan 09, 2013	Jan 09, 2013	Jan 09, 2013	Jan 09, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	-	-
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	-	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	-	-
TRH C10-36 (Total)	0.1	mg/L	< 0.1	< 0.1	-	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	-	-
Toluene	0.001	mg/L	< 0.001	< 0.001	-	-
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	-	-
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	-	-
o-Xylene	0.001	mg/L	< 0.001	< 0.001	-	-
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003	-	-
Total BTEX	0.01	mg/L	< 0.01	< 0.01	-	-
4-Bromofluorobenzene (surr.)	1	%	89	92	-	-

Client Sample ID			MW110A	MW30	MW106FILT	MW107FILT
Sample Matrix			Water (Ultra-	Water (Ultra-	Water (Ultra-	Water (Ultra-
mgt-LabMark Sample No.			S13-Ja01792	S13-Ja01793	S13-Ja01794	S13-Ja01795
Date Sampled			Jan 09, 2013	Jan 09, 2013	Jan 09, 2013	Jan 09, 2013
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene[N02]	0.005	mg/L	< 0.005	< 0.005	-	-
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	-	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	-	-
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	-	-
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	-	-
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.00001	mg/L	0.00004	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	0.00003	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	0.00002	0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	0.00002	0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	0.00002	0.00001	< 0.00001	< 0.00001
Benzo(b)fluoranthene & Benzo(k)fluoranthene	0.00002	mg/L	0.00004	0.00002	< 0.00002	< 0.00002
Benzo(g.h.i)perylene	0.00001	mg/L	0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Dibenz(a.h)anthracene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Fluoranthene	0.00005	mg/L	0.00005	< 0.00005	< 0.00005	< 0.00005
Fluorene	0.00005	mg/L	0.00005	< 0.00005	< 0.00005	< 0.00005
Indeno(1.2.3-cd)pyrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Naphthalene	0.00005	mg/L	0.00006	< 0.00005	< 0.00005	< 0.00005
Phenanthrene	0.00005	mg/L	0.00007	< 0.00005	< 0.00005	< 0.00005
Pyrene	0.00005	mg/L	0.00005	0.00008	< 0.00005	< 0.00005
Total PAH	0.00005	mg/L	0.00046	0.00013	< 0.00005	< 0.00005
2-Fluorobiphenyl (surr.)	1	%	116	124	130	100
p-Terphenyl-d14 (surr.)	1	%	128	130	130	126
Heavy Metals						
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	-	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Nickel (filtered)	0.001	mg/L	< 0.001	< 0.001	-	-
Arsenic (filtered)	0.001	mg/L	0.008	< 0.001	-	-
Cadmium (filtered)	0.0001	mg/L	0.0002	0.0003	-	-
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	-	-
Copper (filtered)	0.001	mg/L	< 0.001	0.001	-	-
Zinc (filtered)	0.005	mg/L	0.007	0.012	-	-

Client Sample ID			DUP2FILT	MW5FILT	MW105FILT	MW13FILT
Sample Matrix			Water (Ultra-	Water (Ultra-	Water (Ultra-	Water (Ultra-
mgt-LabMark Sample No.			S13-Ja01796	S13-Ja01797	S13-Ja01798	S13-Ja01799
Date Sampled			Jan 09, 2013	Jan 09, 2013	Jan 09, 2013	Jan 09, 2013
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	0.00001	< 0.00001	0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Client Sample ID			DUP2FILT	MW5FILT	MW105FILT	MW13FILT
Sample Matrix			Water (Ultra-	Water (Ultra-	Water (Ultra-	Water (Ultra-
mgt-LabMark Sample No.			S13-Ja01796	S13-Ja01797	S13-Ja01798	S13-Ja01799
Date Sampled			Jan 09, 2013	Jan 09, 2013	Jan 09, 2013	Jan 09, 2013
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b)fluoranthene & Benzo(k)fluoranthene	0.00002	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Dibenz(a.h)anthracene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Fluoranthene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Fluorene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Indeno(1.2.3-cd)pyrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Naphthalene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Phenanthrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Pyrene	0.00005	mg/L	< 0.00005	0.00026	< 0.00005	< 0.00005
Total PAH	0.00005	mg/L	< 0.00005	0.00028	< 0.00005	< 0.00005
2-Fluorobiphenyl (surr.)	1	%	104	120	110	126
p-Terphenyl-d14 (surr.)	1	%	126	129	130	130

Client Sample ID			MW110AFILT	MW30FILT
Sample Matrix			Water (Ultra-	Water (Ultra-
mgt-LabMark Sample No.			S13-Ja01800	S13-Ja01801
Date Sampled			Jan 09, 2013	Jan 09, 2013
Test/Reference	LOR	Unit		
Polyaromatic Hydrocarbons (PAH)				
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001
Benzo(b)fluoranthene & Benzo(k)fluoranthene	0.00002	mg/L	< 0.00002	< 0.00002
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001
Chrysene	0.00005	mg/L	< 0.00005	< 0.00005
Dibenz(a.h)anthracene	0.00005	mg/L	< 0.00005	< 0.00005
Fluoranthene	0.00005	mg/L	< 0.00005	< 0.00005
Fluorene	0.00005	mg/L	< 0.00005	< 0.00005
Indeno(1.2.3-cd)pyrene	0.00005	mg/L	< 0.00005	< 0.00005
Naphthalene	0.00005	mg/L	< 0.00005	< 0.00005
Phenanthrene	0.00005	mg/L	< 0.00005	< 0.00005
Pyrene	0.00005	mg/L	< 0.00005	< 0.00005
Total PAH	0.00005	mg/L	< 0.00005	< 0.00005
2-Fluorobiphenyl (surr.)	1	%	98	118
p-Terphenyl-d14 (surr.)	1	%	112	130

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	Jan 10, 2013	7 Day
- Method: E004 Petroleum Hydrocarbons (TPH)			
BTEX	Sydney	Jan 10, 2013	14 Day
- Method: E029/E016 BTEX			
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *	Sydney	Jan 10, 2013	7 Day
- Method: LM-LTM-ORG2010			
Polyaromatic Hydrocarbons (PAH)	Sydney	Jan 10, 2013	7 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Metals M8 filtered	Sydney	Jan 10, 2013	28 Day
- Method: E020/E030 Filtered Metals in Water & E026 Mercury			

mgt LabMark ENVIRONMENTAL LABORATORIES

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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
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Client Job No.: SICEEP GEOTLCOV24303AF

Order No.:
Report #: 364911
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Jan 10, 2013 9:07 AM
Due: Jan 11, 2013
Priority: 1 Day
Contact Name: Matthew Locke

mgt-LabMark Client Manager: Jean Heng

Sample Detail					TRH C6-C9	Metals M8 filtered	BTEX	Polyaromatic Hydrocarbons (PAH)	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
Brisbane Laboratory - NATA Site # 20794									
External Laboratory									
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
MW106	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01784		X			X
MW107	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01785		X			X
DUP2	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01786		X			X
MW5	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01787		X			X
MW117	Jan 09, 2013		Water	S13-Ja01788	X	X	X		
MW104	Jan 09, 2013		Water	S13-Ja01789		X			X

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Site # 1254 & 14271

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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
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067

Client Job No.: SICEEP GEOTLCOV24303AF

Order No.:
Report #: 364911
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Jan 10, 2013 9:07 AM
Due: Jan 11, 2013
Priority: 1 Day
Contact Name: Matthew Locke

mgt-LabMark Client Manager: Jean Heng

Sample Detail					TRH C6-C9	Metals M8 filtered	BTEX	Polyaromatic Hydrocarbons (PAH)	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
Brisbane Laboratory - NATA Site # 20794									
External Laboratory									
MW105	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01790		X			X
MW13	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01791		X			X
MW110A	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01792		X			X
MW30	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01793		X			X
MW106FILT	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01794				X	
MW107FILT	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01795				X	
DUP2FILT	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01796				X	

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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	**Order No.:**	
Address:	Level 18, Tower B, Citadel Tower 799 Pacific Highway Chatswood NSW 2067	**Report #:**	364911
		Phone:	+61 2 9406 1000
		Fax:	+61 2 9406 1002
Client Job No.:	SICEEP GEOTLCOV24303AF		

Received:	Jan 10, 2013 9:07 AM
Due:	Jan 11, 2013
Priority:	1 Day
Contact Name:	Matthew Locke

mgt-LabMark Client Manager: Jean Heng

Sample Detail					TRH C6-C9	Metals M8 filtered	BTEX	Polyaromatic Hydrocarbons (PAH)	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
Brisbane Laboratory - NATA Site # 20794									
External Laboratory									
MW5FILT	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01797				X	
MW105FILT	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01798				X	
MW13FILT	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01799				X	
MW110AFILT	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01800				X	
MW30FILT	Jan 09, 2013		Water (Ultra-trace)	S13-Ja01801				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	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	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 filtered E020/E030 Filtered Metals in Water & E026 Mercury							
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0001			0.0001	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	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	%	111			70-130	Pass	
TRH C10-C14	%	89			70-130	Pass	
LCS - % Recovery							
BTEX E029/E016 BTEX							
Benzene	%	106			70-130	Pass	
Toluene	%	107			70-130	Pass	
Ethylbenzene	%	108			70-130	Pass	
m&p-Xylenes	%	108			70-130	Pass	
o-Xylene	%	105			70-130	Pass	
Xylenes - Total	%	107			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions * LM-LTM-ORG2010							
Naphthalene	%	77			70-130	Pass	
TRH C6-C10	%	113			70-130	Pass	
TRH >C10-C16	%	95			70-130	Pass	
LCS - % Recovery							
Polyaromatic Hydrocarbons (PAH) E007 Polyaromatic Hydrocarbons (PAH)							
Acenaphthene	%	90			70-130	Pass	
Acenaphthylene	%	82			70-130	Pass	
Anthracene	%	94			70-130	Pass	
Benz(a)anthracene	%	90			70-130	Pass	
Benzo(a)pyrene	%	83			70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	%	88			70-130	Pass	
Benzo(g.h.i)perylene	%	79			70-130	Pass	
Chrysene	%	85			70-130	Pass	
Dibenz(a.h)anthracene	%	80			70-130	Pass	
Fluoranthene	%	94			70-130	Pass	
Fluorene	%	91			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	81			70-130	Pass	
Naphthalene	%	89			70-130	Pass	
Phenanthrene	%	92			70-130	Pass	
Pyrene	%	96			70-130	Pass	
LCS - % Recovery							
Metals M8 filtered E020/E030 Filtered Metals in Water & E026 Mercury							
Lead (filtered)	%	111			70-130	Pass	
Mercury (filtered)	%	81			70-130	Pass	
Nickel (filtered)	%	110			70-130	Pass	
Arsenic (filtered)	%	101			70-130	Pass	
Cadmium (filtered)	%	104			70-130	Pass	
Chromium (filtered)	%	104			70-130	Pass	
Copper (filtered)	%	110			70-130	Pass	
Zinc (filtered)	%	107			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 C10-C14	S13-Ja01664	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1					
TRH >C10-C16	S13-Ja01664	NCP	%	98			70-130	Pass	
Spike - % Recovery									
Polyaromatic Hydrocarbons (PAH)				Result 1					
Acenaphthene	S13-Ja02246	NCP	%	104			70-130	Pass	
Acenaphthylene	S13-Ja02246	NCP	%	95			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Anthracene	S13-Ja02246	NCP	%	109			70-130	Pass	
Benz(a)anthracene	S13-Ja02246	NCP	%	111			70-130	Pass	
Benzo(a)pyrene	S13-Ja02246	NCP	%	102			70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S13-Ja02246	NCP	%	104			70-130	Pass	
Benzo(g.h.i)perylene	S13-Ja02246	NCP	%	91			70-130	Pass	
Chrysene	S13-Ja02246	NCP	%	100			70-130	Pass	
Dibenz(a.h)anthracene	S13-Ja02246	NCP	%	93			70-130	Pass	
Fluoranthene	S13-Ja02246	NCP	%	115			70-130	Pass	
Fluorene	S13-Ja02246	NCP	%	106			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S13-Ja02246	NCP	%	94			70-130	Pass	
Naphthalene	S13-Ja02246	NCP	%	101			70-130	Pass	
Phenanthrene	S13-Ja02246	NCP	%	107			70-130	Pass	
Pyrene	S13-Ja02246	NCP	%	116			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S13-Ja01785	CP	%	108			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S13-Ja01785	CP	%	107			70-130	Pass	
Toluene	S13-Ja01785	CP	%	107			70-130	Pass	
Ethylbenzene	S13-Ja01785	CP	%	108			70-130	Pass	
m&p-Xylenes	S13-Ja01785	CP	%	107			70-130	Pass	
o-Xylene	S13-Ja01785	CP	%	106			70-130	Pass	
Xylenes - Total	S13-Ja01785	CP	%	107			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1					
Naphthalene	S13-Ja01785	CP	%	100			70-130	Pass	
TRH C6-C10	S13-Ja01785	CP	%	109			70-130	Pass	
Spike - % Recovery									
Metals M8 filtered				Result 1					
Lead (filtered)	S13-Ja01785	CP	%	85			70-130	Pass	
Mercury (filtered)	S13-Ja01785	CP	%	85			70-130	Pass	
Nickel (filtered)	S13-Ja01785	CP	%	84			70-130	Pass	
Arsenic (filtered)	S13-Ja01785	CP	%	102			70-130	Pass	
Cadmium (filtered)	S13-Ja01785	CP	%	79			70-130	Pass	
Chromium (filtered)	S13-Ja01785	CP	%	98			70-130	Pass	
Copper (filtered)	S13-Ja01785	CP	%	83			70-130	Pass	
Zinc (filtered)	S13-Ja01785	CP	%	82			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	S13-Ja01784	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	S13-Ja01663	NCP	mg/L	0.30	0.32	7.0	30%	Pass	
TRH C15-C28	S13-Ja01663	NCP	mg/L	0.19	0.20	5.0	30%	Pass	
TRH C29-C36	S13-Ja01663	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S13-Ja01784	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S13-Ja01784	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S13-Ja01784	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S13-Ja01784	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S13-Ja01784	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	S13-Ja01784	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Total BTEX	S13-Ja01784	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1	Result 2	RPD			
Naphthalene	S13-Ja01784	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
TRH C6-C10	S13-Ja01784	CP	mg/L	< 0.02	< 0.02	3.0	30%	Pass	
TRH C6-C10 less BTEX (F1)	S13-Ja01784	CP	mg/L	< 0.02	< 0.02	3.0	30%	Pass	
TRH >C10-C16	S13-Ja01663	NCP	mg/L	0.18	0.21	15	30%	Pass	
TRH >C16-C34	S13-Ja01663	NCP	mg/L	0.14	0.16	13	30%	Pass	
TRH >C34-C40	S13-Ja01663	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Polyaromatic Hydrocarbons (PAH)				Result 1	Result 2	RPD			
Acenaphthene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S13-Ja02245	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Benzo(g.h.i)perylene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Metals M8 filtered				Result 1	Result 2	RPD			
Lead (filtered)	S13-Ja01784	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury (filtered)	S13-Ja01784	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	S13-Ja01784	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Arsenic (filtered)	S13-Ja01784	CP	mg/L	0.001	0.001	<1	30%	Pass	
Cadmium (filtered)	S13-Ja01784	CP	mg/L	0.0002	0.0002	6.0	30%	Pass	
Chromium (filtered)	S13-Ja01784	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	S13-Ja01784	CP	mg/L	< 0.001	< 0.001	17	30%	Pass	
Zinc (filtered)	S13-Ja01784	CP	mg/L	< 0.005	< 0.005	7.0	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	No

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1 107205

coffey environments
SPECIALISTS IN ENVIRONMENTAL, SOCIAL AND SAFETY PERFORMANCE

Consigning Office: Coffey Geotech Chatswood
Report Results to: Matthew Locke Mobile: 042[illegible]202493 Email: matthew-locke @coffey.com
Invoices to: " " Phone: Email: @coffey.com

Project No: GEOTLCOV24303AF Task No:
Project Name: SICEEP Laboratory: MGT Labmark.
Sampler's Name: Kori Hartog / Priya Dass Project Manager: Matthew Locke
Special Instructions: PAH ultra-trace on both filtered + unfiltered ambers.
BTEX, TPH, PAH from B4 suite, Metals from M8 suite

Analysis Request Section

365010

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	B4 suite	M8 suite	BTEX	TPH C6-C9	NOTES
	MW8	10/1/13		Water	2V, 2G, 1P	24-hr					
	MW109	↓		↓							
	MW6										
	MW5										
	MW120										
	TB				2V						
	TS	↓		↓	↓						

RELINQUISHED BY

Name: Priya Dass Date: 10/1/13
Coffey Environments Time: 12:00p.m.

Name: Date:
Company: Time:

RECEIVED BY

Name: Mitchell Murphy Date: 10-1-13
Company: MGT Labmark Time: 12:00

Name: Ellen Wu Date: 10/1/13
Company: MGT Labmark Time: 14:40

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. 365010

*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

Mitchell Murphy 2:10pm 10-1-13 6°

mgt LabMark ENVIRONMENTAL LABORATORIES

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

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16 Mars Road
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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

Sample Receipt Advice

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

Contact name: Matthew Locke
Client job number: SICEEP GEOTLCOV24303AF
COC number: 107205
Turn around time: 1 Day
Date/Time received: Jan 10, 2013 2:10 PM
mgt-LabMark reference: **365010**

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 : 6 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).

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 Sample Receipt

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	**365010-W**
Client Reference	SICEEP GEOTLCOV24303AF
Received Date	Jan 10, 2013

Client Sample ID **Sample Matrix** **mgt-LabMark Sample No.** **Date Sampled** Test/Reference	LOR	Unit	**MW8** **Water (Ultra-** **S13-Ja02364** **Jan 10, 2013**	**MW109** **Water (Ultra-** **S13-Ja02365** **Jan 10, 2013**	**MW6** **Water (Ultra-** **S13-Ja02366** **Jan 10, 2013**	**MW120** **Water (Ultra-** **S13-Ja02368** **Jan 10, 2013**
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	0.03
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Total BTEX	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Bromofluorobenzene (surr.)	1	%	93	87	89	87
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *						
Naphthalene[N02]	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	0.02	0.03
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	0.02	0.03
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.00001	mg/L	< 0.00001	0.00004	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	0.00006	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	0.00007	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	0.00003	< 0.00001	< 0.00001
Benzo(b)fluoranthene & Benzo(k)fluoranthene	0.00002	mg/L	< 0.00002	0.00006	< 0.00002	< 0.00002
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	0.00001	< 0.00001	< 0.00001
Chrysene	0.00005	mg/L	< 0.00005	0.00006	< 0.00005	< 0.00005
Dibenz(a.h)anthracene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Fluoranthene	0.00005	mg/L	< 0.00005	0.00085	< 0.00005	< 0.00005
Fluorene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Indeno(1.2.3-cd)pyrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Naphthalene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Phenanthrene	0.00005	mg/L	< 0.00005	0.00011	< 0.00005	< 0.00005

Client Sample ID			MW8	MW109	MW6	MW120
Sample Matrix			Water (Ultra-	Water (Ultra-	Water (Ultra-	Water (Ultra-
mgt-LabMark Sample No.			S13-Ja02364	S13-Ja02365	S13-Ja02366	S13-Ja02368
Date Sampled			Jan 10, 2013	Jan 10, 2013	Jan 10, 2013	Jan 10, 2013
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
Pyrene	0.00005	mg/L	< 0.00005	0.00073	< 0.00005	< 0.00005
Total PAH	0.00005	mg/L	< 0.00005	0.0020	< 0.00005	< 0.00005
2-Fluorobiphenyl (surr.)	1	%	112	124	122	122
p-Terphenyl-d14 (surr.)	1	%	130	130	130	130
Heavy Metals						
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001	0.002	< 0.001	< 0.001
Arsenic (filtered)	0.001	mg/L	0.002	0.001	< 0.001	0.005
Cadmium (filtered)	0.0001	mg/L	0.0002	0.0002	0.0002	0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.003	< 0.001	0.001	0.002
Zinc (filtered)	0.005	mg/L	0.009	< 0.005	< 0.005	< 0.005

Client Sample ID			MW8FILT	MW109FILT	MW6FILT	MW120FILT
Sample Matrix			Water (Ultra-	Water (Ultra-	Water (Ultra-	Water (Ultra-
mgt-LabMark Sample No.			S13-Ja02369	S13-Ja02370	S13-Ja02371	S13-Ja02373
Date Sampled			Jan 10, 2013	Jan 10, 2013	Jan 10, 2013	Jan 10, 2013
Test/Reference	LOR	Unit				
Polyaromatic Hydrocarbons (PAH)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b)fluoranthene & Benzo(k)fluoranthene	0.00002	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Dibenz(a.h)anthracene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Fluoranthene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Fluorene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Indeno(1.2.3-cd)pyrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Naphthalene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Phenanthrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Pyrene	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Total PAH	0.00005	mg/L	< 0.00005	< 0.00005	< 0.00005	< 0.00005
2-Fluorobiphenyl (surr.)	1	%	110	94	118	110
p-Terphenyl-d14 (surr.)	1	%	128	114	129	124

Client Sample ID			TB	TS
Sample Matrix			Water	Water
mgt-LabMark Sample No.			S13-Ja02374	S13-Ja02375
Date Sampled			Jan 10, 2013	Jan 10, 2013
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	0.02	mg/L	< 0.02	-
BTEX				
Benzene	0.001	mg/L	< 0.001	102%
Toluene	0.001	mg/L	< 0.001	102%
Ethylbenzene	0.001	mg/L	< 0.001	98%
m&p-Xylenes	0.002	mg/L	< 0.002	106%
o-Xylene	0.001	mg/L	< 0.001	110%
Xylenes - Total	0.003	mg/L	< 0.003	107%
Total BTEX	0.01	mg/L	< 0.01	104%
4-Bromofluorobenzene (surr.)	1	%	87	99

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	Jan 10, 2013	7 Day
- Method: E004 Petroleum Hydrocarbons (TPH)			
BTEX	Sydney	Jan 10, 2013	14 Day
- Method: E029/E016 BTEX			
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *	Sydney	Jan 10, 2013	7 Day
- Method: LM-LTM-ORG2010			
Polyaromatic Hydrocarbons (PAH)	Sydney	Jan 10, 2013	7 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Metals M8 filtered	Sydney	Jan 10, 2013	28 Day
- Method: E020/E030 Filtered Metals in Water & E026 Mercury			

mgt LabMark ENVIRONMENTAL LABORATORIES

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Oakleigh VIC 3166
Phone : +61 3 8564 5000
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:**	Jan 10, 2013 2:10 PM
Address:	Level 18, Tower B, Citadel Tower 799 Pacific Highway Chatswood NSW 2067	**Report #:**	365010	**Due:**	Jan 11, 2013
		Phone:	+61 2 9406 1000	**Priority:**	1 Day
		Fax:	+61 2 9406 1002	**Contact Name:**	Matthew Locke
Client Job No.:	SICEEP GEOTLCOV24303AF				

mgt-LabMark Client Manager: Jean Heng

Sample Detail					HOLD	TRH C6-C9	Metals M8 filtered	BTEX	Polyaromatic Hydrocarbons (PAH)	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										
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
MW8	Jan 10, 2013		Water (Ultra-trace)	S13-Ja02364			X			X
MW109	Jan 10, 2013		Water (Ultra-trace)	S13-Ja02365			X			X
MW6	Jan 10, 2013		Water (Ultra-trace)	S13-Ja02366			X			X
MW5	Jan 10, 2013		Water (Ultra-trace)	S13-Ja02367	X					
MW120	Jan 10, 2013		Water (Ultra-trace)	S13-Ja02368			X			X
MW8FILT	Jan 10, 2013		Water (Ultra-trace)	S13-Ja02369					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 #:**	365010
		Phone:	+61 2 9406 1000
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Client Job No.:	SICEEP GEOTLCOV24303AF		

Received:	Jan 10, 2013 2:10 PM	
Due:	Jan 11, 2013	
Priority:	1 Day	
Contact Name:	Matthew Locke	

mgt-LabMark Client Manager: Jean Heng

Sample Detail					HOLD	TRH C6-C9	Metals M8 filtered	BTEX	Polyaromatic Hydrocarbons (PAH)	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										
MW109FILT	Jan 10, 2013		Water (Ultra-trace)	S13-Ja02370					X	
MW6FILT	Jan 10, 2013		Water (Ultra-trace)	S13-Ja02371					X	
MW5FILT	Jan 10, 2013		Water (Ultra-trace)	S13-Ja02372	X					
MW120FILT	Jan 10, 2013		Water (Ultra-trace)	S13-Ja02373					X	
TB	Jan 10, 2013		Water	S13-Ja02374		X		X		
TS	Jan 10, 2013		Water	S13-Ja02375				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	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	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	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene	mg/L	< 0.00001			0.00001	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	mg/L	< 0.00002			0.00002	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00005			0.00005	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00005			0.00005	Pass	
Fluoranthene	mg/L	< 0.00005			0.00005	Pass	
Fluorene	mg/L	< 0.00005			0.00005	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00005			0.00005	Pass	
Naphthalene	mg/L	< 0.00005			0.00005	Pass	
Phenanthrene	mg/L	< 0.00005			0.00005	Pass	
Pyrene	mg/L	< 0.00005			0.00005	Pass	
Method Blank							
Metals M8 filtered E020/E030 Filtered Metals in Water & E026 Mercury							
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0001			0.0001	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	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	%	104			70-130	Pass	
TRH C10-C14	%	102			70-130	Pass	
LCS - % Recovery							
BTEX E029/E016 BTEX							
Benzene	%	102			70-130	Pass	
Toluene	%	102			70-130	Pass	
Ethylbenzene	%	102			70-130	Pass	
m&p-Xylenes	%	102			70-130	Pass	
o-Xylene	%	101			70-130	Pass	
Xylenes - Total	%	102			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions * LM-LTM-ORG2010							
TRH >C10-C16	%	108			70-130	Pass	
LCS - % Recovery							
Polyaromatic Hydrocarbons (PAH) E007 Polyaromatic Hydrocarbons (PAH)							
Acenaphthene	%	102			70-130	Pass	
Acenaphthylene	%	94			70-130	Pass	
Anthracene	%	111			70-130	Pass	
Benz(a)anthracene	%	114			70-130	Pass	
Benzo(a)pyrene	%	118			70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	%	118			70-130	Pass	
Benzo(g.h.i)perylene	%	100			70-130	Pass	
Chrysene	%	114			70-130	Pass	
Dibenz(a.h)anthracene	%	101			70-130	Pass	
Fluoranthene	%	114			70-130	Pass	
Fluorene	%	109			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	102			70-130	Pass	
Naphthalene	%	100			70-130	Pass	
Phenanthrene	%	108			70-130	Pass	
Pyrene	%	117			70-130	Pass	
LCS - % Recovery							
Metals M8 filtered E020/E030 Filtered Metals in Water & E026 Mercury							
Lead (filtered)	%	111			70-130	Pass	
Mercury (filtered)	%	81			70-130	Pass	
Nickel (filtered)	%	110			70-130	Pass	
Arsenic (filtered)	%	101			70-130	Pass	
Cadmium (filtered)	%	104			70-130	Pass	
Chromium (filtered)	%	104			70-130	Pass	
Copper (filtered)	%	110			70-130	Pass	
Zinc (filtered)	%	107			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 C10-C14	S13-Ja01664	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1					
TRH >C10-C16	S13-Ja01664	NCP	%	98			70-130	Pass	
Spike - % Recovery									
Polyaromatic Hydrocarbons (PAH)				Result 1					
Acenaphthene	S13-Ja02246	NCP	%	104			70-130	Pass	
Acenaphthylene	S13-Ja02246	NCP	%	95			70-130	Pass	
Anthracene	S13-Ja02246	NCP	%	109			70-130	Pass	
Benz(a)anthracene	S13-Ja02246	NCP	%	111			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(a)pyrene	S13-Ja02246	NCP	%	102			70-130	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S13-Ja02246	NCP	%	104			70-130	Pass	
Benzo(g.h.i)perylene	S13-Ja02246	NCP	%	91			70-130	Pass	
Chrysene	S13-Ja02246	NCP	%	100			70-130	Pass	
Dibenz(a.h)anthracene	S13-Ja02246	NCP	%	93			70-130	Pass	
Fluoranthene	S13-Ja02246	NCP	%	115			70-130	Pass	
Fluorene	S13-Ja02246	NCP	%	106			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S13-Ja02246	NCP	%	94			70-130	Pass	
Naphthalene	S13-Ja02246	NCP	%	101			70-130	Pass	
Phenanthrene	S13-Ja02246	NCP	%	107			70-130	Pass	
Pyrene	S13-Ja02246	NCP	%	116			70-130	Pass	
Spike - % Recovery									
Metals M8 filtered				Result 1					
Lead (filtered)	S13-Ja01590	NCP	%	117			70-130	Pass	
Nickel (filtered)	S13-Ja01590	NCP	%	110			70-130	Pass	
Arsenic (filtered)	S13-Ja01785	NCP	%	102			70-130	Pass	
Cadmium (filtered)	S13-Ja01590	NCP	%	102			70-130	Pass	
Chromium (filtered)	S13-Ja01590	NCP	%	119			70-130	Pass	
Copper (filtered)	S13-Ja01590	NCP	%	110			70-130	Pass	
Zinc (filtered)	S13-Ja01590	NCP	%	112			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S13-Ja02365	CP	%	90			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S13-Ja02365	CP	%	89			70-130	Pass	
Toluene	S13-Ja02365	CP	%	91			70-130	Pass	
Ethylbenzene	S13-Ja02365	CP	%	90			70-130	Pass	
m&p-Xylenes	S13-Ja02365	CP	%	90			70-130	Pass	
o-Xylene	S13-Ja02365	CP	%	89			70-130	Pass	
Xylenes - Total	S13-Ja02365	CP	%	90			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1					
Naphthalene	S13-Ja02365	CP	%	79			70-130	Pass	
TRH C6-C10	S13-Ja02365	CP	%	91			70-130	Pass	
Spike - % Recovery									
Metals M8 filtered				Result 1					
Mercury (filtered)	S13-Ja02365	CP	%	93			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	S13-Ja02364	CP	mg/L	< 0.02	< 0.02	6.0	30%	Pass	
TRH C10-C14	S13-Ja01663	NCP	mg/L	0.30	0.32	7.0	30%	Pass	
TRH C15-C28	S13-Ja01663	NCP	mg/L	0.19	0.20	5.0	30%	Pass	
TRH C29-C36	S13-Ja01663	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S13-Ja02364	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S13-Ja02364	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S13-Ja02364	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S13-Ja02364	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S13-Ja02364	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	S13-Ja02364	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Total BTEX	S13-Ja02364	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - Draft 2010 NEPM Fractions *				Result 1	Result 2	RPD			
Naphthalene	S13-Ja02364	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
TRH C6-C10	S13-Ja02364	CP	mg/L	< 0.02	< 0.02	6.0	30%	Pass	
TRH C6-C10 less BTEX (F1)	S13-Ja02364	CP	mg/L	< 0.02	< 0.02	6.0	30%	Pass	
TRH >C10-C16	S13-Ja01663	NCP	mg/L	0.18	0.21	15	30%	Pass	
TRH >C16-C34	S13-Ja01663	NCP	mg/L	0.14	0.16	13	30%	Pass	
TRH >C34-C40	S13-Ja01663	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Polyaromatic Hydrocarbons (PAH)				Result 1	Result 2	RPD			
Acenaphthene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b)fluoranthene & Benzo(k)fluoranthene	S13-Ja02245	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Benzo(g.h.i)perylene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	S13-Ja02245	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Metals M8 filtered				Result 1	Result 2	RPD			
Lead (filtered)	S13-Ja01589	NCP	mg/L	< 0.001	< 0.001	10	30%	Pass	
Mercury (filtered)	S13-Ja02364	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	S13-Ja01589	NCP	mg/L	< 0.001	< 0.001	22	30%	Pass	
Arsenic (filtered)	S13-Ja01589	NCP	mg/L	< 0.001	< 0.001	5.0	30%	Pass	
Cadmium (filtered)	S13-Ja01589	NCP	mg/L	0.00017	0.00016	6.0	30%	Pass	
Chromium (filtered)	S13-Ja01589	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	S13-Ja01589	NCP	mg/L	< 0.001	0.0011	8.0	30%	Pass	
Zinc (filtered)	S13-Ja01589	NCP	mg/L	0.0050	< 0.005	4.0	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	No

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

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CERTIFICATE OF ANALYSIS 83879

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 water
Date samples received / completed instructions received	09/01/13 / 09/01/13

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:	10/01/13 / 10/01/13
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:

Nancy Zhang
Chemist

Rhian Morgan
Reporting Supervisor

Jeremy Faircloth
Chemist

ACCREDITED FOR TECHNICAL COMPETENCE

vTRH(C6-C10)/BTEXN in Water		
Our Reference:	UNITS	83879-1
Your Reference	----------	Dup 1A
Date Sampled	----------	08/01/2013
Type of sample		water
Date extracted	-	09/01/2013
Date analysed	-	09/01/2013
TRHC$_6$ - C$_9$	µg/L	<10
TRHC$_6$ - C$_{10}$	µg/L	<10
TRHC$_6$ - C$_{10}$ less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	100
Surrogate toluene-d8	%	98
Surrogate 4-BFB	%	98

svTRH (C10-C40) in Water		
Our Reference:	UNITS	83879-1
Your Reference	----------	Dup 1A
Date Sampled	----------	08/01/2013
Type of sample		water
Date extracted	-	10/01/2013
Date analysed	-	10/01/2013
TRHC$_{10}$ - C$_{14}$	µg/L	<50
TRHC$_{15}$ - C$_{28}$	µg/L	<100
TRHC$_{29}$ - C$_{36}$	µg/L	<100
TRH>C$_{10}$ - C$_{16}$	µg/L	<50
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	µg/L	<50
TRH>C$_{16}$ - C$_{34}$	µg/L	<100
TRH>C$_{34}$ - C$_{40}$	µg/L	<100
Surrogate o-Terphenyl	%	83

PAHs in Water - Trace Level		
Our Reference:	UNITS	83879-1
Your Reference	----------	Dup 1A
Date Sampled	----------	08/01/2013
Type of sample		water
Date extracted	-	10/01/2013
Date analysed	-	10/01/2013
Naphthalene	µg/L	<0.01
Acenaphthylene	µg/L	<0.01
Acenaphthene	µg/L	<0.01
Fluorene	µg/L	<0.01
Phenanthrene	µg/L	<0.01
Anthracene	µg/L	<0.01
Fluoranthene	µg/L	<0.01
Pyrene	µg/L	<0.01
Benzo(a)anthracene	µg/L	<0.01
Chrysene	µg/L	<0.01
Benzo(b+k)fluoranthene	µg/L	<0.02
Benzo(a)pyrene	µg/L	<0.01
Dibenzo(a,h)anthracene	µg/L	<0.01
Indeno(1,2,3-c,d)pyrene	µg/L	<0.01
Benzo(g,h,i)perylene	µg/L	<0.01
Benzo(a)pyrene TEQ	µg/L	<0.05
Surrogate p-Terphenyl-d_{14}	%	93

HM in water - dissolved		
Our Reference:	UNITS	83879-1
Your Reference	----------	Dup 1A
Date Sampled	----------	08/01/2013
Type of sample		water
Date prepared	-	10/01/2013
Date analysed	-	10/01/2013
Arsenic-Dissolved	µg/L	2
Cadmium-Dissolved	µg/L	<0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	<1
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	<1
Zinc-Dissolved	µg/L	1

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-013	Water samples are analysed directly 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-022 ICP-MS	Determination of various metals by ICP-MS.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			09/01/2013	[NT]	[NT]	LCS-W1	09/01/2013
Date analysed	-			09/01/2013	[NT]	[NT]	LCS-W1	09/01/2013
TRHC$_6$ - C$_9$	µg/L	10	Org-016	<10	[NT]	[NT]	LCS-W1	97%
TRHC$_6$ - C$_{10}$	µg/L	10	Org-016	<10	[NT]	[NT]	LCS-W1	97%
TRHC$_6$ - C$_{10}$ less BTEX (F1)	µg/L	10	Org-016	[NT]	[NT]	[NT]	[NR]	[NR]
Benzene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W1	92%
Toluene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W1	97%
Ethylbenzene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W1	98%
m+p-xylene	µg/L	2	Org-016	<2	[NT]	[NT]	LCS-W1	100%
o-xylene	µg/L	1	Org-016	<1	[NT]	[NT]	LCS-W1	99%
Naphthalene	µg/L	1	Org-013	<1	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluoromethane	%		Org-016	106	[NT]	[NT]	LCS-W1	102%
Surrogate toluene-d8	%		Org-016	100	[NT]	[NT]	LCS-W1	99%
Surrogate 4-BFB	%		Org-016	104	[NT]	[NT]	LCS-W1	95%

QUALITY CONTROL svTRH (C10-C40) in Water	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			10/01/2013	[NT]	[NT]	LCS-W1	10/01/2013
Date analysed	-			10/01/2013	[NT]	[NT]	LCS-W1	10/01/2013
TRHC$_{10}$ - C$_{14}$	µg/L	50	Org-003	<50	[NT]	[NT]	LCS-W1	70%
TRHC$_{15}$ - C$_{28}$	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	92%
TRHC$_{29}$ - C$_{36}$	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	81%
TRH>C$_{10}$ - C$_{16}$	µg/L	50	Org-003	<50	[NT]	[NT]	LCS-W1	70%
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	µg/L	50	Org-003	[NT]	[NT]	[NT]	[NR]	[NR]
TRH>C$_{16}$ - C$_{34}$	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	92%
TRH>C$_{34}$ - C$_{40}$	µg/L	100	Org-003	<100	[NT]	[NT]	LCS-W1	81%
Surrogate o-Terphenyl	%		Org-003	96	[NT]	[NT]	LCS-W1	96%

QUALITY CONTROL PAHs in Water - Trace Level	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			10/01/2013	[NT]	[NT]	LCS-W1	10/01/2013
Date analysed	-			10/01/2013	[NT]	[NT]	LCS-W1	10/01/2013
Naphthalene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	LCS-W1	133%
Acenaphthylene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	[NR]	[NR]
Acenaphthene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	[NR]	[NR]
Fluorene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	LCS-W1	107%
Phenanthrene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	LCS-W1	98%
Anthracene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	[NR]	[NR]
Fluoranthene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	LCS-W1	84%
Pyrene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	LCS-W1	99%
Benzo(a)anthracene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	[NR]	[NR]
Chrysene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	LCS-W1	85%
Benzo(b+k)fluoranthene	µg/L	0.02	Org-012 subset	<0.02	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	LCS-W1	105%
Dibenzo(a,h)anthracene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	[NR]	[NR]
Indeno(1,2,3-c,d)pyrene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene TEQ	µg/L	0.05	Org-012 subset	[NT]	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		Org-012 subset	118	[NT]	[NT]	LCS-W1	122%

Client Reference: GEOTLCOV24303AF

QUALITY CONTROL HM in water - dissolved	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date prepared	-			10/01/2013	[NT]	[NT]	LCS-W1	10/01/2013
Date analysed	-			10/01/2013	[NT]	[NT]	LCS-W1	10/01/2013
Arsenic-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	92%
Cadmium-Dissolved	µg/L	0.1	Metals-022 ICP-MS	<0.1	[NT]	[NT]	LCS-W1	90%
Chromium-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	93%
Copper-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	88%
Lead-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	98%
Mercury-Dissolved	µg/L	0.05	Metals-021 CV-AAS	<0.05	[NT]	[NT]	LCS-W1	84%
Nickel-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	90%
Zinc-Dissolved	µg/L	1	Metals-022 ICP-MS	<1	[NT]	[NT]	LCS-W1	88%

QUALITY CONTROL HM in water - dissolved	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date prepared	-	[NT]	[NT]	83879-1	10/01/2013
Date analysed	-	[NT]	[NT]	83879-1	10/01/2013
Arsenic-Dissolved	µg/L	[NT]	[NT]	83879-1	108%
Cadmium-Dissolved	µg/L	[NT]	[NT]	83879-1	98%
Chromium-Dissolved	µg/L	[NT]	[NT]	83879-1	98%
Copper-Dissolved	µg/L	[NT]	[NT]	83879-1	88%
Lead-Dissolved	µg/L	[NT]	[NT]	83879-1	102%
Mercury-Dissolved	µg/L	[NT]	[NT]	[NR]	[NR]
Nickel-Dissolved	µg/L	[NT]	[NT]	83879-1	90%
Zinc-Dissolved	µg/L	[NT]	[NT]	83879-1	100%

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 83879-A

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 water
Date samples received / completed instructions received	09/01/13 / 17/01/13

This sample was filtered by the client

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:	17/01/13 / 17/01/13
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:

Nancy Zhang
Chemist

PAHs in Water - Trace Level		
Our Reference:	UNITS	83879-A-1
Your Reference	----------	Dup 1A-filtered
Date Sampled	----------	08/01/2013
Type of sample		water
Date extracted	-	17/01/2013
Date analysed	-	17/01/2013
Naphthalene	µg/L	<0.01
Acenaphthylene	µg/L	<0.01
Acenaphthene	µg/L	<0.01
Fluorene	µg/L	<0.01
Phenanthrene	µg/L	<0.01
Anthracene	µg/L	<0.01
Fluoranthene	µg/L	<0.01
Pyrene	µg/L	<0.01
Benzo(a)anthracene	µg/L	<0.01
Chrysene	µg/L	<0.01
Benzo(b+k)fluoranthene	µg/L	<0.02
Benzo(a)pyrene	µg/L	<0.01
Dibenzo(a,h)anthracene	µg/L	<0.01
Indeno(1,2,3-c,d)pyrene	µg/L	<0.01
Benzo(g,h,i)perylene	µg/L	<0.01
Benzo(a)pyrene TEQ	µg/L	<0.05
Surrogate p-Terphenyl-d_{14}	%	93

Method ID	Methodology Summary
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.

QUALITY CONTROL PAHs in Water - Trace Level	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/01/2013	[NT]	[NT]	LCS-W1	17/01/2013
Date analysed	-			17/01/2013	[NT]	[NT]	LCS-W1	17/01/2013
Naphthalene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	LCS-W1	65%
Acenaphthylene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	[NR]	[NR]
Acenaphthene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	[NR]	[NR]
Fluorene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	LCS-W1	77%
Phenanthrene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	LCS-W1	83%
Anthracene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	[NR]	[NR]
Fluoranthene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	LCS-W1	99%
Pyrene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	LCS-W1	99%
Benzo(a)anthracene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	[NR]	[NR]
Chrysene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	LCS-W1	78%
Benzo(b+k)fluoranthene	µg/L	0.02	Org-012 subset	<0.02	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	LCS-W1	91%
Dibenzo(a,h)anthracene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	[NR]	[NR]
Indeno(1,2,3-c,d)pyrene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	µg/L	0.01	Org-012 subset	<0.01	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene TEQ	µg/L	0.05	Org-012 subset	[NT]	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		Org-012 subset	106	[NT]	[NT]	LCS-W1	108%

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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