

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g,h,i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a,h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4,4'-DDD	mg/kg	< 0.05			0.05	Pass	
4,4'-DDE	mg/kg	< 0.05			0.05	Pass	
4,4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls (PCB)							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB*	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organophosphorus Pesticides (OP)							
Chlorpyrifos	mg/kg	< 0.5			0.5	Pass	
Coumaphos	mg/kg	< 0.5			0.5	Pass	
Demeton (total)	mg/kg	< 1			1	Pass	
Diazinon	mg/kg	< 0.5			0.5	Pass	
Dichlorvos	mg/kg	< 0.5			0.5	Pass	
Dimethoate	mg/kg	< 0.5			0.5	Pass	
Disulfoton	mg/kg	< 0.5			0.5	Pass	
Ethoprop	mg/kg	< 0.5			0.5	Pass	
Fenitrothion	mg/kg	< 0.5			0.5	Pass	
Fensulfothion	mg/kg	< 0.5			0.5	Pass	
Fenthion	mg/kg	< 0.5			0.5	Pass	
Methyl azinphos	mg/kg	< 0.5			0.5	Pass	
Malathion	mg/kg	< 0.5			0.5	Pass	
Methyl parathion	mg/kg	< 0.5			0.5	Pass	
Mevinphos	mg/kg	< 0.5			0.5	Pass	
Monocrotophos	mg/kg	< 10			10	Pass	
Parathion	mg/kg	< 0.5			0.5	Pass	
Phorate	mg/kg	< 0.5			0.5	Pass	
Profenofos	mg/kg	< 0.5			0.5	Pass	
Prothiofos	mg/kg	< 0.5			0.5	Pass	
Ronnel	mg/kg	< 0.5			0.5	Pass	
Stirophos	mg/kg	< 0.5			0.5	Pass	
Trichloronate	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	80			70-130	Pass	
TRH C10-C14	%	94			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	98			70-130	Pass	
Toluene	%	96			70-130	Pass	
Ethylbenzene	%	94			70-130	Pass	
m&p-Xylenes	%	93			70-130	Pass	
o-Xylene	%	92			70-130	Pass	
Xylenes - Total	%	93			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	93			70-130	Pass	
TRH C6-C10	%	86			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	103			70-130	Pass	
Acenaphthylene	%	109			70-130	Pass	
Anthracene	%	103			70-130	Pass	
Benz(a)anthracene	%	82			70-130	Pass	
Benzo(a)pyrene	%	87			70-130	Pass	
Benzo(b&j)fluoranthene	%	92			70-130	Pass	
Benzo(g,h,i)perylene	%	125			70-130	Pass	
Benzo(k)fluoranthene	%	99			70-130	Pass	
Chrysene	%	98			70-130	Pass	
Dibenz(a,h)anthracene	%	113			70-130	Pass	
Fluoranthene	%	100			70-130	Pass	
Fluorene	%	105			70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	127			70-130	Pass	
Naphthalene	%	98			70-130	Pass	
Phenanthrene	%	104			70-130	Pass	
Pyrene	%	95			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	128			70-130	Pass	
4,4'-DDD	%	129			70-130	Pass	
4,4'-DDE	%	128			70-130	Pass	
4,4'-DDT	%	119			70-130	Pass	
a-BHC	%	120			70-130	Pass	
Aldrin	%	125			70-130	Pass	
b-BHC	%	121			70-130	Pass	
d-BHC	%	118			70-130	Pass	
Dieldrin	%	127			70-130	Pass	
Endosulfan I	%	128			70-130	Pass	
Endosulfan II	%	124			70-130	Pass	
Endosulfan sulphate	%	125			70-130	Pass	
Endrin	%	117			70-130	Pass	
Endrin aldehyde	%	118			70-130	Pass	
Endrin ketone	%	107			70-130	Pass	
g-BHC (Lindane)	%	119			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor			%	105			70-130	Pass	
Heptachlor epoxide			%	127			70-130	Pass	
Hexachlorobenzene			%	115			70-130	Pass	
Methoxychlor			%	124			70-130	Pass	
Toxaphene			%	118			70-130	Pass	
LCS - % Recovery									
Polychlorinated Biphenyls (PCB)									
Aroclor-1260		%	88				70-130	Pass	
LCS - % Recovery									
Organophosphorus Pesticides (OP)									
Chlorpyrifos		%	89				70-130	Pass	
Coumaphos		%	79				70-130	Pass	
Demeton (total)		%	109				70-130	Pass	
Diazinon		%	76				70-130	Pass	
Dichlorvos		%	89				70-130	Pass	
Dimethoate		%	102				70-130	Pass	
Disulfoton		%	97				70-130	Pass	
Fenitrothion		%	125				70-130	Pass	
Fenthion		%	118				70-130	Pass	
Methyl azinphos		%	78				70-130	Pass	
Malathion		%	91				70-130	Pass	
Methyl parathion		%	120				70-130	Pass	
Monocrotophos		%	95				70-130	Pass	
Phorate		%	70				70-130	Pass	
Ronnel		%	122				70-130	Pass	
LCS - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions									
TRH >C10-C16		%	92				70-130	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic		%	97				70-130	Pass	
Cadmium		%	104				70-130	Pass	
Chromium		%	100				70-130	Pass	
Copper		%	98				70-130	Pass	
Lead		%	106				70-130	Pass	
Mercury		%	97				70-130	Pass	
Nickel		%	99				70-130	Pass	
Zinc		%	102				70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S16-Ma17826	NCP	%	72			70-130	Pass	
TRH C10-C14	S16-Ma16424	NCP	%	98			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S16-Ma17826	NCP	%	86			70-130	Pass	
Toluene	S16-Ma17826	NCP	%	84			70-130	Pass	
Ethylbenzene	S16-Ma17826	NCP	%	85			70-130	Pass	
m&p-Xylenes	S16-Ma17826	NCP	%	86			70-130	Pass	
o-Xylene	S16-Ma17826	NCP	%	83			70-130	Pass	
Xylenes - Total	S16-Ma17826	NCP	%	85			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S16-Ma17826	NCP	%	115			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C6-C10	S16-Ma17826	NCP	%	78			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S16-Ma16418	NCP	%	99			70-130	Pass	
Acenaphthylene	S16-Ma16418	NCP	%	103			70-130	Pass	
Anthracene	S16-Ma16418	NCP	%	102			70-130	Pass	
Benz(a)anthracene	S16-Ma16418	NCP	%	112			70-130	Pass	
Benzo(a)pyrene	S16-Ma16418	NCP	%	95			70-130	Pass	
Benzo(b&j)fluoranthene	S16-Ma16418	NCP	%	91			70-130	Pass	
Benzo(g,h,i)perylene	S16-Ma16418	NCP	%	125			70-130	Pass	
Benzo(k)fluoranthene	S16-Ma16418	NCP	%	97			70-130	Pass	
Chrysene	S16-Ma16418	NCP	%	103			70-130	Pass	
Dibenz(a,h)anthracene	S16-Ma16418	NCP	%	117			70-130	Pass	
Fluoranthene	S16-Ma16418	NCP	%	114			70-130	Pass	
Fluorene	S16-Ma16418	NCP	%	104			70-130	Pass	
Indeno(1,2,3-cd)pyrene	S16-Ma16418	NCP	%	118			70-130	Pass	
Naphthalene	S16-Ma16418	NCP	%	100			70-130	Pass	
Phenanthrene	S16-Ma16418	NCP	%	101			70-130	Pass	
Pyrene	S16-Ma16418	NCP	%	110			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S16-Ma22643	NCP	%	129			70-130	Pass	
4,4'-DDD	S16-Ma22643	NCP	%	128			70-130	Pass	
4,4'-DDE	S16-Ma22643	NCP	%	130			70-130	Pass	
4,4'-DDT	S16-Ma22643	NCP	%	127			70-130	Pass	
a-BHC	S16-Ma22643	NCP	%	105			70-130	Pass	
Aldrin	S16-Ma22643	NCP	%	128			70-130	Pass	
b-BHC	S16-Ma22643	NCP	%	117			70-130	Pass	
d-BHC	S16-Ma22643	NCP	%	124			70-130	Pass	
Dieldrin	S16-Ma22643	NCP	%	129			70-130	Pass	
Endosulfan I	S16-Ma22643	NCP	%	130			70-130	Pass	
Endosulfan II	S16-Ma22643	NCP	%	125			70-130	Pass	
Endosulfan sulphate	S16-Ma22643	NCP	%	127			70-130	Pass	
Endrin	S16-Ma22643	NCP	%	115			70-130	Pass	
Endrin aldehyde	S16-Ma22643	NCP	%	116			70-130	Pass	
Endrin ketone	S16-Ma22643	NCP	%	106			70-130	Pass	
g-BHC (Lindane)	S16-Ma22643	NCP	%	112			70-130	Pass	
Heptachlor	S16-Ma22643	NCP	%	105			70-130	Pass	
Heptachlor epoxide	S16-Ma22643	NCP	%	126			70-130	Pass	
Hexachlorobenzene	S16-Ma22643	NCP	%	104			70-130	Pass	
Methoxychlor	S16-Ma22643	NCP	%	127			70-130	Pass	
Toxaphene	S16-Ma15457	NCP	%	121			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls (PCB)				Result 1					
Aroclor-1260	S16-Ma22644	NCP	%	83			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides (OP)				Result 1					
Chlorpyrifos	S16-Ma05109	NCP	%	100			70-130	Pass	
Diazinon	S16-Ma16418	NCP	%	87			70-130	Pass	
Dichlorvos	S16-Ma16418	NCP	%	85			70-130	Pass	
Dimethoate	S16-Ma05109	NCP	%	93			70-130	Pass	
Disulfoton	S16-Ma05109	NCP	%	81			70-130	Pass	
Fenitrothion	S16-Ma05109	NCP	%	117			70-130	Pass	
Fenthion	S16-Ma16418	NCP	%	129			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Methyl parathion	S16-Ma05109	NCP	%	111			70-130	Pass	
Monocrotophos	S16-Ma16418	NCP	%	79			70-130	Pass	
Phorate	S16-Ma05109	NCP	%	76			70-130	Pass	
Ronnel	S16-Ma16418	NCP	%	100			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S16-Ma16424	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S16-Ma17653	NCP	%	94			70-130	Pass	
Cadmium	S16-Ma17653	NCP	%	101			70-130	Pass	
Chromium	S16-Ma17653	NCP	%	99			70-130	Pass	
Copper	S16-Ma17653	NCP	%	99			70-130	Pass	
Lead	S16-Ma17653	NCP	%	104			70-130	Pass	
Mercury	S16-Ma17653	NCP	%	93			70-130	Pass	
Nickel	S16-Ma17653	NCP	%	99			70-130	Pass	
Zinc	S16-Ma17653	NCP	%	98			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	S16-Ma17825	NCP	mg/kg	23	31	31	30%	Fail	Q15
TRH C10-C14	S16-Ma24637	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S16-Ma24637	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S16-Ma24637	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S16-Ma17825	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S16-Ma17825	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S16-Ma17825	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S16-Ma17825	NCP	mg/kg	0.5	0.5	8.0	30%	Pass	
o-Xylene	S16-Ma17825	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S16-Ma17825	NCP	mg/kg	0.5	0.5	8.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S16-Ma17825	NCP	mg/kg	1.7	2.1	23	30%	Pass	
TRH C6-C10	S16-Ma17825	NCP	mg/kg	43	67	43	30%	Fail	Q15
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g,h,i)perylene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a,h)anthracene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1,2,3-cd)pyrene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S16-Ma17653	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	S16-Ma17827	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-BHC	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-BHC	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-BHC	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-BHC (Lindane)	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	S16-Ma17827	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	S16-Ma17827	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Toxaphene	S16-Ma17827	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Duplicate								
Polychlorinated Biphenyls (PCB)				Result 1	Result 2	RPD		
Aroclor-1016	S16-Ma22658	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1232	S16-Ma22658	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1242	S16-Ma22658	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1248	S16-Ma22658	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1254	S16-Ma22658	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1260	S16-Ma22658	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides (OP)				Result 1	Result 2	RPD		
Chlorpyrifos	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Coumaphos	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Demeton (total)	S16-Ma05079	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Diazinon	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dichlorvos	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dimethoate	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Disulfoton	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ethoprop	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fenitrothion	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fensulfthion	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fenthion	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methyl azinphos	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Malathion	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methyl parathion	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Mevinphos	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Monocrotophos	S16-Ma05079	NCP	mg/kg	< 10	< 10	<1	30%	Pass
Parathion	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phorate	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Profenofos	S16-Ma21423	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Prothiofos	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ronnel	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Stirophos	S16-Ma21423	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Trichloronate	S16-Ma05079	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass

Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH >C10-C16	S16-Ma24637	NCP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	S16-Ma24637	NCP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	S16-Ma24637	NCP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S16-Ma17652	NCP	mg/kg	< 2	< 2	<1	30%	Pass
Cadmium	S16-Ma17652	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	S16-Ma17652	NCP	mg/kg	< 5	< 5	<1	30%	Pass
Copper	S16-Ma17652	NCP	mg/kg	< 5	< 5	<1	30%	Pass
Lead	S16-Ma17652	NCP	mg/kg	6.7	7.0	4.0	30%	Pass
Mercury	S16-Ma17652	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Nickel	S16-Ma17652	NCP	mg/kg	< 5	< 5	<1	30%	Pass
Zinc	S16-Ma17652	NCP	mg/kg	19	21	9.0	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	S16-Ja14424	NCP	%	16	18	9.0	30%	Pass

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
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.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins mgt's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Charl Du Preez	Analytical Services Manager
Bob Symons	Senior Analyst-Inorganic (NSW)
Ivan Taylor	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
Ryan Hamilton	Senior Analyst-Volatile (NSW)



Glenn Jackson

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

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 493355-W
Project name 12 FREDRICK STREET
Project ID GEOTLCOV25513AB
Received Date Mar 18, 2016

Client Sample ID			AUGAR RINSATE	TRIP SPIKE	TRIP BLANK
Sample Matrix			Water	Water	Water
Eurofins mgt Sample No.			S16-Ma16726	S16-Ma16727	S16-Ma16728
Date Sampled			Mar 17, 2016	Mar 17, 2016	Mar 17, 2016
Test/Reference	LOR	Unit			
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	-	-	< 0.02
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	0.02	mg/L	< 0.02	89%	< 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	87%	< 0.001
Toluene	0.001	mg/L	< 0.001	90%	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	86%	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	87%	< 0.002
o-Xylene	0.001	mg/L	< 0.001	87%	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003	87%	< 0.003
4-Bromofluorobenzene (surr.)	1	%	70	99	92
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
TRH C6-C10	0.02	mg/L	-	73%	< 0.02
Volatile Organics					
Naphthalene ^{N02}	0.01	mg/L	-	96%	< 0.01
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene ^{N02}	0.01	mg/L	< 0.01	-	-
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 less Naphthalene (F2) ^{N01}	0.05	mg/L	< 0.05	-	-
Polycyclic Aromatic Hydrocarbons					
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&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	-	-
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	-	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	-	-
Chrysene	0.001	mg/L	< 0.001	-	-

Client Sample ID			AUGAR RINSATE Water	TRIP SPIKE Water	TRIP BLANK Water
Sample Matrix			S16-Ma16726	S16-Ma16727	S16-Ma16728
Eurofins mgt Sample No.			Mar 17, 2016	Mar 17, 2016	Mar 17, 2016
Date Sampled					
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
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*	0.001	mg/L	< 0.001	-	-
2-Fluorobiphenyl (surr.)	1	%	87	-	-
p-Terphenyl-d14 (surr.)	1	%	102	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
TRH >C10-C16	0.05	mg/L	< 0.05	-	-
TRH >C16-C34	0.1	mg/L	< 0.1	-	-
TRH >C34-C40	0.1	mg/L	< 0.1	-	-
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	-	-

Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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

Description	Testing Site	Extracted	Holding Time
TRH C6-C10 less BTEX (F1)	Sydney	Mar 18, 2016	14 Day
- Method: LM-LTM-ORG-2010			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Mar 22, 2016	7 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
BTEX	Sydney	Mar 18, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 18, 2016	7 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Volatile Organics	Sydney	Mar 18, 2016	7 Day
- Method: E016 Volatile Organic Compounds (VOC)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 18, 2016	7 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Eurofins mgt Suite B4			
Polycyclic Aromatic Hydrocarbons	Sydney	Mar 22, 2016	7 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 22, 2016	7 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Metals M8	Sydney	Mar 18, 2016	28 Day
- Method: LTM-MET-3040 Metals in Waters by ICP-MS			

Company Name: Coffey Geotechnics Pty Ltd Chatswood
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067
Project Name: 12 FREDRICK STREET
Project ID: GEOTLCOV25513AB

Order No.:
Report #: 493355
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Mar 18, 2016 3:30 PM
Due: Mar 29, 2016
Priority: 5 Day
Contact Name: Matthew Locke

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					CANCELLED	HOLD	Metals M8	Eurofins mgt Suite B15	Moisture Set	Eurofins mgt Suite B4	BTEX and Volatile TRH
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory											
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID							
BH02_0.14-0.2	Mar 17, 2016		Soil	S16-Ma16721		X					
BH02_0.35-0.42	Mar 17, 2016		Soil	S16-Ma16722			X	X	X	X	
BH03_0.25-0.35	Mar 17, 2016		Soil	S16-Ma16723		X					
BH03_0.5-0.6	Mar 17, 2016		Soil	S16-Ma16724			X		X	X	
BH03_1.0-1.05	Mar 17, 2016		Soil	S16-Ma16725	X						
AUGAR RINSATE	Mar 17, 2016		Water	S16-Ma16726			X			X	
TRIP SPIKE	Mar 17, 2016		Water	S16-Ma16727							X

Company Name: Coffey Geotechnics Pty Ltd Chatswood
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Sample Detail					CANCELLED	HOLD	Metals M8	Eurofins mgt Suite B15	Moisture Set	Eurofins mgt Suite B4	BTEX and Volatile TRH
Laboratory where analysis is conducted											
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217					X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
External Laboratory											
TRIP BLANK	Mar 17, 2016		Water	S16-Ma16728							X

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs 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 Advice.

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

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

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

Units

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

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 Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (Eurofins mgt uses NATA accredited in-house method LTM-GEN-7010)
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 performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

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.
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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
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							
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	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Method Blank							
Volatile Organics							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
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&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g,h,i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	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							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
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							
Heavy Metals							
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	

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Zinc	mg/L	< 0.005		0.005	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	%	84		70-130	Pass	
TRH C10-C14	%	82		70-130	Pass	
LCS - % Recovery						
BTEX						
Benzene	%	95		70-130	Pass	
Toluene	%	93		70-130	Pass	
Ethylbenzene	%	89		70-130	Pass	
m&p-Xylenes	%	90		70-130	Pass	
o-Xylene	%	88		70-130	Pass	
Xylenes - Total	%	89		70-130	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH C6-C10	%	98		70-130	Pass	
LCS - % Recovery						
Volatile Organics						
Naphthalene	%	94		70-130	Pass	
LCS - % Recovery						
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	%	100		70-130	Pass	
Acenaphthylene	%	90		70-130	Pass	
Anthracene	%	107		70-130	Pass	
Benz(a)anthracene	%	91		70-130	Pass	
Benzo(a)pyrene	%	84		70-130	Pass	
Benzo(b&j)fluoranthene	%	82		70-130	Pass	
Benzo(g,h,i)perylene	%	98		70-130	Pass	
Benzo(k)fluoranthene	%	101		70-130	Pass	
Chrysene	%	105		70-130	Pass	
Dibenz(a,h)anthracene	%	90		70-130	Pass	
Fluoranthene	%	100		70-130	Pass	
Fluorene	%	99		70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	98		70-130	Pass	
Naphthalene	%	83		70-130	Pass	
Phenanthrene	%	105		70-130	Pass	
Pyrene	%	94		70-130	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	%	90		70-130	Pass	
LCS - % Recovery						
Heavy Metals						
Arsenic	%	88		70-130	Pass	
Cadmium	%	88		70-130	Pass	
Chromium	%	86		70-130	Pass	
Copper	%	86		70-130	Pass	
Lead	%	87		70-130	Pass	
Mercury	%	95		70-130	Pass	
Nickel	%	86		70-130	Pass	
Zinc	%	84		70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S16-Ma15921	NCP	%	85			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S16-Ma15921	NCP	%	93			70-130	Pass	
Toluene	S16-Ma15921	NCP	%	94			70-130	Pass	
Ethylbenzene	S16-Ma15921	NCP	%	91			70-130	Pass	
m&p-Xylenes	S16-Ma15921	NCP	%	92			70-130	Pass	
o-Xylene	S16-Ma15921	NCP	%	90			70-130	Pass	
Xylenes - Total	S16-Ma15921	NCP	%	91			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH C6-C10	S16-Ma15921	NCP	%	107			70-130	Pass	
Spike - % Recovery									
Volatile Organics				Result 1					
Naphthalene	S16-Ma15921	NCP	%	93			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S16-Ma11680	NCP	%	122			70-130	Pass	
Acenaphthylene	S16-Ma11680	NCP	%	119			70-130	Pass	
Anthracene	S16-Ma11680	NCP	%	122			70-130	Pass	
Benz(a)anthracene	S16-Ma11680	NCP	%	116			70-130	Pass	
Benzo(a)pyrene	S16-Ma11680	NCP	%	107			70-130	Pass	
Benzo(b&j)fluoranthene	S16-Ma11680	NCP	%	117			70-130	Pass	
Benzo(g,h,i)perylene	S16-Ma11680	NCP	%	121			70-130	Pass	
Benzo(k)fluoranthene	S16-Ma11680	NCP	%	116			70-130	Pass	
Chrysene	S16-Ma11680	NCP	%	122			70-130	Pass	
Dibenz(a,h)anthracene	S16-Ma11680	NCP	%	128			70-130	Pass	
Fluoranthene	S16-Ma11680	NCP	%	123			70-130	Pass	
Fluorene	S16-Ma11680	NCP	%	96			70-130	Pass	
Indeno(1,2,3-cd)pyrene	S16-Ma11680	NCP	%	129			70-130	Pass	
Naphthalene	S16-Ma11680	NCP	%	121			70-130	Pass	
Phenanthrene	S16-Ma11680	NCP	%	122			70-130	Pass	
Pyrene	S16-Ma11680	NCP	%	127			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S16-Ma18474	NCP	%	84			70-130	Pass	
Cadmium	S16-Ma18474	NCP	%	84			70-130	Pass	
Chromium	S16-Ma18474	NCP	%	83			70-130	Pass	
Copper	S16-Ma18474	NCP	%	83			70-130	Pass	
Lead	S16-Ma18474	NCP	%	85			70-130	Pass	
Mercury	S16-Ma18474	NCP	%	89			70-130	Pass	
Nickel	S16-Ma18474	NCP	%	83			70-130	Pass	
Zinc	S16-Ma18474	NCP	%	83			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	S16-Ma15920	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	

Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	S16-Ma15920	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Toluene	S16-Ma15920	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Ethylbenzene	S16-Ma15920	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
m&p-Xylenes	S16-Ma15920	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
o-Xylene	S16-Ma15920	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Xylenes - Total	S16-Ma15920	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH C6-C10	S16-Ma15920	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Duplicate								
Volatile Organics				Result 1	Result 2	RPD		
Naphthalene	S16-Ma15920	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Acenaphthylene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Anthracene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benz(a)anthracene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(a)pyrene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(b&j)fluoranthene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(g,h,i)perylene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(k)fluoranthene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chrysene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibenz(a,h)anthracene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluoranthene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluorene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Naphthalene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Phenanthrene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Pyrene	S16-Ma15921	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S16-Ma16726	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Cadmium	S16-Ma16726	CP	mg/L	< 0.0005	< 0.0005	<1	30%	Pass
Chromium	S16-Ma16726	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Copper	S16-Ma16726	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Lead	S16-Ma16726	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Mercury	S16-Ma16726	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel	S16-Ma16726	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Zinc	S16-Ma16726	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
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
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.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Charl Du Preez	Analytical Services Manager
Ivan Taylor	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
Ryan Hamilton	Senior Analyst-Volatile (NSW)



Glenn Jackson

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

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[illegible]

Sample Receipt Advice

Company name: **Coffey Geotechnics Pty Ltd Chatswood**
Contact name: **Matthew Locke**
Project name: **GEOTLCOV25513AB**
COC number: **Not provided**
Turn around time: **5 Day**
Date/Time received: **Mar 24, 2016 11:29 AM**
Eurofins | mgt reference: **493572**

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 Eurofins | mgt
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.
- ☒ Appropriate sample containers have been used.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Analysis added as per client request.

Contact notes

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

Charl Du Preez on Phone : +61 (2) 9900 8400 or by e.mail: charldupreez@eurofins.com.au

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

Note: A copy of these results will also be delivered to the general Coffey Geotechnics Pty Ltd Chatswood email address.

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 493572-S
Project name GEOTLCOV25513AB
Received Date Mar 18, 2016

Client Sample ID			BH04_0.5-0.6	BH04_3.0-3.45	BH05_0.5
Sample Matrix			Soil	Soil	Soil
Eurofins mgt Sample No.			S16-Ma18455	S16-Ma18457	S16-Ma18460
Date Sampled			Mar 18, 2016	Mar 18, 2016	Mar 18, 2016
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	20	mg/kg	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	< 50
BTEX					
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	76	70	70
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5

Client Sample ID			BH04_0.5-0.6	BH04_3.0-3.45	BH05_0.5
Sample Matrix			Soil	Soil	Soil
Eurofins mgt Sample No.			S16-Ma18455	S16-Ma18457	S16-Ma18460
Date Sampled			Mar 18, 2016	Mar 18, 2016	Mar 18, 2016
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	94	95	102
p-Terphenyl-d14 (surr.)	1	%	93	87	91
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-
4,4'-DDD	0.05	mg/kg	< 0.05	-	-
4,4'-DDE	0.05	mg/kg	< 0.05	-	-
4,4'-DDT	0.05	mg/kg	< 0.05	-	-
a-BHC	0.05	mg/kg	< 0.05	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-
b-BHC	0.05	mg/kg	< 0.05	-	-
d-BHC	0.05	mg/kg	< 0.05	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-
Endrin	0.05	mg/kg	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-
Methoxychlor	0.2	mg/kg	< 0.2	-	-
Toxaphene	1	mg/kg	< 1	-	-
Dibutylchloroendate (surr.)	1	%	103	-	-
Tetrachloro-m-xylene (surr.)	1	%	116	-	-
Polychlorinated Biphenyls (PCB)					
Aroclor-1016	0.5	mg/kg	< 0.5	-	-
Aroclor-1232	0.5	mg/kg	< 0.5	-	-
Aroclor-1242	0.5	mg/kg	< 0.5	-	-
Aroclor-1248	0.5	mg/kg	< 0.5	-	-
Aroclor-1254	0.5	mg/kg	< 0.5	-	-
Aroclor-1260	0.5	mg/kg	< 0.5	-	-
Total PCB*	0.5	mg/kg	< 0.5	-	-
Dibutylchloroendate (surr.)	1	%	103	-	-
Organophosphorus Pesticides (OP)					
Chlorpyrifos	0.5	mg/kg	< 0.5	-	-
Coumaphos	0.5	mg/kg	< 0.5	-	-
Demeton (total)	1	mg/kg	< 1	-	-
Diazinon	0.5	mg/kg	< 0.5	-	-
Dichlorvos	0.5	mg/kg	< 0.5	-	-
Dimethoate	0.5	mg/kg	< 0.5	-	-
Disulfoton	0.5	mg/kg	< 0.5	-	-
Ethoprop	0.5	mg/kg	< 0.5	-	-
Fenitrothion	0.5	mg/kg	< 0.5	-	-
Fensulfothion	0.5	mg/kg	< 0.5	-	-

Client Sample ID			BH04_0.5-0.6	BH04_3.0-3.45	BH05_0.5
Sample Matrix			Soil	Soil	Soil
Eurofins mgt Sample No.			S16-Ma18455	S16-Ma18457	S16-Ma18460
Date Sampled			Mar 18, 2016	Mar 18, 2016	Mar 18, 2016
Test/Reference	LOR	Unit			
Organophosphorus Pesticides (OP)					
Fenthion	0.5	mg/kg	< 0.5	-	-
Methyl azinphos	0.5	mg/kg	< 0.5	-	-
Malathion	0.5	mg/kg	< 0.5	-	-
Methyl parathion	0.5	mg/kg	< 0.5	-	-
Mevinphos	0.5	mg/kg	< 0.5	-	-
Monocrotophos	10	mg/kg	< 10	-	-
Parathion	0.5	mg/kg	< 0.5	-	-
Phorate	0.5	mg/kg	< 0.5	-	-
Profenofos	0.5	mg/kg	< 0.5	-	-
Prothiofos	0.5	mg/kg	< 0.5	-	-
Ronnel	0.5	mg/kg	< 0.5	-	-
Stirophos	0.5	mg/kg	< 0.5	-	-
Trichloronate	0.5	mg/kg	< 0.5	-	-
Triphenylphosphate (surr.)	1	%	138	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100
Heavy Metals					
Arsenic	2	mg/kg	7.4	5.7	< 2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	29	11	< 5
Copper	5	mg/kg	< 5	< 5	< 5
Lead	5	mg/kg	15	23	< 5
Mercury	0.05	mg/kg	< 0.05	< 0.05	< 0.05
Nickel	5	mg/kg	< 5	< 5	< 5
Zinc	5	mg/kg	< 5	< 5	< 5
% Moisture	1	%	15	16	7.8

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Eurofins mgt Suite B4			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: TRH C6-C36 - LTM-ORG-2010	Sydney	Apr 01, 2016	14 Day
BTEX - Method: TRH C6-C40 - LTM-ORG-2010	Sydney	Mar 30, 2016	14 Day
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: TRH C6-C40 - LTM-ORG-2010	Sydney	Mar 30, 2016	14 Day
Polycyclic Aromatic Hydrocarbons - Method: E007 Polyaromatic Hydrocarbons (PAH)	Sydney	Apr 01, 2016	14 Day
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: TRH C6-C40 - LTM-ORG-2010	Sydney	Apr 01, 2016	14 Day
Eurofins mgt Suite B15			
Organochlorine Pesticides - Method: E013 Organochlorine Pesticides (OC)	Sydney	Apr 01, 2016	14 Day
Polychlorinated Biphenyls (PCB) - Method: E013 Polychlorinated Biphenyls (PCB)	Sydney	Apr 01, 2016	28 Day
Organophosphorus Pesticides (OP) - Method: E014 Organophosphorus Pesticides (OP)	Sydney	Apr 01, 2016	14 Day
Metals M8 - Method: LTM-MET-3040_R0 TOTAL AND DISSOLVED METALS AND MERCURY IN WATERS BY ICP-MS	Sydney	Mar 31, 2016	28 Day
% Moisture - Method: LTM-GEN-7080 Moisture	Sydney	Mar 24, 2016	14 Day

Company Name: Coffey Geotechnics Pty Ltd Chatswood
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Received: Mar 24, 2016 11:29 AM
Due: Apr 4, 2016
Priority: 5 Day
Contact Name: Matthew Locke

Eurofins | mgt Client Manager: Charl Du Preez

Sample Detail					HOLD	Metals M8	Eurofins mgt Suite B15	Moisture Set	Eurofins mgt Suite B4
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					
BH04_0.05-0.1	Mar 18, 2016		Soil	S16-Ma18454	X				
BH04_0.5-0.6	Mar 18, 2016		Soil	S16-Ma18455		X	X	X	X
BH04_0.95-1.0	Mar 18, 2016		Soil	S16-Ma18456	X				
BH04_3.0-3.45	Mar 18, 2016		Soil	S16-Ma18457		X		X	X
BH04_6.0-6.45	Mar 18, 2016		Soil	S16-Ma18458	X				
BH05_0.2	Mar 18, 2016		Soil	S16-Ma18459	X				
BH05_0.5	Mar 18, 2016		Soil	S16-Ma18460		X		X	X

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs 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 Advice.

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

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

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

Units

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

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 Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (Eurofins mgt uses NATA accredited in-house method LTM-GEN-7010)
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 performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

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.
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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g,h,i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a,h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4,4'-DDD	mg/kg	< 0.05			0.05	Pass	
4,4'-DDE	mg/kg	< 0.05			0.05	Pass	
4,4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls (PCB)							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB*	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organophosphorus Pesticides (OP)							
Chlorpyrifos	mg/kg	< 0.5			0.5	Pass	
Coumaphos	mg/kg	< 0.5			0.5	Pass	
Demeton (total)	mg/kg	< 1			1	Pass	
Diazinon	mg/kg	< 0.5			0.5	Pass	
Dichlorvos	mg/kg	< 0.5			0.5	Pass	
Dimethoate	mg/kg	< 0.5			0.5	Pass	
Disulfoton	mg/kg	< 0.5			0.5	Pass	
Ethoprop	mg/kg	< 0.5			0.5	Pass	
Fenitrothion	mg/kg	< 0.5			0.5	Pass	
Fensulfothion	mg/kg	< 0.5			0.5	Pass	
Fenthion	mg/kg	< 0.5			0.5	Pass	
Methyl azinphos	mg/kg	< 0.5			0.5	Pass	
Malathion	mg/kg	< 0.5			0.5	Pass	
Methyl parathion	mg/kg	< 0.5			0.5	Pass	
Mevinphos	mg/kg	< 0.5			0.5	Pass	
Monocrotophos	mg/kg	< 10			10	Pass	
Parathion	mg/kg	< 0.5			0.5	Pass	
Phorate	mg/kg	< 0.5			0.5	Pass	
Profenofos	mg/kg	< 0.5			0.5	Pass	
Prothiofos	mg/kg	< 0.5			0.5	Pass	
Ronnel	mg/kg	< 0.5			0.5	Pass	
Stirophos	mg/kg	< 0.5			0.5	Pass	
Trichloronate	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Nickel	mg/kg	< 5		5	Pass	
Zinc	mg/kg	< 5		5	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	%	88		70-130	Pass	
TRH C10-C14	%	77		70-130	Pass	
LCS - % Recovery						
BTEX						
Benzene	%	102		70-130	Pass	
Toluene	%	87		70-130	Pass	
Ethylbenzene	%	86		70-130	Pass	
m&p-Xylenes	%	89		70-130	Pass	
o-Xylene	%	88		70-130	Pass	
Xylenes - Total	%	89		70-130	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene	%	81		70-130	Pass	
TRH C6-C10	%	83		70-130	Pass	
LCS - % Recovery						
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	%	101		70-130	Pass	
Acenaphthylene	%	95		70-130	Pass	
Anthracene	%	118		70-130	Pass	
Benz(a)anthracene	%	103		70-130	Pass	
Benzo(a)pyrene	%	84		70-130	Pass	
Benzo(b&j)fluoranthene	%	100		70-130	Pass	
Benzo(g,h,i)perylene	%	70		70-130	Pass	
Benzo(k)fluoranthene	%	101		70-130	Pass	
Chrysene	%	112		70-130	Pass	
Dibenz(a,h)anthracene	%	73		70-130	Pass	
Fluoranthene	%	115		70-130	Pass	
Fluorene	%	104		70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	75		70-130	Pass	
Naphthalene	%	99		70-130	Pass	
Phenanthrene	%	101		70-130	Pass	
Pyrene	%	113		70-130	Pass	
LCS - % Recovery						
Organochlorine Pesticides						
Chlordanes - Total	%	114		70-130	Pass	
4,4'-DDD	%	121		70-130	Pass	
4,4'-DDE	%	115		70-130	Pass	
4,4'-DDT	%	113		70-130	Pass	
a-BHC	%	113		70-130	Pass	
Aldrin	%	113		70-130	Pass	
b-BHC	%	111		70-130	Pass	
d-BHC	%	116		70-130	Pass	
Dieldrin	%	115		70-130	Pass	
Endosulfan I	%	115		70-130	Pass	
Endosulfan II	%	113		70-130	Pass	
Endosulfan sulphate	%	119		70-130	Pass	
Endrin	%	119		70-130	Pass	
Endrin aldehyde	%	107		70-130	Pass	
Endrin ketone	%	115		70-130	Pass	
g-BHC (Lindane)	%	116		70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor			%	123			70-130	Pass	
Heptachlor epoxide			%	112			70-130	Pass	
Hexachlorobenzene			%	107			70-130	Pass	
Methoxychlor			%	116			70-130	Pass	
Toxaphene			%	116			70-130	Pass	
LCS - % Recovery									
Polychlorinated Biphenyls (PCB)									
Aroclor-1260		%	90				70-130	Pass	
LCS - % Recovery									
Organophosphorus Pesticides (OP)									
Chlorpyrifos		%	107				70-130	Pass	
Demeton (total)		%	90				70-130	Pass	
Diazinon		%	89				70-130	Pass	
Dichlorvos		%	93				70-130	Pass	
Dimethoate		%	91				70-130	Pass	
Disulfoton		%	93				70-130	Pass	
Fenitrothion		%	97				70-130	Pass	
Fenthion		%	102				70-130	Pass	
Methyl parathion		%	108				70-130	Pass	
Phorate		%	91				70-130	Pass	
Ronnel		%	89				70-130	Pass	
LCS - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions									
TRH >C10-C16		%	81				70-130	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic		%	97				70-130	Pass	
Cadmium		%	102				70-130	Pass	
Chromium		%	94				70-130	Pass	
Copper		%	97				70-130	Pass	
Lead		%	94				70-130	Pass	
Mercury		%	96				70-130	Pass	
Nickel		%	99				70-130	Pass	
Zinc		%	99				70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S16-Ma27845	NCP	%	91			70-130	Pass	
TRH C10-C14	S16-Ma24236	NCP	%	80			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S16-Ma27845	NCP	%	130			70-130	Pass	
Toluene	S16-Ma27845	NCP	%	97			70-130	Pass	
Ethylbenzene	S16-Ma27845	NCP	%	89			70-130	Pass	
m&p-Xylenes	S16-Ma27845	NCP	%	93			70-130	Pass	
o-Xylene	S16-Ma27845	NCP	%	91			70-130	Pass	
Xylenes - Total	S16-Ma27845	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S16-Ma27845	NCP	%	90			70-130	Pass	
TRH C6-C10	S16-Ma27845	NCP	%	84			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S16-Ma24230	NCP	%	103			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthylene	S16-Ma24230	NCP	%	99			70-130	Pass	
Anthracene	S16-Ma24230	NCP	%	109			70-130	Pass	
Benz(a)anthracene	S16-Ma24230	NCP	%	121			70-130	Pass	
Benzo(a)pyrene	S16-Ma24230	NCP	%	97			70-130	Pass	
Benzo(b&j)fluoranthene	S16-Ma24230	NCP	%	99			70-130	Pass	
Benzo(g,h,i)perylene	S16-Ma24230	NCP	%	73			70-130	Pass	
Benzo(k)fluoranthene	S16-Ma24230	NCP	%	114			70-130	Pass	
Chrysene	S16-Ma24230	NCP	%	115			70-130	Pass	
Dibenz(a,h)anthracene	S16-Ma24230	NCP	%	72			70-130	Pass	
Fluoranthene	S16-Ma24230	NCP	%	108			70-130	Pass	
Fluorene	S16-Ma24230	NCP	%	100			70-130	Pass	
Indeno(1,2,3-cd)pyrene	S16-Ma24230	NCP	%	75			70-130	Pass	
Naphthalene	S16-Ma24230	NCP	%	105			70-130	Pass	
Phenanthrene	S16-Ma24230	NCP	%	106			70-130	Pass	
Pyrene	S16-Ma24230	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S16-Ma25104	NCP	%	113			70-130	Pass	
4,4'-DDD	S16-Ma19612	NCP	%	110			70-130	Pass	
4,4'-DDE	S16-Ma25104	NCP	%	125			70-130	Pass	
4,4'-DDT	S16-Ma25104	NCP	%	70			70-130	Pass	
a-BHC	S16-Ma25104	NCP	%	102			70-130	Pass	
Aldrin	S16-Ma25104	NCP	%	100			70-130	Pass	
b-BHC	S16-Ma25104	NCP	%	101			70-130	Pass	
d-BHC	S16-Ma25104	NCP	%	109			70-130	Pass	
Dieldrin	S16-Ma25104	NCP	%	115			70-130	Pass	
Endosulfan I	S16-Ma25104	NCP	%	115			70-130	Pass	
Endosulfan II	S16-Ma25104	NCP	%	100			70-130	Pass	
Endosulfan sulphate	S16-Ma25104	NCP	%	113			70-130	Pass	
Endrin	S16-Ma25104	NCP	%	102			70-130	Pass	
Endrin aldehyde	S16-Ma25104	NCP	%	103			70-130	Pass	
Endrin ketone	S16-Ma25104	NCP	%	123			70-130	Pass	
g-BHC (Lindane)	S16-Ma25104	NCP	%	106			70-130	Pass	
Heptachlor	S16-Ma25104	NCP	%	102			70-130	Pass	
Heptachlor epoxide	S16-Ma25104	NCP	%	109			70-130	Pass	
Hexachlorobenzene	S16-Ma25104	NCP	%	98			70-130	Pass	
Methoxychlor	S16-Ma25104	NCP	%	95			70-130	Pass	
Toxaphene	S16-Ma25104	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls (PCB)				Result 1					
Aroclor-1260	S16-Ma25143	NCP	%	101			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides (OP)				Result 1					
Chlorpyrifos	S16-Ma25153	NCP	%	121			70-130	Pass	
Demeton (total)	S16-Ma25153	NCP	%	96			70-130	Pass	
Diazinon	S16-Ma25153	NCP	%	102			70-130	Pass	
Dichlorvos	S16-Ma25153	NCP	%	88			70-130	Pass	
Dimethoate	S16-Ma25153	NCP	%	104			70-130	Pass	
Disulfoton	S16-Ma25153	NCP	%	95			70-130	Pass	
Fenitrothion	S16-Ma25153	NCP	%	118			70-130	Pass	
Fenthion	S16-Ma25153	NCP	%	114			70-130	Pass	
Methyl parathion	S16-Ma25153	NCP	%	123			70-130	Pass	
Phorate	S16-Ma25153	NCP	%	96			70-130	Pass	
Ronnel	S16-Ma25153	NCP	%	100			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S16-Ma24236	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S16-Ma22354	NCP	%	92			70-130	Pass	
Cadmium	S16-Ma22354	NCP	%	103			70-130	Pass	
Chromium	S16-Ma22354	NCP	%	96			70-130	Pass	
Copper	S16-Ma22354	NCP	%	99			70-130	Pass	
Lead	S16-Ma22354	NCP	%	114			70-130	Pass	
Mercury	S16-Ma22354	NCP	%	96			70-130	Pass	
Nickel	S16-Ma22354	NCP	%	99			70-130	Pass	
Zinc	S16-Ma22354	NCP	%	128			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	S16-Ma27844	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S16-Ma27822	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S16-Ma27822	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S16-Ma27822	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S16-Ma27844	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S16-Ma27844	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S16-Ma27844	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S16-Ma27844	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S16-Ma27844	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S16-Ma27844	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S16-Ma27844	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S16-Ma27844	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S16-Ma24232	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4,4'-DDD	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDE	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDT	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S16-Ma24232	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S16-Ma24232	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Toxaphene	S16-Ma24232	NCP	mg/kg	< 1	< 1	<1	30%	Pass	

Duplicate								
Polychlorinated Biphenyls (PCB)				Result 1	Result 2	RPD		
Aroclor-1016	S16-Ma24232	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1232	S16-Ma24232	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1242	S16-Ma24232	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1248	S16-Ma24232	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1254	S16-Ma24232	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Aroclor-1260	S16-Ma24232	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides (OP)				Result 1	Result 2	RPD		
Chlorpyrifos	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Coumaphos	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Demeton (total)	S16-Ma19611	NCP	mg/kg	< 1	< 1	<1	30%	Pass
Diazinon	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dichlorvos	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dimethoate	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Disulfoton	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ethoprop	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fenitrothion	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fensulfthion	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fenthion	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methyl azinphos	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Malathion	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Methyl parathion	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Mevinphos	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Monocrotophos	S16-Ma19611	NCP	mg/kg	< 10	< 10	<1	30%	Pass
Parathion	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phorate	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Profenofos	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Prothiofos	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Ronnel	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Stirophos	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Trichloronate	S16-Ma19611	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH >C10-C16	S16-Ma27822	NCP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	S16-Ma27822	NCP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	S16-Ma27822	NCP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S16-Ma22353	NCP	mg/kg	5.1	5.3	4.0	30%	Pass
Cadmium	S16-Ma22353	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	S16-Ma22353	NCP	mg/kg	7.8	7.9	1.0	30%	Pass
Copper	S16-Ma22353	NCP	mg/kg	14	14	6.0	30%	Pass
Lead	S16-Ma22353	NCP	mg/kg	9.7	10	4.0	30%	Pass
Mercury	S16-Ma22353	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Nickel	S16-Ma22353	NCP	mg/kg	< 5	< 5	<1	30%	Pass
Zinc	S16-Ma22353	NCP	mg/kg	17	18	5.0	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	S16-Ap00258	NCP	%	23	24	4.0	30%	Pass

Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(g,h,i)perylene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	S16-Ma18460	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
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.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Charl Du Preez	Analytical Services Manager
Bob Symons	Senior Analyst-Inorganic (NSW)
Ivan Taylor	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
Ryan Hamilton	Senior Analyst-Volatile (NSW)



Glenn Jackson

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

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Issue Date: 16/02/2016

Sample Receipt Advice

Company name: **Coffey Geotechnics Pty Ltd Chatswood**
Contact name: **Raphael Hyde**
Project name: **ADDITIONAL: 12 FREDRICK STREET**
Project ID: **GEOTLCOV25513AB**
COC number: **Not provided**
Turn around time: **5 Day**
Date/Time received: **Mar 24, 2016 12:10 PM**
Eurofins | mgt reference: **494235**

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 Eurofins | mgt
Sample Receipt : 5.6 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.
- ☒ Appropriate sample containers have been used.
- ☐ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Sample BH01_9.0-9.45 was forwarded to ALS.

Contact notes

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

Nibha Vaidya on Phone : +61 (2) 9900 8400 or by e.mail: NibhaVaidya@eurofins.com

Results will be delivered electronically via e.mail to Raphael Hyde - raphael.hyde@coffey.com.

Note: A copy of these results will also be delivered to the general Coffey Geotechnics Pty Ltd Chatswood email address.

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: Raphael Hyde

Report 494235-S
Project name ADDITIONAL: 12 FREDRICK STREET
Project ID GEOTLCOV25513AB
Received Date Mar 24, 2016

Client Sample ID			BH01_10.5-10.95
Sample Matrix			Soil
Eurofins mgt Sample No.			S16-Ma23860
Date Sampled			Mar 15, 2016
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	< 50
TRH C29-C36	50	mg/kg	< 50
TRH C10-36 (Total)	50	mg/kg	< 50
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	77
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene ^{N02}	0.5	mg/kg	< 0.5
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5
Anthracene	0.5	mg/kg	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5
Chrysene	0.5	mg/kg	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5
Fluorene	0.5	mg/kg	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5

Client Sample ID			BH01_10.5-10.95
Sample Matrix			Soil
Eurofins mgt Sample No.			S16-Ma23860
Date Sampled			Mar 15, 2016
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Naphthalene	0.5	mg/kg	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5
Pyrene	0.5	mg/kg	< 0.5
Total PAH*	0.5	mg/kg	< 0.5
2-Fluorobiphenyl (surr.)	1	%	95
p-Terphenyl-d14 (surr.)	1	%	88
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
TRH >C10-C16	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	< 100
Heavy Metals			
Arsenic	2	mg/kg	< 2
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	< 5
Copper	5	mg/kg	< 5
Lead	5	mg/kg	10.0
Mercury	0.05	mg/kg	< 0.05
Nickel	5	mg/kg	< 5
Zinc	5	mg/kg	< 5
% Moisture	1	%	15

Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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

Description	Testing Site	Extracted	Holding Time
Eurofins mgt Suite B4			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Apr 01, 2016	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
BTEX	Sydney	Mar 30, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 30, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Sydney	Apr 01, 2016	14 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 01, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Metals M8	Sydney	Mar 31, 2016	28 Day
- Method: LTM-MET-3040_R0 TOTAL AND DISSOLVED METALS AND MERCURY IN WATERS BY ICP-MS			
% Moisture	Sydney	Mar 24, 2016	14 Day
- Method: LTM-GEN-7080 Moisture			

Company Name: Coffey Geotechnics Pty Ltd Chatswood
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067
Project Name: ADDITIONAL: 12 FREDRICK STREET
Project ID: GEOTLCOV25513AB

Order No.:
Report #: 494235
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Mar 24, 2016 12:10 PM
Due: Apr 4, 2016
Priority: 5 Day
Contact Name: Raphael Hyde

Eurofins | mgt Client Manager: Nibha Vaidya

Sample Detail					Metals M8	Moisture Set	Eurofins mgt Suite B4
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217					X	X	X
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
BH01_10.5-10.95	Mar 15, 2016		Soil	S16-Ma23860	X	X	X

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs 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 Advice.

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

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

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

Units

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

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 Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (Eurofins mgt uses NATA accredited in-house method LTM-GEN-7010)
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 performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

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.
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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g,h,i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a,h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.05			0.05	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 1999 NEPM Fractions										
TRH C6-C9				%	88			70-130	Pass	
TRH C10-C14				%	97			70-130	Pass	
LCS - % Recovery										
BTEX										
Benzene				%	102			70-130	Pass	
Toluene				%	87			70-130	Pass	
Ethylbenzene				%	86			70-130	Pass	
m&p-Xylenes				%	89			70-130	Pass	
o-Xylene				%	88			70-130	Pass	
Xylenes - Total				%	89			70-130	Pass	
LCS - % Recovery										
Total Recoverable Hydrocarbons - 2013 NEPM Fractions										
Naphthalene				%	81			70-130	Pass	
TRH C6-C10				%	83			70-130	Pass	
LCS - % Recovery										
Polycyclic Aromatic Hydrocarbons										
Acenaphthene				%	101			70-130	Pass	
Acenaphthylene				%	95			70-130	Pass	
Anthracene				%	118			70-130	Pass	
Benz(a)anthracene				%	103			70-130	Pass	
Benzo(a)pyrene				%	84			70-130	Pass	
Benzo(b&j)fluoranthene				%	100			70-130	Pass	
Benzo(g,h,i)perylene				%	70			70-130	Pass	
Benzo(k)fluoranthene				%	101			70-130	Pass	
Chrysene				%	112			70-130	Pass	
Dibenz(a,h)anthracene				%	73			70-130	Pass	
Fluoranthene				%	115			70-130	Pass	
Fluorene				%	104			70-130	Pass	
Indeno(1.2.3-cd)pyrene				%	75			70-130	Pass	
Naphthalene				%	99			70-130	Pass	
Phenanthrene				%	101			70-130	Pass	
Pyrene				%	113			70-130	Pass	
LCS - % Recovery										
Total Recoverable Hydrocarbons - 2013 NEPM Fractions										
TRH >C10-C16				%	103			70-130	Pass	
LCS - % Recovery										
Heavy Metals										
Arsenic				%	94			70-130	Pass	
Cadmium				%	100			70-130	Pass	
Chromium				%	98			70-130	Pass	
Copper				%	99			70-130	Pass	
Lead				%	97			70-130	Pass	
Mercury				%	97			70-130	Pass	
Nickel				%	97			70-130	Pass	
Zinc				%	98			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1				Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery										
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1						
TRH C6-C9	S16-Ma27845	NCP	%	91				70-130	Pass	
TRH C10-C14	S16-Ma24236	NCP	%	80				70-130	Pass	
Spike - % Recovery										
BTEX				Result 1						
Benzene	S16-Ma27845	NCP	%	130				70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Toluene	S16-Ma27845	NCP	%	97			70-130	Pass	
Ethylbenzene	S16-Ma27845	NCP	%	89			70-130	Pass	
m&p-Xylenes	S16-Ma27845	NCP	%	93			70-130	Pass	
o-Xylene	S16-Ma27845	NCP	%	91			70-130	Pass	
Xylenes - Total	S16-Ma27845	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S16-Ma27845	NCP	%	90			70-130	Pass	
TRH C6-C10	S16-Ma27845	NCP	%	84			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S16-Ma24230	NCP	%	103			70-130	Pass	
Acenaphthylene	S16-Ma24230	NCP	%	99			70-130	Pass	
Anthracene	S16-Ma24230	NCP	%	109			70-130	Pass	
Benz(a)anthracene	S16-Ma24230	NCP	%	121			70-130	Pass	
Benzo(a)pyrene	S16-Ma24230	NCP	%	97			70-130	Pass	
Benzo(b&j)fluoranthene	S16-Ma24230	NCP	%	99			70-130	Pass	
Benzo(g,h,i)perylene	S16-Ma24230	NCP	%	73			70-130	Pass	
Benzo(k)fluoranthene	S16-Ma24230	NCP	%	114			70-130	Pass	
Chrysene	S16-Ma24230	NCP	%	115			70-130	Pass	
Dibenz(a,h)anthracene	S16-Ma24230	NCP	%	72			70-130	Pass	
Fluoranthene	S16-Ma24230	NCP	%	108			70-130	Pass	
Fluorene	S16-Ma24230	NCP	%	100			70-130	Pass	
Indeno(1,2,3-cd)pyrene	S16-Ma24230	NCP	%	75			70-130	Pass	
Naphthalene	S16-Ma24230	NCP	%	105			70-130	Pass	
Phenanthrene	S16-Ma24230	NCP	%	106			70-130	Pass	
Pyrene	S16-Ma24230	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S16-Ma24236	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S16-Ma26761	NCP	%	89			70-130	Pass	
Cadmium	S16-Ma26761	NCP	%	102			70-130	Pass	
Chromium	S16-Ma26761	NCP	%	88			70-130	Pass	
Copper	S16-Ma26761	NCP	%	81			70-130	Pass	
Lead	S16-Ma26761	NCP	%	89			70-130	Pass	
Mercury	S16-Ma26761	NCP	%	103			70-130	Pass	
Nickel	S16-Ma26761	NCP	%	100			70-130	Pass	
Zinc	S16-Ma26761	NCP	%	87			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	S16-Ma27844	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S16-Ma27822	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S16-Ma27822	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S16-Ma27822	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S16-Ma27844	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S16-Ma27844	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S16-Ma27844	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S16-Ma27844	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S16-Ma27844	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S16-Ma27844	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	S16-Ma27844	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
TRH C6-C10	S16-Ma27844	NCP	mg/kg	< 20	< 20	<1	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(g,h,i)perylene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	S16-Ma24318	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
TRH >C10-C16	S16-Ma27822	NCP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	S16-Ma27822	NCP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	S16-Ma27822	NCP	mg/kg	< 100	< 100	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S16-Ma19479	NCP	mg/kg	5.7	6.2	8.0	30%	Pass
Cadmium	S16-Ma19479	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	S16-Ma19479	NCP	mg/kg	17	17	1.0	30%	Pass
Copper	S16-Ma19479	NCP	mg/kg	29	28	3.0	30%	Pass
Lead	S16-Ma19479	NCP	mg/kg	74	75	1.0	30%	Pass
Mercury	S16-Ma19479	NCP	mg/kg	1.6	1.2	27	30%	Pass
Nickel	S16-Ma19479	NCP	mg/kg	18	18	2.0	30%	Pass
Zinc	S16-Ma19479	NCP	mg/kg	57	59	2.0	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	S16-Ma24766	NCP	%	6.7	6.4	5.0	30%	Pass

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
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.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Nibha Vaidya	Analytical Services Manager
Bob Symons	Senior Analyst-Inorganic (NSW)
Ivan Taylor	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
Ryan Hamilton	Senior Analyst-Volatile (NSW)



Glenn Jackson

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

494679

Page 1 of 2

1194



Consigning Office: Chatswood
 Report Results to: Matthew Locke
 Invoices to: 11

Mobile: _____ Email: Matthew.Locke @coffey.com
 Phone: _____ Email: 11 @coffey.com

Project No: GEOTLCOV25513AB Task No: _____
 Project Name: VST Investigation Laboratory: MGT
 Sampler's Name: DW Project Manager: ML
 Special Instructions: _____
 Relevant agreements: Eurofins COF_ENAUABTF00952AA_MSA1 ; ALS COF_ENAUABTF00952AA_MSA2 and SGS COF_ENAUABTF00952AA_MSA3

Analysis Request Section

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	NOTES									
	BH06-0.1	29/3/16		Soil	Jar	Std	SUITE 84 (TPH, BTEX, PAH) Lead (Pb)									
	BH06-0.4															
	BH06-1.0															
	BH06-2.0															
	BH06-3.0															
	BH06-4.0															
	BH06-5.0															
	BH06-6.0															
	BH07-0.1															
	BH07-0.5															
	BH07-1.0															
	BH07-2.0															
	BH07-3.0															
	BH07-4.0															
	BH07-5.0															
	BH07-6.0															
	BH08-0.1															
	BH08-0.4															

RELINQUISHED BY

Name: D. Windmager Date: 29/3/16
 Coffey Environments Time: _____
 Name: _____ Date: _____
 Company: _____ Time: _____

RECEIVED BY

Name: Lupin Environments mgt Date: 30/3
 Company: _____ Time: 1:11pm
 Name: _____ Date: _____
 Company: _____ Time: _____

Sample Receipt Advice: (Lab Use Only)

All Samples Received in Good Condition ☒
 All Documentation is in Proper Order ☒
 Samples Received Properly Chilled ☒

Lab. Ref/Batch No.

494679

*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

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Sample Receipt Advice

Company name: **Coffey Geotechnics Pty Ltd Chatswood**
Contact name: **Matthew Locke**
Project name: **UST INVESTIGATION**
Project ID: **GEOTLCOV25513AB**
COC number: **1194-95**
Turn around time: **5 Day**
Date/Time received: **Mar 30, 2016 1:11 PM**
Eurofins | mgt reference: **494679**

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 Eurofins | mgt
Sample Receipt : 9 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.
- ☒ Appropriate sample containers have been used.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Bags received without sample ID thus unable to identify samples received

Contact notes

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

Nibha Vaidya on Phone : +61 (2) 9900 8400 or by e.mail: NibhaVaidya@eurofins.com

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

Note: A copy of these results will also be delivered to the general Coffey Geotechnics Pty Ltd Chatswood email address.

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 494679-S
Project name UST INVESTIGATION
Project ID GEOTLCOV25513AB
Received Date Mar 30, 2016

Client Sample ID			BH06_0.4	BH06_2.0	BH06_4.0	BH07_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			S16-Ma27433	S16-Ma27434	S16-Ma27435	S16-Ma27436
Date Sampled			Mar 29, 2016	Mar 29, 2016	Mar 29, 2016	Mar 29, 2016
Test/Reference	LOR	Unit				
% Moisture	1	%	5.8	9.4	12	17
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	97	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	97	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	91	75	91	76
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	96	< 50
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			BH06_0.4	BH06_2.0	BH06_4.0	BH07_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			S16-Ma27433	S16-Ma27434	S16-Ma27435	S16-Ma27436
Date Sampled			Mar 29, 2016	Mar 29, 2016	Mar 29, 2016	Mar 29, 2016
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	89	89	93	101
p-Terphenyl-d14 (surr.)	1	%	95	101	103	101
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	96	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Heavy Metals						
Lead	5	mg/kg	< 5	11	12	19

Client Sample ID			BH07_2.0	BH07_4.0	BH08_0.4	BH08_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			S16-Ma27437	S16-Ma27438	S16-Ma27439	S16-Ma27440
Date Sampled			Mar 29, 2016	Mar 29, 2016	Mar 29, 2016	Mar 29, 2016
Test/Reference	LOR	Unit				
% Moisture	1	%	16	12	7.1	12
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	75	77	75	74
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			BH07_2.0	BH07_4.0	BH08_0.4	BH08_2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			S16-Ma27437	S16-Ma27438	S16-Ma27439	S16-Ma27440
Date Sampled			Mar 29, 2016	Mar 29, 2016	Mar 29, 2016	Mar 29, 2016
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	87	93	86	91
p-Terphenyl-d14 (surr.)	1	%	99	104	100	105
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
Heavy Metals						
Lead	5	mg/kg	14	14	15	17

Client Sample ID			BH08_4.0	DUP 1	TB	TS
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			S16-Ma27441	S16-Ma27442	S16-Ma27443	S16-Ma27456
Date Sampled			Mar 29, 2016	Mar 29, 2016	Mar 29, 2016	Mar 29, 2016
Test/Reference	LOR	Unit				
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	-	-	< 20	-
% Moisture	1	%	12	14	-	-
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	81%
TRH C10-C14	20	mg/kg	< 20	< 20	-	-
TRH C15-C28	50	mg/kg	< 50	< 50	-	-
TRH C29-C36	50	mg/kg	< 50	< 50	-	-
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	-	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	106%
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	106%
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	104%
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	104%
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	104%
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	104%
4-Bromofluorobenzene (surr.)	1	%	74	78	79	85
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH C6-C10	20	mg/kg	-	-	< 20	89%

Client Sample ID			BH08_4.0	DUP 1	TB	TS
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins mgt Sample No.			S16-Ma27441	S16-Ma27442	S16-Ma27443	S16-Ma27456
Date Sampled			Mar 29, 2016	Mar 29, 2016	Mar 29, 2016	Mar 29, 2016
Test/Reference	LOR	Unit				
Volatile Organics						
Naphthalene ^{N02}	0.5	mg/kg	-	-	< 0.5	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	-	-
TRH C6-C10	20	mg/kg	< 20	< 20	-	-
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	-	-
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	-	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	0.9	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	1.2	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.5	-	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	0.7	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	0.7	-	-
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	0.6	-	-
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	0.7	-	-
Chrysene	0.5	mg/kg	< 0.5	0.7	-	-
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Fluoranthene	0.5	mg/kg	< 0.5	1.1	-	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	-
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Pyrene	0.5	mg/kg	< 0.5	1.3	-	-
Total PAH*	0.5	mg/kg	< 0.5	5.8	-	-
2-Fluorobiphenyl (surr.)	1	%	86	96	-	-
p-Terphenyl-d14 (surr.)	1	%	90	110	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	-	-
TRH >C16-C34	100	mg/kg	< 100	< 100	-	-
TRH >C34-C40	100	mg/kg	< 100	< 100	-	-
Heavy Metals						
Lead	5	mg/kg	12	13	-	-

Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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

Description	Testing Site	Extracted	Holding Time
TRH C6-C10 less BTEX (F1) - Method: LM-LTM-ORG-2010	Sydney	Mar 30, 2016	14 Day
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: TRH C6-C36 - LTM-ORG-2010	Sydney	Apr 04, 2016	14 Day
BTEX - Method: TRH C6-C40 - LTM-ORG-2010	Sydney	Apr 04, 2016	14 Day
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: TRH C6-C40 - LTM-ORG-2010	Sydney	Apr 04, 2016	14 Day
Volatile Organics - Method: E016 Volatile Organic Compounds (VOC)	Sydney	Apr 04, 2016	7 Day
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: TRH C6-C40 - LTM-ORG-2010	Sydney	Apr 04, 2016	14 Day
% Moisture - Method: LTM-GEN-7080 Moisture	Sydney	Mar 30, 2016	14 Day
Eurofins mgt Suite B4			
Polycyclic Aromatic Hydrocarbons - Method: E007 Polyaromatic Hydrocarbons (PAH)	Sydney	Apr 04, 2016	14 Day
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: TRH C6-C40 - LTM-ORG-2010	Sydney	Apr 04, 2016	14 Day
Heavy Metals - Method: LTM-MET-3030 by ICP-OES (hydride ICP-OES for Mercury)	Sydney	Apr 04, 2016	180 Day

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

Project Name: UST INVESTIGATION
Project ID: GEOTLCOV25513AB

Order No.:
Report #: 494679
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Mar 30, 2016 1:11 PM
Due: Apr 6, 2016
Priority: 5 Day
Contact Name: Matthew Locke

Eurofins | mgt Client Manager: Nibha Vaidya

Sample Detail					HOLD	Lead	Moisture Set	Eurofins mgt Suite B4	BTEX and Volatile TRH
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					
BH06_0.4	Mar 29, 2016		Soil	S16-Ma27433		X	X	X	
BH06_2.0	Mar 29, 2016		Soil	S16-Ma27434		X	X	X	
BH06_4.0	Mar 29, 2016		Soil	S16-Ma27435		X	X	X	
BH07_0.5	Mar 29, 2016		Soil	S16-Ma27436		X	X	X	
BH07_2.0	Mar 29, 2016		Soil	S16-Ma27437		X	X	X	
BH07_4.0	Mar 29, 2016		Soil	S16-Ma27438		X	X	X	
BH08_0.4	Mar 29, 2016		Soil	S16-Ma27439		X	X	X	
BH08_2.0	Mar 29, 2016		Soil	S16-Ma27440		X	X	X	
BH08_4.0	Mar 29, 2016		Soil	S16-Ma27441		X	X	X	

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Sample Detail					HOLD	Lead	Moisture Set	Eurofins mgt Suite B4	BTEX and Volatile TRH
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									
DUP 1	Mar 29, 2016		Soil	S16-Ma27442		X	X	X	
TB	Mar 29, 2016		Soil	S16-Ma27443					X
TS	Mar 29, 2016		Soil	S16-Ma27456					X
TSLAB	Mar 29, 2016		Soil	S16-Ma27457					X
BH06 0.1	Mar 29, 2016		Soil	S16-Ma27458	X				
BH06 1.0	Mar 29, 2016		Soil	S16-Ma27459	X				
BH06 3.0	Mar 29, 2016		Soil	S16-Ma27460	X				
BH06 5.0	Mar 29, 2016		Soil	S16-Ma27461	X				
BH06 6.0	Mar 29, 2016		Soil	S16-Ma27462	X				
BH07 0.1	Mar 29, 2016		Soil	S16-Ma27463	X				

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Sample Detail					HOLD	Lead	Moisture Set	Eurofins mgt Suite B4	BTEX and Volatile TRH
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									
BH07 1.0	Mar 29, 2016		Soil	S16-Ma27464	X				
BH07 3.0	Mar 29, 2016		Soil	S16-Ma27465	X				
BH07 5.0	Mar 29, 2016		Soil	S16-Ma27466	X				
BH07 6.0	Mar 29, 2016		Soil	S16-Ma27467	X				
BH08 0.1	Mar 29, 2016		Soil	S16-Ma27468	X				
BH08 1.0	Mar 29, 2016		Soil	S16-Ma27469	X				
BH08 3.0	Mar 29, 2016		Soil	S16-Ma27470	X				
BH08 5.0	Mar 29, 2016		Soil	S16-Ma27471	X				
BH08 6.0	Mar 29, 2016		Soil	S16-Ma27472	X				
DUP 1A	Mar 29, 2016		Soil	S16-Ma27473	X				

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs 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 Advice.

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

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

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

Units

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

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 Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (Eurofins mgt uses NATA accredited in-house method LTM-GEN-7010)
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 performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

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.
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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
Volatile Organics							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g,h,i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a,h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Heavy Metals							
Lead	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	84			70-130	Pass	
TRH C10-C14	%	91			70-130	Pass	
LCS - % Recovery							
BTEX							

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzene				%	101			70-130	Pass	
Toluene				%	99			70-130	Pass	
Ethylbenzene				%	95			70-130	Pass	
m&p-Xylenes				%	93			70-130	Pass	
o-Xylene				%	94			70-130	Pass	
Xylenes - Total				%	93			70-130	Pass	
LCS - % Recovery										
Total Recoverable Hydrocarbons - 2013 NEPM Fractions										
TRH C6-C10				%	93			70-130	Pass	
LCS - % Recovery										
Volatile Organics										
Naphthalene				%	115			70-130	Pass	
LCS - % Recovery										
Polycyclic Aromatic Hydrocarbons										
Acenaphthene				%	107			70-130	Pass	
Acenaphthylene				%	106			70-130	Pass	
Anthracene				%	121			70-130	Pass	
Benz(a)anthracene				%	109			70-130	Pass	
Benzo(a)pyrene				%	115			70-130	Pass	
Benzo(b&j)fluoranthene				%	103			70-130	Pass	
Benzo(g,h,i)perylene				%	114			70-130	Pass	
Benzo(k)fluoranthene				%	126			70-130	Pass	
Chrysene				%	120			70-130	Pass	
Dibenz(a,h)anthracene				%	107			70-130	Pass	
Fluoranthene				%	120			70-130	Pass	
Fluorene				%	108			70-130	Pass	
Indeno(1.2.3-cd)pyrene				%	114			70-130	Pass	
Naphthalene				%	111			70-130	Pass	
Phenanthrene				%	122			70-130	Pass	
Pyrene				%	112			70-130	Pass	
LCS - % Recovery										
Total Recoverable Hydrocarbons - 2013 NEPM Fractions										
TRH >C10-C16				%	99			70-130	Pass	
LCS - % Recovery										
Heavy Metals										
Lead				%	86			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1				Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery										
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					Result 1					
TRH C6-C9	S16-Ap01222	NCP	%	70				70-130	Pass	
TRH C10-C14	S16-Ma27931	NCP	%	110				70-130	Pass	
Spike - % Recovery										
BTEX					Result 1					
Benzene	S16-Ap01222	NCP	%	96				70-130	Pass	
Toluene	S16-Ap01222	NCP	%	94				70-130	Pass	
Ethylbenzene	S16-Ap01222	NCP	%	90				70-130	Pass	
m&p-Xylenes	S16-Ap01222	NCP	%	89				70-130	Pass	
o-Xylene	S16-Ap01222	NCP	%	90				70-130	Pass	
Xylenes - Total	S16-Ap01222	NCP	%	89				70-130	Pass	
Spike - % Recovery										
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					Result 1					
TRH C6-C10	S16-Ap01222	NCP	%	82				70-130	Pass	
Spike - % Recovery										
Volatile Organics					Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Naphthalene	S16-Ap01222	NCP	%	116			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S16-Ma27931	NCP	%	113			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	S16-Ma27435	CP	%	99			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S16-Ma27438	CP	%	91			70-130	Pass	
Acenaphthylene	S16-Ma27438	CP	%	76			70-130	Pass	
Anthracene	S16-Ma27438	CP	%	106			70-130	Pass	
Benz(a)anthracene	S16-Ma27438	CP	%	89			70-130	Pass	
Benzo(a)pyrene	S16-Ma27438	CP	%	88			70-130	Pass	
Benzo(b&j)fluoranthene	S16-Ma27438	CP	%	83			70-130	Pass	
Benzo(g,h,i)perylene	S16-Ma27438	CP	%	87			70-130	Pass	
Benzo(k)fluoranthene	S16-Ma27438	CP	%	99			70-130	Pass	
Chrysene	S16-Ma27438	CP	%	98			70-130	Pass	
Dibenz(a,h)anthracene	S16-Ma27438	CP	%	86			70-130	Pass	
Fluoranthene	S16-Ma27438	CP	%	91			70-130	Pass	
Fluorene	S16-Ma27438	CP	%	85			70-130	Pass	
Indeno(1,2,3-cd)pyrene	S16-Ma27438	CP	%	91			70-130	Pass	
Naphthalene	S16-Ma27438	CP	%	89			70-130	Pass	
Phenanthrene	S16-Ma27438	CP	%	105			70-130	Pass	
Pyrene	S16-Ma27438	CP	%	94			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S16-Ma27433	CP	%	5.8	5.6	5.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S16-Ma26768	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S16-Ma27930	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S16-Ma27930	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S16-Ma27930	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S16-Ma26768	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S16-Ma26768	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S16-Ma26768	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S16-Ma26768	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S16-Ma26768	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S16-Ma26768	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C10	S16-Ma26768	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
Naphthalene	S16-Ma26768	NCP	mg/kg	0.8	0.8	1.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S16-Ma27930	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S16-Ma27930	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S16-Ma27930	NCP	mg/kg	< 100	< 100	<1	30%	Pass	

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Lead	S16-Ma27434	CP	mg/kg	11	10	5.0	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Acenaphthylene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Anthracene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benz(a)anthracene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(a)pyrene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(b&j)fluoranthene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(g,h,i)perylene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzo(k)fluoranthene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chrysene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibenz(a,h)anthracene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	S16-Ma27437	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
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.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Nibha Vaidya	Analytical Services Manager
Bob Symons	Senior Analyst-Inorganic (NSW)
Ivan Taylor	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
Ryan Hamilton	Senior Analyst-Volatile (NSW)



Glenn Jackson

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1 0361Consigning Office: Coffey ChelmsfordReport Results to: Matthew Locke

Mobile:

Email: matthew.locke @coffey.comInvoices to: Matthew + Rajiv

Phone:

Email: @coffey.com

Project No: CEOTLCOV25513 AB Task No:

Project Name:

Laboratory: EurofinsSampler's Name: TunaidProject Manager: Matthew Locke

Special Instructions:

Relevant agreements: Eurofins COF_ENAUABTF00952AA_MSA1 ; ALS COF_ENAUABTF00952AA_MSA2 and SGS COF_ENAUABTF00952AA_MSA3

Analysis Request Section

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	NOTES											
1	BH 02	01/04	10:00	Water	P, CT, V	5 days	X	X										
	BH 03	4	"	"	4	4	X	X										
	BH 03 - DUP	1	"	"	4	4	X	X										

RELINQUISHED BY

RECEIVED BY

Name: JONMD RIAZ Date: 01/04/2016 →
Coffey Environments Time:Name: Sigmal Date: 01/04/16
Company: EFMT Time: 2:08 PMName: →
Company: Time:Name:
Company: Time:

Sample Receipt Advice: (Lab Use Only)

All Samples Received in Good Condition ☐All Documentation is in Proper Order ☐Samples Received Properly Chilled ☐

Lab. Ref/Batch No.

495191

*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

Sample Receipt Advice

Company name: **Coffey Geotechnics Pty Ltd Chatswood**
Contact name: **Matthew Locke**
Project name: **GEOTLCOV25513AB**
COC number: **Not provided**
Turn around time: **5 Day**
Date/Time received: **Apr 1, 2016 2:08 PM**
Eurofins | mgt reference: **495191**

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 Eurofins | mgt
Sample Receipt : 18 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.
- ☒ Appropriate sample containers have been used.
- ☒ 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:

Nibha Vaidya on Phone : +61 (2) 9900 8400 or by e.mail: NibhaVaidya@eurofins.com

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

Note: A copy of these results will also be delivered to the general Coffey Geotechnics Pty Ltd Chatswood email address.

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 495191-W
Project name GEOTLCOV25513AB
Received Date Apr 01, 2016

Client Sample ID			BH02 Water	BH03 Water	BH03-DUP Water
Sample Matrix			S16-Ap01704	S16-Ap01705	S16-Ap01706
Eurofins mgt Sample No.			Apr 01, 2016	Apr 01, 2016	Apr 01, 2016
Date Sampled					
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	0.02	mg/L	< 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
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	84	85	84
Volatile Organics					
1.1-Dichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001
1.1-Dichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001
1.1.1-Trichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001
1.1.1.2-Tetrachloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001
1.1.2-Trichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001
1.1.2.2-Tetrachloroethane	0.005	mg/L	< 0.005	< 0.005	< 0.005
1.2-Dibromoethane	0.001	mg/L	< 0.001	< 0.001	< 0.001
1.2-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
1.2-Dichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001
1.2-Dichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001
1.2.3-Trichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001
1.2.4-Trimethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
1.3-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
1.3-Dichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001
1.3.5-Trimethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
1.4-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
2-Butanone (MEK)	0.001	mg/L	< 0.001	< 0.001	< 0.001
2-Propanone (Acetone)	0.001	mg/L	0.010	< 0.001	< 0.001
4-Chlorotoluene	0.001	mg/L	< 0.001	< 0.001	< 0.001
4-Methyl-2-pentanone (MIBK)	0.001	mg/L	< 0.001	< 0.001	< 0.001
Allyl chloride	0.001	mg/L	< 0.001	< 0.001	< 0.001
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001

Client Sample ID			BH02 Water	BH03 Water	BH03-DUP Water
Sample Matrix			S16-Ap01704	S16-Ap01705	S16-Ap01706
Eurofins mgt Sample No.			Apr 01, 2016	Apr 01, 2016	Apr 01, 2016
Date Sampled					
Test/Reference	LOR	Unit			
Volatile Organics					
Bromobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Bromochloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001
Bromodichloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001
Bromoform	0.001	mg/L	< 0.001	< 0.001	< 0.001
Bromomethane	0.001	mg/L	< 0.001	< 0.001	< 0.001
Carbon disulfide	0.001	mg/L	< 0.001	< 0.001	< 0.001
Carbon Tetrachloride	0.001	mg/L	< 0.001	< 0.001	< 0.001
Chlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Chloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001
Chloroform	0.005	mg/L	< 0.005	< 0.005	< 0.005
Chloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001
cis-1,2-Dichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001
cis-1,3-Dichloropropene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Dibromochloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001
Dibromomethane	0.005	mg/L	< 0.005	< 0.005	< 0.005
Dichlorodifluoromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Iodomethane	0.001	mg/L	< 0.001	< 0.001	< 0.001
Isopropyl benzene (Cumene)	0.001	mg/L	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002
Methylene Chloride	0.001	mg/L	< 0.001	< 0.001	< 0.001
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Styrene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Tetrachloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001
trans-1,2-Dichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001
trans-1,3-Dichloropropene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Trichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Trichlorofluoromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001
Vinyl chloride	0.001	mg/L	< 0.001	< 0.001	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003	< 0.003
Fluorobenzene (surr.)	1	%	91	90	86
4-Bromofluorobenzene (surr.)	1	%	84	85	84
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene ^{N02}	0.01	mg/L	< 0.01	< 0.01	< 0.01
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 less Naphthalene (F2) ^{N01}	0.05	mg/L	< 0.05	< 0.05	< 0.05
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001

Client Sample ID			BH02	BH03	BH03-DUP
Sample Matrix			Water	Water	Water
Eurofins mgt Sample No.			S16-Ap01704	S16-Ap01705	S16-Ap01706
Date Sampled			Apr 01, 2016	Apr 01, 2016	Apr 01, 2016
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	93	88	78
p-Terphenyl-d14 (surr.)	1	%	108	110	105
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
TRH >C10-C16	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
Heavy Metals					
Arsenic (filtered)	0.001	mg/L	0.010	0.003	0.003
Cadmium (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.011	0.006	0.006
Zinc (filtered)	0.005	mg/L	0.007	0.006	< 0.005

Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: TRH C6-C36 - LTM-ORG-2010	Sydney	Apr 06, 2016	7 Day
BTEX - Method: TRH C6-C40 - LTM-ORG-2010	Sydney	Apr 04, 2016	14 Day
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: TRH C6-C40 - LTM-ORG-2010	Sydney	Apr 04, 2016	7 Day
Polycyclic Aromatic Hydrocarbons - Method: E007 Polyaromatic Hydrocarbons (PAH)	Sydney	Apr 06, 2016	7 Day
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: TRH C6-C40 - LTM-ORG-2010	Sydney	Apr 06, 2016	7 Day
Metals M8 filtered - Method: LTM-MET-3040 Metals in Waters by ICP-MS	Sydney	Apr 04, 2016	28 Day
Volatile Organics - Method: E016 Volatile Organic Compounds (VOC)	Sydney	Apr 04, 2016	7 Day

Company Name: Coffey Geotechnics Pty Ltd Chatswood
Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway
Chatswood
NSW 2067
Project Name: GEOTLCOV25513AB

Order No.:
Report #: 495191
Phone: +61 2 9406 1000
Fax: +61 2 9406 1002

Received: Apr 1, 2016 2:08 PM
Due: Apr 8, 2016
Priority: 5 Day
Contact Name: Matthew Locke

Eurofins | mgt Client Manager: Nibha Vaidya

Sample Detail					Volatile Organics	Eurofins mgt Suite B7 (filtered metals)
Laboratory where analysis is conducted						
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217					X	X
Brisbane Laboratory - NATA Site # 20794						
External Laboratory						
Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
BH02	Apr 01, 2016		Water	S16-Ap01704	X	X
BH03	Apr 01, 2016		Water	S16-Ap01705	X	X
BH03-DUP	Apr 01, 2016		Water	S16-Ap01706	X	X

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs 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 Advice.

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

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

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

Units

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

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 Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (Eurofins mgt uses NATA accredited in-house method LTM-GEN-7010)
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 performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

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.
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, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene 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 Aroclor 1260 in Matrix Spikes and LCS.
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 RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
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							
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	
Method Blank							
Volatile Organics							
1.1-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1.1-Dichloroethene	mg/L	< 0.001			0.001	Pass	
1.1.1-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.1.2-Tetrachloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2.2-Tetrachloroethane	mg/L	< 0.005			0.005	Pass	
1.2-Dibromoethane	mg/L	< 0.001			0.001	Pass	
1.2-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.2-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1.2-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.3-Trichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.4-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.3.5-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.4-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
2-Butanone (MEK)	mg/L	< 0.001			0.001	Pass	
2-Propanone (Acetone)	mg/L	< 0.001			0.001	Pass	
4-Chlorotoluene	mg/L	< 0.001			0.001	Pass	
4-Methyl-2-pentanone (MIBK)	mg/L	< 0.001			0.001	Pass	
Allyl chloride	mg/L	< 0.001			0.001	Pass	
Bromobenzene	mg/L	< 0.001			0.001	Pass	
Bromochloromethane	mg/L	< 0.001			0.001	Pass	
Bromodichloromethane	mg/L	< 0.001			0.001	Pass	
Bromoform	mg/L	< 0.001			0.001	Pass	
Bromomethane	mg/L	< 0.001			0.001	Pass	
Carbon disulfide	mg/L	< 0.001			0.001	Pass	
Carbon Tetrachloride	mg/L	< 0.001			0.001	Pass	
Chlorobenzene	mg/L	< 0.001			0.001	Pass	
Chloroethane	mg/L	< 0.001			0.001	Pass	
Chloroform	mg/L	< 0.005			0.005	Pass	
Chloromethane	mg/L	< 0.001			0.001	Pass	
cis-1.2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
cis-1.3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Dibromochloromethane	mg/L	< 0.001			0.001	Pass	
Dibromomethane	mg/L	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dichlorodifluoromethane	mg/L	< 0.001			0.001	Pass	
Iodomethane	mg/L	< 0.001			0.001	Pass	
Isopropyl benzene (Cumene)	mg/L	< 0.001			0.001	Pass	
Methylene Chloride	mg/L	< 0.001			0.001	Pass	
Styrene	mg/L	< 0.001			0.001	Pass	
Tetrachloroethene	mg/L	< 0.001			0.001	Pass	
trans-1,2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
trans-1,3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Trichloroethene	mg/L	< 0.001			0.001	Pass	
Trichlorofluoromethane	mg/L	< 0.001			0.001	Pass	
Vinyl chloride	mg/L	< 0.001			0.001	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
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&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g,h,i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	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							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
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							
Heavy Metals							
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	
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	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	90			70-130	Pass	
TRH C10-C14	%	80			70-130	Pass	
LCS - % Recovery							
BTEX							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzene	%	89			70-130	Pass	
Toluene	%	91			70-130	Pass	
Ethylbenzene	%	88			70-130	Pass	
m&p-Xylenes	%	83			70-130	Pass	
o-Xylene	%	83			70-130	Pass	
Xylenes - Total	%	90			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethane	%	83			70-130	Pass	
1.1-Dichloroethene	%	94			70-130	Pass	
1.1.1-Trichloroethane	%	94			70-130	Pass	
1.1.1.2-Tetrachloroethane	%	101			70-130	Pass	
1.1.2-Trichloroethane	%	94			70-130	Pass	
1.1.2.2-Tetrachloroethane	%	73			70-130	Pass	
1.2-Dibromoethane	%	95			70-130	Pass	
1.2-Dichlorobenzene	%	85			70-130	Pass	
1.2-Dichloroethane	%	84			70-130	Pass	
1.2-Dichloropropane	%	83			70-130	Pass	
1.2.3-Trichloropropane	%	88			70-130	Pass	
1.2.4-Trimethylbenzene	%	74			70-130	Pass	
1.3-Dichlorobenzene	%	83			70-130	Pass	
1.3-Dichloropropane	%	85			70-130	Pass	
1.3.5-Trimethylbenzene	%	75			70-130	Pass	
1.4-Dichlorobenzene	%	83			70-130	Pass	
2-Butanone (MEK)	%	124			70-130	Pass	
2-Propanone (Acetone)	%	82			70-130	Pass	
4-Chlorotoluene	%	83			70-130	Pass	
4-Methyl-2-pentanone (MIBK)	%	72			70-130	Pass	
Allyl chloride	%	80			75-125	Pass	
Bromobenzene	%	79			70-130	Pass	
Bromochloromethane	%	79			70-130	Pass	
Bromodichloromethane	%	89			70-130	Pass	
Bromoform	%	95			70-130	Pass	
Bromomethane	%	89			70-130	Pass	
Carbon disulfide	%	96			70-130	Pass	
Carbon Tetrachloride	%	95			70-130	Pass	
Chlorobenzene	%	99			70-130	Pass	
Chloroethane	%	124			70-130	Pass	
Chloroform	%	91			70-130	Pass	
Chloromethane	%	97			70-130	Pass	
cis-1.2-Dichloroethene	%	130			70-130	Pass	
cis-1.3-Dichloropropene	%	82			70-130	Pass	
Dibromochloromethane	%	95			70-130	Pass	
Dibromomethane	%	92			70-130	Pass	
Dichlorodifluoromethane	%	129			70-130	Pass	
Iodomethane	%	120			70-130	Pass	
Isopropyl benzene (Cumene)	%	85			70-130	Pass	
Methylene Chloride	%	88			70-130	Pass	
Styrene	%	87			70-130	Pass	
Tetrachloroethene	%	105			70-130	Pass	
trans-1.2-Dichloroethene	%	88			70-130	Pass	
trans-1.3-Dichloropropene	%	82			70-130	Pass	
Trichloroethene	%	109			70-130	Pass	
Trichlorofluoromethane	%	118			70-130	Pass	

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Vinyl chloride				%	100			70-130	Pass	
LCS - % Recovery										
Total Recoverable Hydrocarbons - 2013 NEPM Fractions										
Naphthalene				%	85			70-130	Pass	
TRH C6-C10				%	91			70-130	Pass	
LCS - % Recovery										
Polycyclic Aromatic Hydrocarbons										
Acenaphthene				%	101			70-130	Pass	
Acenaphthylene				%	112			70-130	Pass	
Anthracene				%	116			70-130	Pass	
Benz(a)anthracene				%	116			70-130	Pass	
Benzo(a)pyrene				%	100			70-130	Pass	
Benzo(b&j)fluoranthene				%	113			70-130	Pass	
Benzo(g,h,i)perylene				%	128			70-130	Pass	
Benzo(k)fluoranthene				%	124			70-130	Pass	
Chrysene				%	112			70-130	Pass	
Dibenz(a,h)anthracene				%	112			70-130	Pass	
Fluoranthene				%	129			70-130	Pass	
Fluorene				%	108			70-130	Pass	
Indeno(1.2.3-cd)pyrene				%	116			70-130	Pass	
Naphthalene				%	97			70-130	Pass	
Phenanthrene				%	116			70-130	Pass	
Pyrene				%	119			70-130	Pass	
LCS - % Recovery										
Total Recoverable Hydrocarbons - 2013 NEPM Fractions										
TRH >C10-C16				%	85			70-130	Pass	
LCS - % Recovery										
Heavy Metals										
Arsenic (filtered)				%	116			70-130	Pass	
Cadmium (filtered)				%	117			70-130	Pass	
Chromium (filtered)				%	111			70-130	Pass	
Copper (filtered)				%	113			70-130	Pass	
Lead (filtered)				%	115			70-130	Pass	
Mercury (filtered)				%	116			70-130	Pass	
Nickel (filtered)				%	118			70-130	Pass	
Zinc (filtered)				%	117			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1				Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery										
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					Result 1					
TRH C6-C9	S16-Ap01993	NCP	%	71				70-130	Pass	
Spike - % Recovery										
BTEX					Result 1					
Benzene	S16-Ma25008	NCP	%	87				70-130	Pass	
Toluene	S16-Ma25008	NCP	%	89				70-130	Pass	
Ethylbenzene	S16-Ma25008	NCP	%	85				70-130	Pass	
m&p-Xylenes	S16-Ma25008	NCP	%	80				70-130	Pass	
o-Xylene	S16-Ma25008	NCP	%	80				70-130	Pass	
Xylenes - Total	S16-Ap01993	NCP	%	73				70-130	Pass	
Spike - % Recovery										
Volatile Organics					Result 1					
1.1-Dichloroethane	S16-Ma25008	NCP	%	85				70-130	Pass	
1.1-Dichloroethene	S16-Ma25008	NCP	%	79				70-130	Pass	
1.1.1-Trichloroethane	S16-Ma25008	NCP	%	91				70-130	Pass	
1.1.1.2-Tetrachloroethane	S16-Ma25008	NCP	%	95				70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
1.1.2-Trichloroethane	S16-Ma25008	NCP	%	91		70-130	Pass	
1.1.2.2-Tetrachloroethane	S16-Ma25008	NCP	%	71		70-130	Pass	
1.2-Dibromoethane	S16-Ma25008	NCP	%	93		70-130	Pass	
1.2-Dichlorobenzene	S16-Ma25008	NCP	%	88		70-130	Pass	
1.2-Dichloroethane	S16-Ma25008	NCP	%	85		70-130	Pass	
1.2-Dichloropropane	S16-Ma25008	NCP	%	81		70-130	Pass	
1.2.3-Trichloropropane	S16-Ma25008	NCP	%	84		70-130	Pass	
1.2.4-Trimethylbenzene	S16-Ma25008	NCP	%	77		70-130	Pass	
1.3-Dichlorobenzene	S16-Ma25008	NCP	%	85		70-130	Pass	
1.3-Dichloropropane	S16-Ma25008	NCP	%	84		70-130	Pass	
1.3.5-Trimethylbenzene	S16-Ma25008	NCP	%	73		70-130	Pass	
1.4-Dichlorobenzene	S16-Ma25008	NCP	%	87		70-130	Pass	
2-Butanone (MEK)	S16-Ma25008	NCP	%	74		70-130	Pass	
4-Chlorotoluene	S16-Ma25008	NCP	%	82		70-130	Pass	
4-Methyl-2-pentanone (MIBK)	S16-Ma25008	NCP	%	70		70-130	Pass	
Allyl chloride	S16-Ma25008	NCP	%	75		75-125	Pass	
Bromobenzene	S16-Ma25008	NCP	%	76		70-130	Pass	
Bromochloromethane	S16-Ma25008	NCP	%	78		70-130	Pass	
Bromodichloromethane	S16-Ma25008	NCP	%	90		70-130	Pass	
Bromoform	S16-Ma25008	NCP	%	95		70-130	Pass	
Bromomethane	S16-Ma25008	NCP	%	87		70-130	Pass	
Carbon disulfide	S16-Ma25008	NCP	%	96		70-130	Pass	
Carbon Tetrachloride	S16-Ma25008	NCP	%	93		70-130	Pass	
Chlorobenzene	S16-Ma25008	NCP	%	93		70-130	Pass	
Chloroethane	S16-Ma25008	NCP	%	124		70-130	Pass	
Chloroform	S16-Ma25008	NCP	%	90		70-130	Pass	
Chloromethane	S16-Ma25008	NCP	%	78		70-130	Pass	
cis-1.3-Dichloropropene	S16-Ma25008	NCP	%	80		70-130	Pass	
Dibromochloromethane	S16-Ma25008	NCP	%	97		70-130	Pass	
Dibromomethane	S16-Ma25008	NCP	%	90		70-130	Pass	
Dichlorodifluoromethane	S16-Ma25008	NCP	%	85		70-130	Pass	
Isopropyl benzene (Cumene)	S16-Ma25008	NCP	%	86		70-130	Pass	
Methylene Chloride	S16-Ma25008	NCP	%	79		70-130	Pass	
Styrene	S16-Ma25008	NCP	%	82		70-130	Pass	
Tetrachloroethene	S16-Ma25008	NCP	%	105		70-130	Pass	
trans-1.2-Dichloroethene	S16-Ma25008	NCP	%	91		70-130	Pass	
trans-1.3-Dichloropropene	S16-Ma25008	NCP	%	80		70-130	Pass	
Trichloroethene	S16-Ma25008	NCP	%	179		70-130	Fail	Q08
Vinyl chloride	S16-Ma25008	NCP	%	80		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1				
Naphthalene	S16-Ma25008	NCP	%	99		70-130	Pass	
TRH C6-C10	S16-Ap01993	NCP	%	74		70-130	Pass	
Spike - % Recovery								
Polycyclic Aromatic Hydrocarbons				Result 1				
Acenaphthene	S16-Ma26425	NCP	%	93		70-130	Pass	
Acenaphthylene	S16-Ma26425	NCP	%	90		70-130	Pass	
Anthracene	S16-Ma26425	NCP	%	93		70-130	Pass	
Benz(a)anthracene	S16-Ma26425	NCP	%	92		70-130	Pass	
Benzo(a)pyrene	S16-Ma26425	NCP	%	82		70-130	Pass	
Benzo(b&j)fluoranthene	S16-Ma26425	NCP	%	103		70-130	Pass	
Benzo(g,h,i)perylene	S16-Ma26425	NCP	%	101		70-130	Pass	
Benzo(k)fluoranthene	S16-Ma26425	NCP	%	106		70-130	Pass	
Chrysene	S16-Ma26425	NCP	%	91		70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dibenz(a,h)anthracene	S16-Ma26425	NCP	%	93			70-130	Pass	
Fluoranthene	S16-Ma26425	NCP	%	97			70-130	Pass	
Fluorene	S16-Ma26425	NCP	%	96			70-130	Pass	
Indeno(1,2,3-cd)pyrene	S16-Ma26425	NCP	%	88			70-130	Pass	
Naphthalene	S16-Ma26425	NCP	%	91			70-130	Pass	
Phenanthrene	S16-Ma26425	NCP	%	93			70-130	Pass	
Pyrene	S16-Ma26425	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	M16-Ma29126	NCP	%	110			70-130	Pass	
Cadmium (filtered)	M16-Ma29126	NCP	%	113			70-130	Pass	
Chromium (filtered)	M16-Ma29126	NCP	%	113			70-130	Pass	
Copper (filtered)	M16-Ma29126	NCP	%	108			70-130	Pass	
Lead (filtered)	M16-Ma29126	NCP	%	93			70-130	Pass	
Mercury (filtered)	M16-Ma29126	NCP	%	104			70-130	Pass	
Nickel (filtered)	M16-Ma29126	NCP	%	120			70-130	Pass	
Zinc (filtered)	M16-Ma29126	NCP	%	129			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	S16-Ap01992	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S16-Ma25007	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	S16-Ap01992	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1,1-Dichloroethane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1,1-Dichloroethene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1,1,1-Trichloroethane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1,1,1,2-Tetrachloroethane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1,1,2-Trichloroethane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1,1,2,2-Tetrachloroethane	S16-Ma25007	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1,2-Dibromoethane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1,2-Dichlorobenzene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1,2-Dichloroethane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1,2-Dichloropropane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1,2,3-Trichloropropane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1,2,4-Trimethylbenzene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1,3-Dichlorobenzene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1,3-Dichloropropane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1,3,5-Trimethylbenzene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
1,4-Dichlorobenzene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
2-Butanone (MEK)	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
2-Propanone (Acetone)	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
4-Chlorotoluene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
4-Methyl-2-pentanone (MIBK)	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Allyl chloride	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromobenzene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bromochloromethane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	

Duplicate								
Volatile Organics				Result 1	Result 2	RPD		
Bromodichloromethane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Bromoform	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Bromomethane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Carbon disulfide	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Carbon Tetrachloride	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chlorobenzene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chloroethane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chloroform	S16-Ma25007	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Chloromethane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
cis-1,2-Dichloroethene	S16-Ma25007	NCP	mg/L	0.005	0.005	7.0	30%	Pass
cis-1,3-Dichloropropene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibromochloromethane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibromomethane	S16-Ma25007	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Dichlorodifluoromethane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Iodomethane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Isopropyl benzene (Cumene)	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Methylene Chloride	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Styrene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Tetrachloroethene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
trans-1,2-Dichloroethene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
trans-1,3-Dichloropropene	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Trichloroethene	S16-Ma25007	NCP	mg/L	0.005	0.005	<1	30%	Pass
Trichlorofluoromethane	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Vinyl chloride	S16-Ma25007	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	S16-Ma25007	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass
TRH C6-C10	S16-Ap01992	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Acenaphthylene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Anthracene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benz(a)anthracene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(a)pyrene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(b&j)fluoranthene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(g,h,i)perylene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(k)fluoranthene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chrysene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibenz(a,h)anthracene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluoranthene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluorene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Naphthalene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Phenanthrene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Pyrene	S16-Ma26688	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic (filtered)	M16-Ma29125	NCP	mg/L	0.002	0.002	4.0	30%	Pass
Cadmium (filtered)	M16-Ma29125	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Chromium (filtered)	M16-Ma29125	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Copper (filtered)	M16-Ma29125	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Lead (filtered)	M16-Ma29125	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Mercury (filtered)	M16-Ma29125	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Nickel (filtered)	M16-Ma29125	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Zinc (filtered)	M16-Ma29125	NCP	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
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
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.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference

Authorised By

Nibha Vaidya	Analytical Services Manager
Ivan Taylor	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
Ryan Hamilton	Senior Analyst-Volatile (NSW)



Glenn Jackson

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

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CERTIFICATE OF ANALYSIS

Work Order : **ES1606329**
Client : **COFFEY GEOTECHNICS**
Contact : **MR RAPHAEL HYDE**
Address :
Telephone : **+61 08 9347 0000**
Project : **GEOTLCOV25513AB 12 FREDERICK STREET**
Order number : ----
C-O-C number : ----
Sampler : **KAY WANT**
Site : ----
Quote number : ----
No. of samples received : **2**
No. of samples analysed : **2**

Page : 1 of 7
Laboratory : Environmental Division Sydney
Contact :
Address : 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone : +61-2-8784 8555
Date Samples Received : 21-Mar-2016 16:00
Date Analysis Commenced : 22-Mar-2016
Issue Date : 31-Mar-2016 18:36

NATA Accredited Laboratory 825
 Accredited for compliance with
 ISO/IEC 17025.



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
RICHARD TEA	Lab technician	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

ø = ALS is not NATA accredited for these tests.

- EG005T: Poor precision was obtained for Chromium on sample ES1606663 #002 due to sample heterogeneity.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR.
Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	DUP1_A	BH01_9.0-9.45	----	----	----
Client sampling date / time					[16-Mar-2016]	[15-Mar-2016]	----	----	----
Compound	CAS Number	LOR	Unit		ES1606329-001	ES1606329-002	-----	-----	-----
					Result	Result	Result	Result	Result
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1	%		18.3	17.9	----	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		10	7	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg		10	40	----	----	----
Copper	7440-50-8	5	mg/kg		26	<5	----	----	----
Lead	7439-92-1	5	mg/kg		35	15	----	----	----
Nickel	7440-02-0	2	mg/kg		6	<2	----	----	----
Zinc	7440-66-6	5	mg/kg		83	<5	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	0.1	mg/kg		<0.1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.05	mg/kg		<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg		<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg		<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg		<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg		<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	----	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	----	----	----
4,4'-DDE	72-55-9	0.05	mg/kg		<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	----	----	----	----
4,4'-DDD	72-54-8	0.05	mg/kg		<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	DUP1_A	BH01_9.0-9.45	----	----	----
Client sampling date / time					[16-Mar-2016]	[15-Mar-2016]	----	----	----
Compound	CAS Number	LOR	Unit		ES1606329-001	ES1606329-002	-----	-----	-----
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
4,4'-DDT	50-29-3	0.2	mg/kg		<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	----	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg		<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg		<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg		<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	DUP1_A	BH01_9.0-9.45	----	----	----
Client sampling date / time					[16-Mar-2016]	[15-Mar-2016]	----	----	----
Compound	CAS Number	LOR	Unit		ES1606329-001	ES1606329-002	-----	-----	-----
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	----	----	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	<100	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	DUP1_A	BH01_9.0-9.45	----	----	----
Client sampling date / time					[16-Mar-2016]	[15-Mar-2016]	----	----	----
Compound	CAS Number	LOR	Unit		ES1606329-001	ES1606329-002	-----	-----	-----
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		83.3	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		96.2	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		122	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		87.7	85.2	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		88.5	87.7	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		69.0	72.9	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		95.1	92.4	----	----	----
Anthracene-d10	1719-06-8	0.5	%		88.9	83.8	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		82.0	90.4	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		97.3	88.9	----	----	----
Toluene-D8	2037-26-5	0.2	%		112	94.2	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		124	94.6	----	----	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130



ALS Environmental

QUALITY CONTROL REPORT

Work Order	: ES1606329	Page	: 1 of 12
Client	: COFFEY GEOTECHNICS	Laboratory	: Environmental Division Sydney
Contact	: MR RAPHAEL HYDE	Contact	:
Address	:	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 08 9347 0000	Telephone	: +61-2-8784 8555
Project	: GEOTLCOV25513AB 12 FREDERICK STREET	Date Samples Received	: 21-Mar-2016
Order number	: ----	Date Analysis Commenced	: 22-Mar-2016
C-O-C number	: ----	Issue Date	: 31-Mar-2016
Sampler	: KAY WANT		
Site	: ----		
Quote number	: ----		
No. of samples received	: 2		
No. of samples analysed	: 2		



NATA Accredited Laboratory 825
Accredited for compliance with
ISO/IEC 17025.

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
RICHARD TEA	Lab technician	Sydney Inorganics, Smithfield, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	Sydney Organics, Smithfield, NSW



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA055: Moisture Content (QC Lot: 402668)									
ES1606327-003	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	23.2	23.5	1.16	0% - 20%
ES1606331-002	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	1.0	<1.0	0.00	No Limit
EA055: Moisture Content (QC Lot: 406341)									
ES1605765-136	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	19.3	18.8	2.82	0% - 50%
ES1606663-003	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1	%	7.5	7.1	5.68	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 403764)									
ES1606102-019	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	5	6	28.6	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	3	2	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	36	25	37.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	149	171	13.7	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	251	271	7.46	0% - 20%
ES1606102-029	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	9	8	12.5	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	7	4	62.6	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	25	22	15.1	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	42	45	5.57	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	101	122	19.0	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 407056)									
ES1606327-003	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	20	20	0.00	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	5	5	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005T: Total Metals by ICP-AES (QC Lot: 407056) - continued									
ES1606327-003	Anonymous	EG005T: Arsenic	7440-38-2	5	mg/kg	7	7	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	15	16	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	16	16	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	10	10	0.00	No Limit
ES1606663-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	22	# 12	59.7	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	16	7	83.9	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	38	40	4.26	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	21	20	7.19	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	101	# 134	28.4	0% - 20%
		EG035T: Total Recoverable Mercury by FIMS (QC Lot: 403765)							
ES1606102-019	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	<0.1	0.00	No Limit
ES1606102-029	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 407054)									
ES1606304-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1606304-011	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 406326)									
ES1606329-001	DUP1_A	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 406325)									
ES1606329-001	DUP1_A	EP068: 4,4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4,4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 406325) - continued									
ES1606329-001	DUP1_A	EP068: 4,4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 406325)									
ES1606329-001	DUP1_A	EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 406324)									
ES1606329-001	DUP1_A	EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			205-82-3						
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenzo(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 406324) - continued									
ES1606329-001	DUP1_A	EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 402489)									
ES1606304-013	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1606349-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 405761)									
ES1606458-002	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1606557-006	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 406323)									
ES1606329-001	DUP1_A	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 402489)									
ES1606304-013	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1606349-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 405761)									
ES1606458-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1606557-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	19	21	10.6	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 406323)									
ES1606329-001	DUP1_A	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080: BTEXN (QC Lot: 402489)									
ES1606304-013	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
ES1606349-001	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
	91-20-3	1	mg/kg	<1	<1	0.00	No Limit		
EP080: BTEXN (QC Lot: 405761)									

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 Work Order : ES1606329
 Client : COFFEY GEOTECHNICS
 Project : GEOTLCOV25513AB 12 FREDERICK STREET



Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080: BTEXN (QC Lot: 405761) - continued									
ES1606458-002	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	5	7	33.4	No Limit
ES1606557-006	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	2	3	0.00	No Limit



Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005T: Total Metals by ICP-AES (QCLot: 403764)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	99.9	86	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	94.5	83	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	97.5	76	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	101	86	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	99.5	80	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	100	87	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	106	80	122
EG005T: Total Metals by ICP-AES (QCLot: 407056)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	109	86	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	106	83	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	83.1	76	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	91.9	86	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	80.6	80	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	109	87	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	88.6	80	122
EG035T: Total Recoverable Mercury by FIMS (QCLot: 403765)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	90.2	70	105
EG035T: Total Recoverable Mercury by FIMS (QCLot: 407054)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	93.0	70	105
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 406326)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	104	62	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 406325)								
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	69	121
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	83.8	67	115
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	101	66	120
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	81.8	69	115
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.2	69	113
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.6	66	116
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	87.6	67	119
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	105	69	115
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	85.2	64	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	76.1	65	117
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	83.2	66	116
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	110	62	124



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit		Result	Concentration	LCS	Low
EP068A: Organochlorine Pesticides (OC) (QCLot: 406325) - continued								
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.7	67	123
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	96.1	56	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	110	64	122
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	92.3	68	116
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	87.3	67	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	85.2	62	118
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	92.1	65	117
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	107	54	130
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	78.3	63	117
EP068B: Organophosphorus Pesticides (OP) (QCLot: 406325)								
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	90.4	41	123
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.7	66	118
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	101	65	127
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	104	69	121
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	82.1	76	118
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	87.0	72	120
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.1	62	128
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	86.9	70	120
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	92.4	59	119
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	105	67	119
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	88.7	68	120
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	94.1	68	124
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.2	69	117
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	103	68	122
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	104	54	126
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	95.2	64	122
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	94.5	68	120
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	94.1	70	116
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	89.8	62	112
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 406324)								
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	117	73	127
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	113	72	124
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	123	77	127
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	116	69	123
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	112	70	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	6 mg/kg	114	68	116
	205-82-3							
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	87.1	63	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	108	74	126



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 406324) - continued								
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	117	75	127
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	80.3	62	118
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	117	73	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	111	72	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	98.4	61	121
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	103	77	125
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	118	75	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	119	74	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 402489)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	118	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 405761)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	90.0	68	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 406323)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	116	75	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	120	77	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	118	71	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 402489)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	118	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 405761)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	91.1	68	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 406323)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	119	77	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	117	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	150 mg/kg	99.0	63	131
EP080: BTEXN (QCLot: 402489)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	107	62	116
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	104	65	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	107	66	118
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	108	63	119
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	102	68	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	109	67	121
EP080: BTEXN (QCLot: 405761)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	83.6	62	116
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	78.3	65	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	84.2	66	118
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	86.8	63	119

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 Work Order : ES1606329
 Client : COFFEY GEOTECHNICS
 Project : GEOTLCOV25513AB 12 FREDERICK STREET



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			Low	High
EP080: BTEXN (QCLot: 405761) - continued								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	83.3	68	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	86.7	67	121

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 403764)							
ES1606102-019	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	100	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	98.2	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	105	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	129	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	97.0	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	104	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	116	70	130
EG005T: Total Metals by ICP-AES (QCLot: 407056)							
ES1606663-002	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	97.9	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	99.5	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	77.1	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	106	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	97.1	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	83.7	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	97.3	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 403765)							
ES1606102-019	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	92.8	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 407054)							
ES1606304-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	99.5	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 406326)							
ES1606329-001	DUP1_A	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	106	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 406325)							
ES1606329-001	DUP1_A	EP068: 4,4'-DDT	50-29-3	2 mg/kg	98.9	70	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	106	70	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	107	70	130
		EP068: Endrin	72-20-8	2 mg/kg	95.2	70	130

Matrix Spike (MS) Report

SpikeRecovery(%)

Recovery Limits (%)

Concentration

MS

Low	High
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EP068A: Organochlorine Pesticides (OC) (QCLot: 406325) - continued

ES1606329-001	DUP1_A	EP068: gamma-BHC	58-89-9	0.5 mg/kg	89.7	70	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	92.4	70	130

EP068B: Organophosphorus Pesticides (OP) (QCLot: 406325)

ES1606329-001	DUP1_A	EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	94.1	70	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	107	70	130
		EP068: Diazinon	333-41-5	0.5 mg/kg	102	70	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	93.1	70	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	91.8	70	130

EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 406324)

ES1606329-001	DUP1_A	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	94.9	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	99.2	70	130

EP080/071: Total Petroleum Hydrocarbons (QCLot: 402489)

ES1606304-013	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	99.0	70	130
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EP080/071: Total Petroleum Hydrocarbons (QCLot: 405761)

ES1606458-002	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	78.7	70	130
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EP080/071: Total Petroleum Hydrocarbons (QCLot: 406323)

ES1606329-001	DUP1_A	EP071: C10 - C14 Fraction	----	523 mg/kg	105	73	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	106	53	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	128	52	132

EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 402489)

ES1606304-013	Anonymous	EP080: C6 - C10 Fraction	C6 C10	37.5 mg/kg	103	70	130
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EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 405761)

ES1606458-002	Anonymous	EP080: C6 - C10 Fraction	C6 C10	37.5 mg/kg	78.6	70	130
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EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 406323)

ES1606329-001	DUP1_A	EP071: >C10 - C16 Fraction	----	860 mg/kg	91.3	73	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	120	53	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	122	52	132

EP080: BTEXN (QCLot: 402489)

ES1606304-013	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	90.5	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	90.5	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	87.1	70	130
			106-42-3				
		EP080: Naphthalene	91-20-3	2.5 mg/kg	89.6	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	91.4	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	91.0	70	130

EP080: BTEXN (QCLot: 405761)

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 Work Order : ES1606329
 Client : COFFEY GEOTECHNICS
 Project : GEOTLCOV25513AB 12 FREDERICK STREET



Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 405761) - continued							
ES1606458-002	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	70.8	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	79.2	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	80.8	70	130
			106-42-3				
		EP080: Naphthalene	91-20-3	2.5 mg/kg	129	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	83.8	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	77.0	70	130

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