



Groundwater - Well Sampling Data Form

Job Information	
Date: 12/12/13	Time: arrive 11:20 depart 12:10
Project Name: Symphony	Project Number: 0224193
Site Location: Baywater	Sampler: K.F.
Well ID: BO-MW03	Weather: Fine

Equipment	
Water quality equipment description: YSI 11K101262	Interface probe number: NSW 4253 30m
Purging equipment: (please circle)	Bailer type: Plastic Teflon
	Pump type: <u>Peristaltic</u> Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations									
Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm	Volume of water in well / V = $\pi r^2 h$ V = volume in litres P = 3.14159 r = radius in cm h = height of water column in cm
Conversion Factor (volume in factor L/m)	0.49	<u>1.96</u>	7.85	12.3	17.7	31.4	49.1	70.7	
Total Well Depth	(-) Water level	(=) Water Column							
<u>4.86</u> m	(-) <u>1.55</u> m	(=) <u>3.31</u> m							
			Water Column	(x) Conversion Factor	(=) Litres per 1 Well Volume				
			<u>3.31</u> m	(x) <u>1.96</u>	(=) <u>6.48</u> L				
Depth to product:	m		Product Thickness:	m		Verified with Bailer: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N			

Water Quality Parameters								
Beginning purge time: 11:29			Ending purge time: 11:51			Pump Intake Depth (mbtoc):		
Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1	11:35	6.46	20.0	11242	5.89	37.9	1.87	cloudy, no odour
2	11:41	6.72	19.6	10802	4.69	32.6	2.07	slightly cloudy, no odour.
3	11:46	6.77	19.8	10841	3.89	21.6	2.19	" "
4	11:51	6.80	19.5	10671	2.72	6.8	2.31	" "

*pH, temp, cond readings not necessary if well is purged dry

Example Comments: clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour / drawdown depth

2181	Total Well Volume Actual amount of water prior to sampling	Sample time: 12:00	Containers used: 8
	Flow rate mL/minute	Did field parameters stabilise? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA	Was the well dry purged? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N

Field QC Checks	
Was pre-cleaned sampling equipment used for these samples?	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Was pre-cleaning sampling equipment properly protected from contamination?	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Was documentation of equipment conducted?	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
Were air bubbles present in vials at time of collection?	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> NA
Was sample for metals field filtered prior to preservations?	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
Duplicate sample collected?	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
Rinsate blank collected?	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
Duplicate sample ID	<u> </u>
Rinsate blank ID	<u> </u>



Groundwater - Well Sampling Data Form

Job Information	
Date: 11.12.13	Time: arrive 1230 depart 1315
Project Name: Symphony	Project Number: 0224193
Site Location: Bungswater	Sampler: J. Lint
Well ID: BX-MW03	Weather: fine

Equipment	
Water quality equipment description: 90-FLMV U9114	Interface probe number: SYD 3954 80m
Purging equipment: (please circle)	Bailer type: Plastic Teflon
	Pump type: Peristaltic Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations									
Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm	Volume of water in well / V = $\pi r^2 h$ V = volume in litres P = 3.14159 r = radius in cm h = height of water column in cm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3	
Total Well Depth (-) Water level (=) Water Column	6.710 m (-) 4.38 m (=) 2.330 m								
	Water Column (x) Conversion Factor (=) Litres per 1 Well Volume	2.330 m (x) 1.96 (=) 4.55 L							
Depth to product: / m	Product Thickness: / m	Verified with Bailer: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N							

Water Quality Parameters									
Beginning purge time: 1241					Ending purge time: 1255				
Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments	
0	1244	3.95	20.1	3.89	0.63	347	4.375	Turbid brown - No odour	
2	1247	3.93	19.2	3.87	0.28	384	4.400		
3	1251	3.92	19.1	3.87	0.22	395	4.410		
4	1255	3.92	19.1	3.87	0.20	397	4.420		
*pH, temp, cond readings not necessary if well is purged dry								Example Comments: clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour / drawdown depth	
4	Total Well Volume Actual amount of water prior to sampling				Sample time 1300		Containers used 9		
~250	Flow rate mL/minute				Did field parameters stabilise? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA			Was the well dry purged? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N	

Field QC Checks			
Was pre-cleaning sampling equipment used for these samples?	<input checked="" type="checkbox"/>	<input type="checkbox"/> N	
Was pre-cleaning sampling equipment properly protected from contamination?	<input checked="" type="checkbox"/>	<input type="checkbox"/> N	
Was documentation of equipment conducted?	<input checked="" type="checkbox"/>	<input type="checkbox"/> N	<input type="checkbox"/> NA
Were air bubbles present in vials at time of collection?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> NA
Was sample for metals field filtered prior to preservations?	<input checked="" type="checkbox"/>	<input type="checkbox"/> N	<input type="checkbox"/> NA
Duplicate sample collected?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	Duplicate sample ID _____
Rinsate blank collected?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	Rinsate blank ID _____

6.71
4.38
2.33



Groundwater - Well Sampling Data Form

Job Information	
Date: 17.12.13	Time: arrive 1115 depart 1225
Project Name: Symphony	Project Number: 0224193
Site Location: Bugswater	Sampler: J. Grant
Well ID: BT MW12	Weather: fine

Equipment	
Water quality equipment description: 90FLMV-09117	Interface probe number: Syd 3954 60m
Purging equipment: (please circle)	Bailer type: <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Teflon
	Pump type: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Micro-purge <input type="checkbox"/> Amazon <input type="checkbox"/> Other:

Well Gauging and Purge Volume Calculations									
Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm	Volume of water in well / V = $P \times r \times h$ V = volume in litres P = 3.14159 r = radius in cm h = height of water column in cm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3	
Total Well Depth (-) Water level (=) Water Column	9.690 m (-)	4.540 m (=)	5.150 m						
	Water Column (x) Conversion Factor (=) Litres per 1 Well Volume								
	5.150 m (x) 1.96 (=) ~10 L								
Depth to product: / m	Product Thickness: / m	Verified with Bailer: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N							

Water Quality Parameters									
Beginning purge time: 1125			Ending purge time:						
Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments	
1	1129	5.20	19.3	14.80	4.93	218	4.950	turbid to cloudy brown water	
2	1133	5.17	18.3	14.89	3.79	226	5.170	Reddish tinge	
3	1137	5.16	18.2	14.92	3.40	232	5.520	No odour	
4	1141	5.15	18.0	14.90	3.19	237	5.740		
5	1144	5.15	18.0	14.90	3.02	238	5.920		
							Dup trip } collected Rinsate }		
*pH, temp, cond readings not necessary if well is purged dry								Example Comments: clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour / drawdown depth	
5	Total Well Volume			Actual amount of water prior to sampling			Sample time: 1150	Containers used: (2+7+7+?)	
250	Flow rate			mL/minute			Did field parameters stabilise? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA	Was the well dry purged? <input type="checkbox"/> Y <input type="checkbox"/> N	

Field QC Checks			
Was pre-cleaning sampling equipment used for these samples?	<input checked="" type="checkbox"/>	N	
Was pre-cleaning sampling equipment properly protected from contamination?	<input checked="" type="checkbox"/>	N	
Was documentation of equipment conducted?	<input checked="" type="checkbox"/>	N	NA
Were air bubbles present in vials at time of collection?	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	NA	
Was sample for metals field filtered prior to preservations?	<input checked="" type="checkbox"/>	N	NA
Duplicate sample collected?	<input checked="" type="checkbox"/>	N	Duplicate sample ID: TO1-171213-24
Rinsate blank collected?	<input checked="" type="checkbox"/>	N	Rinsate blank ID: DO1-171213-24 RO1-171213-24



Groundwater - Well Sampling Data Form

Job Information	
Date: <u>11.12.13</u>	Time: arrive <u>1530</u> depart <u>1630</u>
Project Name: <u>Symphony</u>	Project Number: <u>0224193</u>
Site Location: <u>Baywater</u>	Sampler: <u>J.H</u>
Well ID: <u>BV-MW21</u>	Weather: <u>fine</u>

Equipment	
Water quality equipment description: <u>90-FLMW09114</u>	Interface probe number: <u>SYD 3954 60m</u>
Purging equipment: (please circle)	Bailer type: <u>Plastic</u> <u>Teflon</u>
	Pump type: <u>Peristaltic</u> <u>Submersible</u> <u>Micro-purge</u> <u>Amazon</u> <u>Other:</u>

Well Gauging and Purge Volume Calculations									
Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm	Volume of water in well / V = $\pi \times r \times h$ V = volume in litres P = 3.14159 r = radius in cm h = height of water column in cm
Conversion Factor (volume in factor L/m)	0.98	<u>1.96</u>	7.85	31.4	49.1	70.7	125.7	196.3	
Total Well Depth (-) Water level (=) Water Column <u>10.900</u> m (-) <u>8.500</u> m (=) <u>2.400</u> m Water Column (x) Conversion Factor (=) Litres per 1 Well Volume <u>2.400</u> m (x) <u>1.96</u> (=) <u>~4.8</u> L									
Depth to product: <u>/</u> m Product Thickness: <u>/</u> m Verified with Bailer: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N									

Water Quality Parameters									
Beginning purge time: <u>1535</u>					Ending purge time: <u>1548</u>				
Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments	
0.5	1537	6.32	21.3	22.08	3.41	216	8.580	<u>Clear - No odour</u>	
1.0	1539	6.34	21.1	22.61	4.15	203	8.640		
1.5	1541	6.36	21.5	22.65	4.96	195	8.680		
2.0	1543	6.37	21.2	22.97	5.51	183	8.710		
2.5	1545	6.37	20.9	23.03	5.06	178	8.74		
3.0	1548	6.37	20.8	23.01	5.32	176	8.78		
*pH, temp, cond readings not necessary if well is purged dry Example Comments: clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour / drawdown depth									

<u>3</u>	Total Well Volume Actual amount of water prior to sampling	Sample time <u>1555</u>	Containers used <u>7 (+7)</u>
<u>-250</u>	Flow rate mL/minute	Did field parameters stabilise? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA	Was the well dry purged? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N

Field QC Checks			
Was pre-cleaning sampling equipment used for these samples?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
Was pre-cleaning sampling equipment properly protected from contamination?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
Was documentation of equipment conducted?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA
Were air bubbles present in vials at time of collection?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> NA
Was sample for metals field filtered prior to preservations?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA
Duplicate sample collected?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	Duplicate sample ID _____
Rinsate blank collected?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Rinsate blank ID <u>ROL-11213</u>



Groundwater - Well Sampling Data Form

Job Information	
Date: 18.12.13	Time: arrive 815 depart
Project Name: Dymphna	Project Number: 0224193
Site Location: Bayswater	Sampler: J. Grant
Well ID: BY-MW24	Weather: Fine

Equipment	
Water quality equipment description: 90FLMV U9117	Interface probe number: Syd 3954 60m
Purging equipment: (please circle)	Bailer type: Plastic Teflon Pump type: Peristaltic Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations									
Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm	Volume of water in well / V = Pr x r x h V = volume in litres P = 3.14159 r = radius in cm h = height of water column in cm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3	
Total Well Depth (-) Water level (=) Water Column 9.065 m (-) 6.060 m (=) 3.005 m Water Column (x) Conversion Factor (=) Litres per 1 Well Volume 3.005 m (x) 1.96 (=) ~6 L Depth to product: / m Product Thickness: / m Verified with Bailer: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N									

Water Quality Parameters									
Beginning purge time: 828			Ending purge time: 1000.0						
Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments	
1	832	3.67	4.3	17.36	4.26	397	6.090	Cloudy brown - dark	
2	836	3.58	3.6	17.42	1.70	400	6.130		
3	840	3.54	3.1	17.43	1.04	401	6.160		
4	844	3.53	3.0	17.42	0.88	399	6.310		
							Temp sensor error		
*pH, temp, cond readings not necessary if well is purged dry							Example Comments: clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour / drawdown depth		
4		Total Well Volume		Actual amount of water prior to sampling		Sample time 850		Containers used 6	
250		Flow rate		mL/minute		Did field parameters stabilise? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA		Was the well dry purged? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N	

Field QC Checks		
Was pre-cleaning sampling equipment used for these samples?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Was pre-cleaning sampling equipment properly protected from contamination?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Was documentation of equipment conducted?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N <input type="checkbox"/> NA
Were air bubbles present in vials at time of collection?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N <input type="checkbox"/> NA
Was sample for metals field filtered prior to preservations?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N <input type="checkbox"/> NA
Duplicate sample collected?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
Rinsate blank collected?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
Duplicate sample ID		_____
Rinsate blank ID		_____



Groundwater - Well Sampling Data Form

Job Information	
Date: 17.12.13	Time: arrive 1625 depart 1805
Project Name: Symphony	Project Number: 0224193
Site Location: Dingswater - Camp site	Sampler: J. Grant
Well ID: BX-mw25	Weather: fine

Equipment	
Water quality equipment description: 90 FLMV U9117	Interface probe number: Sy1 3954 BOM
Purging equipment: (please circle)	Bailer type: Plastic Teflon
	Pump type: Peristaltic Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations									
Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm	Volume of water in well / V = Pr x r x h V = volume in litres P = 3.14159 r = radius in cm h = height of water column in cm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3	
Total Well Depth (-) Water level (=) Water Column 8.220 m (-) 5.500 m (=) 2.720 m Water Column (x) Conversion Factor (=) Litres per 1 Well Volume 2.720 m (x) 1.96 (=) ~5 L									
Depth to product: 1 m		Product Thickness: 1 m		Verified with Bailer: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N					

Water Quality Parameters									
Beginning purge time: 1638					Ending purge time:				
Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments	
1	1642	5.55	19.0	14.76	1.69	189	5.635	turbid brown - cloudy brown	
2	1646	5.52	17.3	14.50	0.83	205	5.730		
3	1650	5.52	16.9	14.53	0.68	210	5.780		
4	1654	5.51	16.7	14.54	0.60	213	5.800		
*pH, temp, cond readings not necessary if well is purged dry							Example Comments: clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour / drawdown depth		
4		Total Well Volume Actual amount of water prior to sampling			Sample time 1655		Containers used 7		
256		Flow rate mL/minute			Did field parameters stabilise? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA		Was the well dry purged? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N		

Field QC Checks			
Was pre-cleaning sampling equipment used for these samples?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
Was pre-cleaning sampling equipment properly protected from contamination?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
Was documentation of equipment conducted?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA
Were air bubbles present in vials at time of collection?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	<input type="checkbox"/> NA
Was sample for metals field filtered prior to preservations?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	<input type="checkbox"/> NA
Duplicate sample collected?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	Duplicate sample ID _____
Rinsate blank collected?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	Rinsate blank ID _____

7.122
5.50
2.72



Groundwater - Well Sampling Data Form

Job Information	
Date: <u>18.12.13</u>	Time: arrive <u>720</u> depart <u>810</u>
Project Name: <u>Symphony</u>	Project Number: <u>0224193</u>
Site Location: <u>Bayswater</u>	Sampler: <u>J. Grant</u>
Well ID: <u>BY-MW26</u>	Weather: <u>Fine</u>

Equipment	
Water quality equipment description: <u>90FLMV U9117</u>	Interface probe number: <u>SYD 3754 60m</u>
Purging equipment: (please circle)	Bailer type: <u>Plastic</u> <u>Teflon</u>
	Pump type: <u>Peristaltic</u> <u>Submersible</u> <u>Micro-purge</u> <u>Amazon</u> <u>Other:</u>

Well Gauging and Purge Volume Calculations									
Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm	Volume of water in well / V = Pr x r x h V = volume in litres P = 3.14159 r = radius in cm h = height of water column in cm
Conversion Factor (volume in factor L/m)	0.98	<u>1.96</u>	7.85	31.4	49.1	70.7	125.7	196.3	
Total Well Depth (-) <u>3.670</u> m (-) Water level (=) <u>2.120</u> m (=) Water Column <u>1.550</u> m $\frac{2.120}{1.550}$ Water Column (x) Conversion Factor (=) Litres per 1 Well Volume <u>1.550</u> m (x) <u>1.96</u> (=) <u>~3</u> L									
Depth to product: <u>/</u> m Product Thickness: <u>/</u> m Verified with Bailer: <input checked="" type="checkbox"/> <input type="checkbox"/>									

Water Quality Parameters									
Beginning purge time: <u>730</u>					Ending purge time: <u>VOL 0.0</u>				
Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments	
<u>1</u>	<u>734</u>	<u>6.85</u>	<u>9.9</u>	<u>15.52</u>	<u>2.89</u>	<u>130</u>	<u>2.190</u>	<u>Cloudy / turbid brown → cloudy</u>	
<u>2</u>	<u>738</u>	<u>6.81</u>	<u>9.8</u>	<u>15.50</u>	<u>1.80</u>	<u>139</u>	<u>2.230</u>	<u>Brown</u>	
<u>3</u>	<u>742</u>	<u>6.81</u>	<u>9.8</u>	<u>15.41</u>	<u>1.57</u>	<u>142</u>	<u>2.260</u>		
<u>4</u>	<u>746</u>	<u>6.81</u>	<u>9.8</u>	<u>15.38</u>	<u>1.48</u>	<u>143</u>	<u>2.290</u>		
<u>* Potential error with temp sensor</u>									
<i>*pH, temp, cond readings not necessary if well is purged dry</i>								Example Comments: clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour / drawdown depth	

<u>4</u>	Total Well Volume Actual amount of water prior to sampling	Sample time <u>750</u>	Containers used <u>6</u>
<u>250</u>	Flow rate mL/minute	Did field parameters stabilise? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA	Was the well dry purged? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N

Field QC Checks	
Was pre-cleaning sampling equipment used for these samples?	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Was pre-cleaning sampling equipment properly protected from contamination?	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Was documentation of equipment conducted?	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
Were air bubbles present in vials at time of collection?	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> NA
Was sample for metals field filtered prior to preservations?	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
Duplicate sample collected?	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Rinsate blank collected?	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Duplicate sample ID _____	
Rinsate blank ID <u>REL 181213-J6</u>	



Groundwater - Well Sampling Data Form

Job Information	
Date: <u>20/12/13</u>	Time: arrive <u>0700</u> depart _____
Project Name: <u>Symphony</u>	Project Number: <u>0224193</u>
Site Location: <u>Bayswater</u>	Sampler: <u>GP/HC</u>
Well ID: <u>BY-MW29</u>	Weather: <u>fine, hot</u>

Equipment	
Water quality equipment description: <u>YSI Pro # 111K101262</u> Interface probe number: <u>Solinst 122 # 55191</u>	
Purging equipment: (please circle)	Bailer type: <input checked="" type="radio"/> Plastic <input type="radio"/> Teflon
	Pump type: <input type="radio"/> Peristaltic <input type="radio"/> Submersible <input type="radio"/> Micro-purge <input type="radio"/> Amazon <input type="radio"/> Other:

Well Gauging and Purge Volume Calculations									
Casing Diameter	25mm	<u>50mm</u>	100mm	125mm	150mm	200mm	250mm	300mm	Volume of water in well / V $V = \pi r^2 h$ V = volume in litres $P = 3.14159$ r = radius in cm h = height of water column in cm
Conversion Factor (volume in factor L/m)	0.49	<u>1.96</u>	7.85	12.3	17.7	31.4	49.1	70.7	
Total Well Depth	(-) Water level	(=) Water Column							
<u>12.215</u> m	(-) <u>11.458</u> m	(=) <u>~1.3</u> m							
	Water Column	(x) Conversion Factor	(=) Litres per 1 Well Volume						
	<u>1.3</u> m	(x) <u>~2</u>	(=) <u>~2.6</u> L						
Depth to product: _____ m	Product Thickness: <u>NA</u> m	Verified with Bailer: <input checked="" type="radio"/> Y <input type="radio"/> N							

Water Quality Parameters								
Beginning purge time:			Ending purge time:				Pump Intake Depth (mbtoc): _____	
Litres	Time	PH	Temp °C	Cond µS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
<u>1</u>	<u>10:43</u>	<u>7.86</u>	<u>22.1</u>	<u>3789</u>	<u>57.19</u>	<u>38.6</u>	<u>—</u>	<u>cloudy, brown, no odour</u>
								<u>* grab sample only, known to have very slow recharge</u>

*pH, temp, cond readings not necessary if well is purged dry

Example Comments: clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour / drawdown depth

<u>—</u>	Total Well Volume Actual amount of water prior to sampling	Sample time <u>1050</u>	Containers used <u>6</u>
<u>—</u>	Flow rate mL/minute	Did field parameters stabilise? <input type="radio"/> Y <input type="radio"/> N <input checked="" type="radio"/> NA	Was the well dry purged? <input type="radio"/> Y <input checked="" type="radio"/> N

Field QC Checks		
Was pre-cleaned sampling equipment used for these samples?	<input checked="" type="radio"/> Y	<input type="radio"/> N
Was pre-cleaning sampling equipment properly protected from contamination?	<input checked="" type="radio"/> Y	<input type="radio"/> N
Was documentation of equipment conducted?	<input checked="" type="radio"/> Y	<input type="radio"/> N <input type="radio"/> NA
Were air bubbles present in vials at time of collection?	<input type="radio"/> Y	<input checked="" type="radio"/> N <input type="radio"/> NA
Was sample for metals field filtered prior to preservations?	<input checked="" type="radio"/> Y	<input type="radio"/> N <input type="radio"/> NA
Duplicate sample collected?	<input type="radio"/> Y	<input checked="" type="radio"/> N
Rinsate blank collected?	<input type="radio"/> Y	<input checked="" type="radio"/> N
	Duplicate sample ID	_____
	Rinsate blank ID	_____

Annex F

Quality Assurance and Quality Control Assessment

The objective of this data assessment is to evaluate the quality of data gathered during the project. This process has been undertaken to assess whether the sample data is of a suitable standard to be utilised in this report. The data assessment consists of comparing field and laboratory QA/QC results to documented NEPM, ANZECC, USEPA SW-846 guidelines, USEPA CLP National Functional Guidelines for Inorganic and Organic Data Review, and other internationally recognised publications. The data assessment has been prepared in accordance with the NEPC (2013) *National Environmental Protection (Assessment of Site Contamination) Measure 1999* and NSW EPA (1997) *Guidelines for Consultants Reporting on Contaminated Sites* and NSW DEC (2006) *Guidelines for the NSW Site Auditor Scheme (2nd Edition)*. Particular reference is made to the PARCC parameters (precision, accuracy, representativeness, completeness and comparability) in evaluating the data quality.

Table F1 presents the degree of QA/QC pertinent to the field investigations.

Table F2 presents the degree of QA/QC pertinent to the laboratory program.

The data quality indicators of precision, accuracy, representativeness, comparability and completeness have been assessed as shown in *Table F3*.

Table F1 Field QA/QC Assessment

QA/QC Criterion	Comments
QA/QC program includes replicate samples	Field quality control samples including 34 intra-laboratory duplicates (25 soil, 5 groundwater, 2 surface water and 2 sediment) were analysed to demonstrate the suitability of the validation program. 22 inter-laboratory duplicate samples (14 soil, 5 groundwater, 3 surface water) were sent to a second laboratory. The number of samples analysed, including QA/QC replicates, is presented in <i>Table F.4</i> . Duplicate samples were collected following ERM standard operating procedures, at a ratio slightly below the required ratio of one duplicate for 10 primary samples (1:11); however this is not considered to have material impacts on the investigation.
All relevant media assessed	Soil and groundwater samples were collected from all identified Areas of Environmental Concern (AECs) as part of the characterisation program.
Appropriateness of sampling strategy	Based on the results of the Preliminary ESA and consideration of the intended approach to establishing a baseline of soil and groundwater contamination, the most appropriate sampling design was considered to be a judgemental (targeted) sampling of soil, groundwater, surface water and sediments at the established AECs for the Site. The spatial coverage achieved was considered to be suitable in achieving the project objectives within the constraints of safe and reasonable access. Where investigation locations were not able to be completed due to logistical issues, these were discussed in the report. s

QA/QC Criterion	Comments
Sample collection, handling and transportation procedures.	Samples were collected, handled and transported following ERM standard operating procedures as described in the <i>Bayswater Power Station Sampling and Analysis Quality Plan</i> (ERM, 2013).
Sampling is representative of site conditions	<p>Representative samples were collected from all identified AECs including soil, groundwater, surface water and sediment.</p> <ul style="list-style-type: none"> • Field screening - including PID measurements and visual/olfactory observations were noted throughout the drilled profile; • Sample Collection - samples were generally collected at the surface and 0.5 m intervals for the first 2 m and every 1 m thereafter, or where changes in lithological units or significant contamination were noted; and • Sample Analysis - generally one shallow sample targeting fill and the zone of surface impacts (0-1.5 m bgl) and one deeper sample targeting natural soil/geology between vadose zone and water bearing unit. • Groundwater - selected soil bores were converted to monitoring wells and groundwater samples were collected. Groundwater monitoring wells were selected to target areas with potential impact or boundary/background areas and to aid in the assessment of groundwater flow directions.
Field QA/QC plan	<p>The sampling team comprised suitably qualified and experienced ERM environmental scientists.</p> <p>Borehole logs and/or other sampling records were completed, describing the media sampled, the duplicate types and sampling locations.</p> <p>Samples were collected using a combination of hand auger and push tube drilling techniques. Soil samples were placed in laboratory supplied sample jars, stored in an insulated cooler, and forwarded to the NATA accredited laboratory under COC conditions. The methods used to collect the samples, the types of sample containers, preservation techniques and custody protocols were documented appropriately.</p> <p>Inter-laboratory and intra-laboratory analytical results and their relative percentage differences (RPDs) are presented in <i>Table F5 Series</i>. Samples were not homogenised prior to splitting to minimise loss of volatile analytes. The RPDs of the duplicate sample pairs were generally below the acceptance limits (30% RPD where one or both values were greater than 10 x LOR or 50% RPD where both values less than 10 x LOR). An evaluation of the analytical data indicated that the data was generally of acceptable precision and accuracy. Minor exceedences of RPD acceptable limits were noted for some primary and duplicate sample pairs, as presented in <i>Table F5 Series</i> and summarised below.</p> <p>Decontamination procedures were implemented between the collection of different samples. The processes followed were considered suitable for minimising cross-contamination during sampling. Rinsate blanks were collected to demonstrate the efficacy of the decontamination procedures (refer to <i>Table F6 Series</i>). Contaminants of concern were below the laboratory limit of reporting in the rinsate samples with the minor exceptions presented in <i>Table F6 Series</i> and summarised below.</p> <p>Trip blank samples were collected as part of this investigation. All COPCs were reported below the laboratory LOR (refer to <i>Table F7 Series</i>).</p>

QA/QC Criterion	Comments
	<p data-bbox="488 230 1355 389">Trip spikes were collected as part of this investigation. Comparison with a trip spike control sample retained by the laboratory did not indicate unacceptable loss of volatile analytes during sample transport with the exception of four batches of soil samples (refer to <i>Table F8 Series</i>). Further discussion on trip spike non-conformances for soil and sediment samples are provided below.</p> <p data-bbox="488 409 1355 510">Field instruments used as part of this investigation were appropriately calibrated and used according to the manufacturers' instructions (refer to <i>Annex E</i>).</p>

Field QA/QC Exceedences

Minor exceedences of field duplicate RPD acceptable limits were noted for primary and duplicate samples, as presented in *Table F5 Series*. Elevated relative percentage differences (RPDs) between soil/sediment duplicate samples were generally attributed to the heterogeneity of the soil matrix. The analytes were generally well below the adopted guideline value (where available) and therefore these non-conformances were not expected to materially affect the outcomes of this investigation. Elevated RPDs between some groundwater/surface water duplicate sample pairs were generally only marginally above the adopted acceptable limits or reflected the small difference between concentrations which were close to the laboratory limit of reporting (LOR). These non-conformances were not expected to materially affect the outcomes of this investigation. In one case the zinc concentration of D01_281113_TA/W (0.024 mg/L) was adopted for primary sample BW_SS19 (<0.005 mg/L) as a conservative measure.

Rinsate samples collected during the drilling/soil sampling program were taken from decontaminated push tube cutting shoes, solid flight augers or hand augers. Seven of 24 rinsate samples collected during the drilling/soil sampling program were reported to contain minor concentrations of barium, copper, manganese and molybdenum above the laboratory LOR. These reported concentrations were minor only and are unlikely to materially affect the outcomes of this investigation. Rinsate samples collected during groundwater sampling were taken following decontamination of the interface probe, or from the micropurge pump (when used). Of the 23 rinsate samples collected during the groundwater and surface water sampling program, eight rinsate samples were reported to contain minor concentrations of barium, chromium, copper, manganese, nickel, zinc. The source of these heavy metals may be the rinsate water supplied by the laboratory or cross-contamination from airborne dust present during collection. It is noted that the concentrations of heavy metals detected in the rinsate samples were close to the LOR and did not exceed concentrations measured in groundwater collected from areas considered to represent background concentrations on-site. While the rinsate samples suggest there may have been some cross-contamination of low-level heavy metals, this is unlikely to materially affect the outcomes of the investigation.

Fourteen out of 32 trip spikes analysed as part of the drilling/soil and sediment sampling program were not within the acceptable recovery limits of 70% to 130% compared to the corresponding trip spike control samples held by the laboratory. Four trip spike samples reported recoveries below 50% compared to the trip spike control samples, suggesting that there were issues with particular trip spikes supplied by the laboratory or significant loss of volatiles during transport. The trip spike analysed in laboratory batch ES1325572 reported BTEX concentrations below the laboratory LOR. Soil samples BR_MW05_14 and BR_MW05_31 were also transported to the laboratory with this trip spike. The trip spike sample analysed as part of laboratory batches ES1326082, ES1326990 and ES1327432 reported BTEX recoveries of approximately 30%. Soil samples BA_MW02_0.2, BA_MW02_2.1, BO_MW05_1.8, BO_MW05_2.5, BF_MW07_0.15, BF_MW05_0.5, D01_051213_HC, BF_MW06_0.2, BF_SB05_0.5, BF_SB06_0.5, BF_SB07_0.75, BF_SB07_1.5, BF_MW07_2.4, BF_MW05_3.0, D01_061213_JG, BW_SS35, BW_SS36, BW_SS37, BW_SS38, BW_SS39 and D01_261113_TA/S were also transported to the laboratory with these trip spikes. A review of the borelogs from samples analysed in laboratory batches ES1326082, ES1326990 indicated that PID field screening results were less than 5 ppmv, suggesting that VOCs were not a significant contaminant of concern in these samples. It is noted that the trip spike analysed as part of the laboratory batch ES1327432 was analysed 5 days out of the 14 day holding time, due to shipping issues to/from the laboratory, which may have resulted in loss of volatiles over time.

Trip spike and trip blank samples were utilised in the majority of batches submitted to the laboratory. Where trip spike and trip blank samples did not accompany samples, the primary samples for analysis of VOCs were generally received in good condition under chain of custody conditions and analysed within the recommended holding times.

Table F2 Laboratory QA/QC Assessment

QA/QC Criterion	Comments
Appropriate methodologies used for sample analyses	The primary laboratory used for the investigation was NATA accredited ALS, NATA Registration No. 825. The secondary laboratory used for the investigation was NATA accredited Envirolab, NATA Registration No 2901. All laboratory reports were NATA stamped and signed by a NATA signatory. All analytical methodologies were considered appropriate for the identified contaminants of potential concern in the matrix.
	Statistical data presented in the laboratory QA/QC report was considered adequate in demonstrating the precision and accuracy of the methods used to analyse field samples.
Appropriate practical quantitation limits (LORs)	LORs for each analyte are presented in the laboratory reports. All sample results were reported with LORs below the site assessment criteria with the exception of a small number of chlorinated hydrocarbons, halogenated hydrocarbons, mercury and benzo(a)pyrene.

QA/QC Criterion	Comments
Laboratory QA/QC plan	<p>Copies of signed chain of custody forms were returned by the laboratory.</p> <p>Samples were received and analysed within specified laboratory holding times with the exception of those samples listed in <i>Table F9 Series</i>. This information was documented on the laboratory reports. In most cases the sample was only marginally analysed outside of the recommended laboratory holding time, which is not considered to have material effects on the investigation.</p> <p>The analytical methods used were NATA approved as documented on the laboratory reports.</p> <p>Laboratory quality control samples included laboratory control samples, internal duplicates, matrix spikes and method blanks. The types of QA/QC samples analysed by the laboratory for the documented samples were considered sufficient to assess the precision and accuracy of the laboratory methods used.</p> <p>The statistical data presented in the laboratory QA/QC report was considered adequate in demonstrating the precision and accuracy of the methods used to analyse field samples. Minor exceedences of the acceptance criteria were noted, as presented in <i>Table F10 Series</i> to <i>Table F12 Series</i> and <i>Table F13</i>.</p>

Table F3 Overall Sampling and Analysis Methodology Assessment

Field Considerations	Laboratory Considerations
Precision Requirements	
The investigation was conducted following ERM SOPs and any variations from these procedures were documented.	<p>Analysis of the following were reported:</p> <ul style="list-style-type: none"> • Laboratory and inter-laboratory duplicates; • Field duplicates; • Laboratory prepared volatile trip spikes.
Precision Comments	
<p>No variations from ERM SOPs were noted. Field split duplicates were generally reported within the acceptance limits of 30% RPD where one or both values were greater than 10 x LOR or 50% RPD where both values less than 10 x LOR. Minor exceedences were noted, as presented in <i>Table F5 Series</i>. Trip spike recoveries were within the acceptance limits of 70% to 130% RPD. Exceedences were noted, as presented in <i>Table F8 Series</i>. Trip spike recoveries from four trip spikes were not within acceptable ranges. As a result, analytical data for volatile contaminants from laboratory reports ES1325572, ES1325572, ES1326990 and ES1327432 must be considered as estimate only. It is noted that PID field screening results from samples collected as part of these laboratory batches, where available, suggested that volatiles were not likely to be present. The site activities in the AECs where these samples were collected were considered unlikely to lead to impact from VOCs, with the exception of Ravensworth rehabilitation area (AEC BR), where spontaneous combustion of coal fragments present in mining spoil may lead to production of some VOCs in the gas phase. As spontaneous combustion issues are well known in this area, the non-conformances for trip spike recoveries are not considered to affect the outcome of the assessment.</p>	
Accuracy Requirements	
The investigation was conducted following ERM SOPs and any variations from these procedures were documented.	<p>Analysis of the following were reported:</p> <ul style="list-style-type: none"> • Field blanks; • Rinsate blanks; • Reagent blanks; • Method blanks; • Matrix spikes; • Surrogate spikes;

Field Considerations	Laboratory Considerations
----------------------	---------------------------

- Laboratory control samples;
- Laboratory prepared spikes

Accuracy Comments

No variations from ERM SOPs were noted. Laboratory QA/QC samples were reported within the acceptance limits specified in the laboratory reports. Exceptions are presented in *Table F10 Series* to *Table F12 Series* and *Table F13* and the laboratory reports.

Representativeness Requirements

Appropriate media were identified and sampled according to the SAQP. All samples were analysed according to the SAQP.

Representativeness Comments

No exceedences of the requirements were noted.

Comparability Requirements

The same SOPs were used during each sampling event. Analytical methods suitable for the target media were used.

All sampling was conducted by an appropriately qualified and experienced sampler. The LORs used to report analyte concentrations were less than the adopted investigation levels.

Impacts of climatic conditions on sample integrity were minimised by. The same laboratories were used to analyse all sample.

The types of samples collected were consistent. The same units were used to report analyte concentrations.

Results of Field Screening comparable with Lab analysis. Results of Lab analysis comparable with field screening results.

Results of TPH C6-C9 comparable to BTEX etc.

Comparability Comments

All sample results were reported with LORs below the site assessment criteria with the exception of a small number of chlorinated hydrocarbons, halogenated hydrocarbons, mercury and benzo(a)pyrene.

Completeness Requirements

All critical locations were sampled (from grid and at depth). All critical samples were analysed according to SAQP.

The investigation was conducted following ERM SOPs and any variations from these procedures were documented. All analytes were analysed according to the SAQP.

All sampling was conducted by an appropriately qualified and experienced sampler. Appropriate analysis methods and LORs were used.

Sample documentation was provided.

Documentation of field works was provided. Sample holding times were complied with.

Completeness Comments

Holding time exceptions are presented in *Table F9 Series* and the laboratory reports. Where investigation locations were not able to be completed due to logistical issues, these were discussed in the report. Given the extent of investigation successfully completed across the site, including targeting of potential sources within AECs, the variations from the SAQP were minor and are generally not considered to affect the outcomes of the investigation. Some key data gaps were identified and recommendations for further investigation and/or confirmatory sampling were made in regards to these areas in the report.



Table F4. QA/QC Summary of Samples Analysed
 Bayswater Power Station - Stage 2 ESA
 Project Symphony - 0224193

Matrix Type	Soil	Groundwater	Surface Water	Sediment
First Sample Date	31/10/2013	31/10/2013	22/11/2013	22/11/2013
Last Sample Date	20/12/2013	20/12/2013	6/12/2013	6/12/2013
Sampling Period (days)	51	27	15	11
Number of Samples Submitted	481	170	54	58
Number of Non QA Samples Submitted	414	115	44	49
Number of Trip Blanks	27	16	3	4
Number of Rinsates	24	21	2	0
Number of Field Duplicates	25	5	2	2
Number of Interlab Duplicates	14	5	3	0
Number of Trip Spikes	28	18	3	4
Number of Lab Duplicates	692	302	41	89
Number of LCSs	337	248	27	54
Number of Method Blanks	279	171	21	49
Number of Matrix Spikes	291	167	21	48



Field Duplicates (SOIL)		SDG	ES1323960	ES1323960	ES1323960	ES1323960	ES1324259	ES1324259	ES1324374	ES1324374	ES1324459	ES1324459	ES1324590	ES1324590								
Field_ID	Sampled_Date-Time	Field_ID	Sampled_Date-Time	RPD	Field_ID	Sampled_Date-Time	RPD	Field_ID	Sampled_Date-Time	RPD	Field_ID	Sampled_Date-Time	RPD	Field_ID	Sampled_Date-Time	RPD						
Chem	Grp	ChemName	Units	EQL																		
BTEX		Benzene	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0						
		Toluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0						
		Ethylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0						
		Xylene (o)	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0						
		Xylene (m & p)	mg/kg	0.5 (Primary): 2 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0						
		Xylene Total	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0						
		Total BTEX	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0						
Chlorinated		1,1,1,2-tetrachloroethane	mg/kg	0.5																		
		1,1,1-trichloroethane	mg/kg	0.5																		
		1,1,2,2-tetrachloroethane	mg/kg	0.5																		
		1,1,2-trichloroethane	mg/kg	0.5																		
		1,1-dichloroethane	mg/kg	0.5																		
		1,1-dichloroethene	mg/kg	0.5																		
		1,1-dichloropropene	mg/kg	0.5																		
		1,2,3-trichloropropane	mg/kg	0.5																		
		1,2-dibromo-3-chloropropane	mg/kg	0.5																		
		1,2-dichloroethane	mg/kg	0.5																		
		1,2-dichloropropane	mg/kg	0.5																		
		1,3-dichloropropane	mg/kg	0.5																		
		2,2-dichloropropane	mg/kg	0.5																		
		Bromodichloromethane	mg/kg	0.5																		
		Bromochloroethane	mg/kg	0.5																		
		Carbon tetrachloride	mg/kg	0.5																		
		Chlorodibromomethane	mg/kg	0.5																		
		Chloroethane	mg/kg	5																		
		Chloroform	mg/kg	0.5																		
		Chloromethane	mg/kg	5																		
		cis-1,2-dichloroethene	mg/kg	0.5																		
		cis-1,3-dichloropropene	mg/kg	0.5																		
		Dibromomethane	mg/kg	0.5																		
		Hexachlorobutadiene	mg/kg	0.5																		
		Trichloroethene	mg/kg	0.5																		
		Tetrachloroethene	mg/kg	0.5																		
		trans-1,2-dichloroethene	mg/kg	0.5																		
		trans-1,3-dichloropropene	mg/kg	0.5																		
		Vinyl chloride	mg/kg	5																		
Halogenate		1,2,3-trichlorobenzene	mg/kg	0.5																		
		1,2,4-trichlorobenzene	mg/kg	0.5																		
		1,2-dichlorobenzene	mg/kg	0.5																		
		1,3-dichlorobenzene	mg/kg	0.5																		
		1,4-dichlorobenzene	mg/kg	0.5																		
		2-chlorotoluene	mg/kg	0.5																		
		4-chlorotoluene	mg/kg	0.5																		
		Bromobenzene	mg/kg	0.5																		
		Chlorobenzene	mg/kg	0.5																		
Halogenate		1,2-dibromoethane	mg/kg	0.5																		
		Bromomethane	mg/kg	5																		
		Dichlorodifluoromethane	mg/kg	5																		
		Iodomethane	mg/kg	0.5																		
		Trichlorofluoromethane	mg/kg	5																		
Inorganics		CEC	meq/100g	0.1																		
		pH (Lab)	pH Units	0.1																		
Lead		Lead	mg/kg	5 (Primary): 1 (Interlab)	9.0	8.0	12	38.0	16.0	81	23.0	16.0	36	16.0	16.0	0	10.0	37.0	115	29.0	18.0	47
MAH		1,2,4-trimethylbenzene	mg/kg	0.5																		
		1,3,5-trimethylbenzene	mg/kg	0.5																		
		Isopropylbenzene	mg/kg	0.5																		
		n-butylbenzene	mg/kg	0.5																		
		n-propylbenzene	mg/kg	0.5																		
		p-isopropyltoluene	mg/kg	0.5																		
		sec-butylbenzene	mg/kg	0.5																		
		tert-butylbenzene	mg/kg	0.5																		
Metals		Arsenic	mg/kg	5 (Primary): 4 (Interlab)	21.0	10.0	71	16.0	12.0	29	20.0	9.0	76	8.0	6.0	29	<5.0	6.0	18	7.0	8.0	13
		Cadmium	mg/kg	1 (Primary): 0.4 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	1.0	1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
		Calcium	mg/kg	10																		
		Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	10.0	9.0	11	11.0	9.0	20	17.0	16.0	6	10.0	10.0	0	10.0	12.0	18	19.0	20.0	5
		Copper	mg/kg	5 (Primary): 1 (Interlab)	10.0	9.0	11	18.0	11.0	48	31.0	22.0	34	23.0	20.0	14	15.0	18.0	18	31.0	20.0	43
		Magnesium	mg/kg	10																		
		Nickel	mg/kg	2 (Primary): 1 (Interlab)	10.0	9.0	11	9.0	9.0	0	31.0	26.0	18	12.0	11.0	9	5.0	7.0	33	19.0	21.0	10
		Potassium	mg/kg	10																		
		Zinc	mg/kg	5 (Primary): 1 (Interlab)	48.0	43.0	11	100.0	101.0	1	107.0	94.0	13	63.0	54.0	15	40.0	59.0	38	288.0	131.0	75
PAH/Phenol		2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
		2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
		2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
		2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
		2-chlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
		2-methylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
		2-nitrophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
		3,4-dimethylphenol	mg/kg	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
		4-chloro-3-methylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
		Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
		Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
		Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
		Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5																



Field Duplicates (SOIL)

SDG	Field ID	ES1324590	ES1324590	ES1324722	ES1324722	ES1324837	ES1324837	ES1324838	ES1324838	ES1325015	ES1325015	ES1325015	ES1325015							
Field ID	Sampled Date-Time	BH_MW01_0.1	DUP20131108_02	BV_MW09_0.5	DUP20131111_AM01	BE_MW04_1.0	D01_151113_SM	BP_MW05_0.1	D01_141113_SM	BH_SB02_0.5	D01_131113_SM	BG_MW04_2.5	D01_131113_AM							
Chem Grp	ChemName	Units	EQL																	
BTEX	Benzene	mg/kg	0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2							
	Toluene	mg/kg	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5							
	Ethylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5							
	Xylene (o)	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5							
	Xylene (m & p)	mg/kg	0.5 (Primary): 2 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5							
	Xylene Total	mg/kg	0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5							
	Total BTEX	mg/kg	0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2							
Chlorinated	1,1,1,2-tetrachloroethane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	1,1,1-trichloroethane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	1,1,2,2-tetrachloroethane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	1,1,2-trichloroethane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	1,1-dichloroethane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	1,1-dichloroethene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	1,1-dichloropropene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	1,2,3-trichloropropane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	1,2-dibromo-3-chloropropane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	1,2-dichloroethane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	1,2-dichloropropane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	1,3-dichloropropane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	2,2-dichloropropane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	Bromodichloromethane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	Bromochloromethane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	Carbon tetrachloride	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	Chlorodibromomethane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	Chloroethane	mg/kg	5						<5.0	<5.0	0	<5.0	<5.0							
	Chloroform	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	Chloromethane	mg/kg	5						<5.0	<5.0	0	<5.0	<5.0							
	cis-1,2-dichloroethene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	cis-1,3-dichloropropene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	Dibromomethane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	Hexachlorobutadiene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	Trichloroethene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	Tetrachloroethene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	trans-1,2-dichloroethene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	trans-1,3-dichloropropene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	Vinyl chloride	mg/kg	5						<5.0	<5.0	0	<5.0	<5.0							
Halogenated	1,2,3-trichlorobenzene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	1,2,4-trichlorobenzene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	1,2-dichlorobenzene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	1,3-dichlorobenzene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	1,4-dichlorobenzene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	2-chlorotoluene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	4-chlorotoluene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	Bromobenzene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	Chlorobenzene	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
Halogenated	1,2-dibromoethane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	Bromomethane	mg/kg	5						<5.0	<5.0	0	<5.0	<5.0							
	Dichlorodifluoromethane	mg/kg	5						<5.0	<5.0	0	<5.0	<5.0							
	Iodomethane	mg/kg	0.5						<0.5	<0.5	0	<0.5	<0.5							
	Trichlorofluoromethane	mg/kg	5						<5.0	<5.0	0	<5.0	<5.0							
Inorganics	CEC	meq/100g	0.1							12.0	12.8	6								
	pH (Lab)	pH Units	0.1							7.8	7.8	0								
Lead	Lead	mg/kg	5 (Primary): 1 (Interlab)	29.0	19.0	42	16.0	15.0	6	11.0	12.0	9	14.0	12.0	15	17.0	16.0	6	29.0	23.0
MAH	1,2,4-trimethylbenzene	mg/kg	0.5							<0.5	<0.5	0	<0.5	<0.5						
	1,3,5-trimethylbenzene	mg/kg	0.5							<0.5	<0.5	0	<0.5	<0.5						
	Isopropylbenzene	mg/kg	0.5							<0.5	<0.5	0	<0.5	<0.5						
	n-butylbenzene	mg/kg	0.5							<0.5	<0.5	0	<0.5	<0.5						
	n-propylbenzene	mg/kg	0.5							<0.5	<0.5	0	<0.5	<0.5						
	p-isopropyltoluene	mg/kg	0.5							<0.5	<0.5	0	<0.5	<0.5						
	sec-butylbenzene	mg/kg	0.5							<0.5	<0.5	0	<0.5	<0.5						
	tert-butylbenzene	mg/kg	0.5							<0.5	<0.5	0	<0.5	<0.5						
Metals	Arsenic	mg/kg	5 (Primary): 4 (Interlab)	7.0	7.0	0	9.0	8.0	12	7.0	8.0	13	16.0	7.0	78	14.0	15.0	7	27.0	16.0
	Cadmium	mg/kg	1 (Primary): 0.4 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0
	Calcium	mg/kg	10													70.0	650.0	161		
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	19.0	24.0	23	14.0	15.0	7	16.0	16.0	0	8.0	7.0	13	8.0	8.0	0	28.0	26.0
	Copper	mg/kg	5 (Primary): 1 (Interlab)	31.0	21.0	38	26.0	25.0	4	20.0	22.0	10	20.0	22.0	10	17.0	17.0	0	30.0	33.0
	Magnesium	mg/kg	10													10.0	50.0	133		
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	19.0	19.0	0	28.0	26.0	7	17.0	20.0	16	12.0	12.0	0	19.0	19.0	0	38.0	36.0
	Potassium	mg/kg	10													20.0	30.0	40		
	Zinc	mg/kg	5 (Primary): 1 (Interlab)	288.0	128.0	77	79.0	79.0	0	66.0	68.0	3	164.0	142.0	14	66.0	75.0	13	115.0	118.0
PAH/Phenol	2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5
	2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5
	2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5
	2-chlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5
	2-methylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5
	2-nitrophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5
	3,4-methylphenol	mg/kg	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0
	4-chloro-3-methylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5
	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5
	Benz(a)anthracene	mg/kg																		



Field Duplicates (SOIL)
Filter: SDG in('ES1325018','ES1325572','ES13255')

Field ID	Sampled Date-Time	ES1326688 D01_271113_WG	RPD	ES1326695 BO_MW05_0.15 2/12/13	ES1326695 D01_021213_HC 2/12/13	RPD	ES1325018 BX_MW03_0.2 14/11/13	Interlab_D T01_141113_TC 14/11/13	RPD	ES1325580 BL_SB04_2.9 21/11/13	Interlab_D D02_211113_TC 21/11/13	RPD	ES1325580 BL_MW02_3.0 21/11/13	Interlab_D T01_211113-AM 21/11/13	RPD	ES1325882 BH_SB08_3.0 19/11/13	Interlab_D D01_191113_SM 19/11/13		
Chem_Grd	ChemName	Units	EQL																
BTEX	Perfluorooctanoate	mg/kg	0.0005																
	Benzene	mg/kg	0.2	1.9	27	<0.2	<0.2	0	<0.2	<0.2	0	<0.0005	<0.0005	0	<0.2	<0.2	0		
	Ethylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<1.0	0	<0.5	<1.0	0	<0.5	<1.0	0		
	Xylene (m & p)	mg/kg	0.5 (Primary): 2 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<2.0	0	<0.5	<2.0	0	<0.5	<2.0	0		
	Xylene Total	mg/kg	0.5	<0.5	0	<0.5	<0.5	0	<0.5	<2.0	0	<0.5	<2.0	0	<0.5	<2.0	0		
	Total BTEX	mg/kg	0.2	1.9	27	<0.2	<0.2	0											
Chlorinated	1,1,1,2-tetrachloroethane	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,1,1-trichloroethane	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,1,2,2-tetrachloroethane	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,1,2-trichloroethane	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,1-dichloroethane	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,1-dichloroethene	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,1-dichloropropene	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,2,3-trichloropropane	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,2-dibromo-3-chloropropane	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,2-dichloroethane	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,2-dichloropropane	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,3-dichloropropane	mg/kg	0.5 (Primary): 1 (Interlab)																
	2,2-dichloropropane	mg/kg	0.5 (Primary): 1 (Interlab)																
	Bromodichloromethane	mg/kg	0.5 (Primary): 1 (Interlab)																
	Bromochloromethane	mg/kg	0.5 (Primary): 1 (Interlab)																
	Bromoform	mg/kg	0.5 (Primary): 1 (Interlab)																
	Carbon tetrachloride	mg/kg	0.5 (Primary): 1 (Interlab)																
	Chlorodibromomethane	mg/kg	0.5 (Primary): 1 (Interlab)																
	Chloroethane	mg/kg	5 (Primary): 1 (Interlab)																
	Chloroform	mg/kg	0.5 (Primary): 1 (Interlab)																
	Chloromethane	mg/kg	5 (Primary): 1 (Interlab)																
	cis-1,2-dichloroethene	mg/kg	0.5 (Primary): 1 (Interlab)																
	cis-1,3-dichloropropene	mg/kg	0.5 (Primary): 1 (Interlab)																
	Dibromomethane	mg/kg	0.5 (Primary): 1 (Interlab)																
	Hexachlorobutadiene	mg/kg	0.5 (Primary): 1 (Interlab)																
	Trichloroethene	mg/kg	0.5 (Primary): 1 (Interlab)																
	Tetrachloroethene	mg/kg	0.5 (Primary): 1 (Interlab)																
	trans-1,2-dichloroethene	mg/kg	0.5 (Primary): 1 (Interlab)																
	trans-1,3-dichloropropene	mg/kg	0.5 (Primary): 1 (Interlab)																
	Vinyl chloride	mg/kg	5 (Primary): 1 (Interlab)																
Halogenated	1,2,3-trichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,2,4-trichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,2-dichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,3-dichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,4-dichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)																
	2-chlorotoluene	mg/kg	0.5 (Primary): 1 (Interlab)																
	4-chlorotoluene	mg/kg	0.5 (Primary): 1 (Interlab)																
	Bromobenzene	mg/kg	0.5 (Primary): 1 (Interlab)																
	Chlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)																
Halogenated	1,2-dibromoethane	mg/kg	0.5 (Primary): 1 (Interlab)																
	Bromomethane	mg/kg	5 (Primary): 1 (Interlab)																
	Dichlorodifluoromethane	mg/kg	5 (Primary): 1 (Interlab)																
	Iodomethane	mg/kg	0.5																
	Trichlorofluoromethane	mg/kg	5 (Primary): 1 (Interlab)																
Inorganics	CEC	meq/100g	0.1 (Primary): 1 (Interlab)		24.1	21.2	13								18.7	20.0			
	pH (Lab)	pH Un	0.1	6.0	6.2	7.6	7.6	0											
Lead	Lead	mg/kg	5 (Primary): 1 (Interlab)	16.0	0	17.0	14.0	19	16.0	14.0	13	17.0	17.0	0	14.0	14.0	0	19.0	14.0
MAH	1,2,4-trimethylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)																
	1,3,5-trimethylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)																
	Isopropylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)																
	n-butylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)																
	n-propylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)																
	p-isopropyltoluene	mg/kg	0.5 (Primary): 1 (Interlab)																
	sec-butylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)																
	Styrene	mg/kg	0.5 (Primary): 1 (Interlab)																
	tert-butylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)																
Metals	Arsenic	mg/kg	5 (Primary): 4 (Interlab)	16.0	6	27.0	8.0	109	12.0	9.0	29	6.0	9.0	40	8.0	9.0	12	6.0	11.0
	Barium	mg/kg	10 (Primary): 1 (Interlab)	160.0	13	190.0	130.0	38											
	Beryllium	mg/kg	1	1.0	0	1.0	1.0	0											
	Cadmium	mg/kg	1 (Primary): 0.4 (Interlab)	1.0	0	<1.0	<1.0	0	<1.0	<0.4	0	<1.0	<0.4	0	<1.0	<0.4	0	<1.0	<0.4
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	6.0	0	23.0	20.0	14	16.0	11.0	37	10.0	10.0	0	16.0	12.0	29	28.0	23.0
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)	29.0	4	13.0	11.0	17											
	Copper	mg/kg	5 (Primary): 1 (Interlab)	25.0	4	22.0	19.0	15	19.0	18.0	5	11.0	17.0	43	24.0	16.0	40	30.0	26.0
	Manganese	mg/kg	5 (Primary): 1 (Interlab)	538.0	2	177.0	172.0	3											
	Mercury	mg/kg	0.1	4.4	35	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1
	Molybdenum	mg/kg	2 (Primary): 1 (Interlab)	<2.0	0	<2.0	<2.0	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	37.0	3	22.0	19.0	15	20.0	18.0	11	11.0	12.0	9	20.0	18.0	11	18.0	13.0
	Thallium	mg/kg	5 (Primary): 2 (Interlab)	<5.0	0	<5.0	<5.0	0											
	Vanadium	mg/kg	5 (Primary): 1 (Interlab)	29.0	0	50.0	43.0	15											
	Zinc	mg/kg	5 (Primary): 1 (Interlab)	121.0	0	60.0	56.0	7	136.0	120.0	13	46.0	59.0	25	70.0	84.0	18	64.0	56.0
Other	PFOS	µg/kg	0.5 (Primary): 1 (Interlab)									0.6	<1.0	0					
PAH/Phenol	2,4,5-trichlorophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0											
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0											
	2,4-dimethylphenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0											
	2,6-dichlorophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0											
	2-chlorophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0											
	2-methylphenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0											
	2-nitrophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0											
	3,4-dimethylphenol	mg/kg	1	<1.0	0	<1.0	<1.0	0											
	4-chloro-3-methylphenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0											
	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1						



Field Duplicates (SOIL)
Filter: SDG in ('ES1325018','ES1325572','ES13255')

SDG	Field_ID	RPD	ES1326079	Interlab_D	RPD	ES1326698	Interlab_D	RPD
	Sampled_Date-Time		BU_SB01_2.0	T01_271113_HC		BR_MW09_2-3MBGS	T01_271113_WC	
			27/11/13	27/11/13		27/11/13	27/11/13	

Chem_Grd	ChemName	Units	EQL							
	Perfluorooctanoate	mg/kg	0.0005							
BTEX	Benzene	mg/kg	0.2	0	<0.2	<0.2	0	2.5	1.0	86
	Ethylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)	0	<0.5	<1.0	0	<0.5	<1.0	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 2 (Interlab)	0	<0.5	<2.0	0	<0.5	<2.0	0
	Xylene Total	mg/kg	0.5					<0.5		
	Total BTEX	mg/kg	0.2					2.5		
Chlorinated	1,1,1,2-tetrachloroethane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,1,1-trichloroethane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,1,2,2-tetrachloroethane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,1,2-trichloroethane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,1-dichloroethane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,1-dichloroethene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,1-dichloropropene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,2,3-trichloropropane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,2-dibromo-3-chloropropane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,2-dichloroethane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,2-dichloropropane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,3-dichloropropane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	2,2-dichloropropane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Bromodichloromethane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Bromochloromethane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Carbon tetrachloride	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Chlorodibromomethane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Chloroethane	mg/kg	5 (Primary): 1 (Interlab)		<5.0	<1.0	0			
	Chloroform	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Chloromethane	mg/kg	5 (Primary): 1 (Interlab)		<5.0	<1.0	0			
	cis-1,2-dichloroethene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	cis-1,3-dichloropropene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Dibromomethane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Hexachlorobutadiene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Trichloroethene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Tetrachloroethene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	trans-1,2-dichloroethene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	trans-1,3-dichloropropene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Vinyl chloride	mg/kg	5 (Primary): 1 (Interlab)		<5.0	<1.0	0			
Halogenated	1,2,3-trichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,2,4-trichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,2-dichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,3-dichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,4-dichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	2-chlorotoluene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	4-chlorotoluene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Bromobenzene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Chlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
Halogenated	1,2-dibromoethane	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Bromomethane	mg/kg	5 (Primary): 1 (Interlab)		<5.0	<1.0	0			
	Dichlorodifluoromethane	mg/kg	5 (Primary): 1 (Interlab)		<5.0	<1.0	0			
	Iodomethane	mg/kg	0.5							
	Trichlorofluoromethane	mg/kg	5 (Primary): 1 (Interlab)		<5.0	<1.0	0			
Inorganics	CEC	meq/100g	0.1 (Primary): 1 (Interlab)	7						
	pH (Lab)	pH Un	0.1					11.4		
Lead	Lead	mg/kg	5 (Primary): 1 (Interlab)	30	12.0	15.0	22	16.0	15.0	6
MAH	1,2,4-trimethylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	1,3,5-trimethylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Isopropylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	n-butylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	n-propylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	p-isopropyltoluene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	sec-butylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	Styrene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
	tert-butylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)		<0.5	<1.0	0			
Metals	Arsenic	mg/kg	5 (Primary): 4 (Interlab)	59	10.0	6.0	50	17.0	13.0	27
	Barium	mg/kg	10 (Primary): 1 (Interlab)					140.0	50.0	95
	Beryllium	mg/kg	1		1.0	1.0	0	1.0	1.0	0
	Cadmium	mg/kg	1 (Primary): 0.4 (Interlab)	0	<1.0	<0.4	0	1.0	0.4	86
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	20	12.0	11.0	9	6.0	5.0	18
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)		28.0	25.0	11	28.0	25.0	42
	Copper	mg/kg	5 (Primary): 1 (Interlab)	14	19.0	18.0	5	26.0	17.0	42
	Manganese	mg/kg	5 (Primary): 1 (Interlab)		525.0	440.0	18	525.0	440.0	18
	Mercury	mg/kg	0.1	0	<0.1	<0.1	0	3.1	4.2	30
	Molybdenum	mg/kg	2 (Primary): 1 (Interlab)		<2.0	<1.0	0	<2.0	<1.0	0
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	32	15.0	19.0	24	36.0	32.0	12
	Thallium	mg/kg	5 (Primary): 2 (Interlab)		<5.0	<2.0	0	<5.0	<2.0	0
	Vanadium	mg/kg	5 (Primary): 1 (Interlab)		29.0	23.0	23	29.0	23.0	23
	Zinc	mg/kg	5 (Primary): 1 (Interlab)	13	105.0	58.0	58	121.0	110.0	10
Other	PFOS	µg/kg	0.5 (Primary): 1 (Interlab)							
PAH/Phenol	2,4,5-trichlorophenol	mg/kg	0.5					<0.5		
	2,4,6-trichlorophenol	mg/kg	0.5					<0.5		
	2,4-dimethylphenol	mg/kg	0.5					<0.5		
	2,6-dichlorophenol	mg/kg	0.5					<0.5		
	2-chlorophenol	mg/kg	0.5					<0.5		
	2-methylphenol	mg/kg	0.5					<0.5		
	2-nitrophenol	mg/kg	0.5					<0.5		
	3,4-methylphenol	mg/kg	1					<1.0		
	4-chloro-3-methylphenol	mg/kg	0.5					<0.5		
	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	<0.1	0
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	<0.1	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	<0.1	0
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	<0.1	0
	Benzo(a)pyrene	mg/kg	0.5 (Primary): 0.05 (Interlab)	0	<0.5	<0.05	0	<0.5	<0.05	0
	Benzo(b)fluoranthene	mg/kg	0.5					<0.5		
	Benzo(g,h,i)perylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	<0.1	0
	Benzo(k)fluoranthene	mg/kg	0.5					<0.5		
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	<0.1	0
	Dibenz(a,h)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	<0.1	0
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	<0.1	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	<0.1	0
	Naphthalene	mg/kg	5 (Primary): 1 (Interlab)		<5.0	<1.0	0	<5.0	<1.0	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)	0	<1.0	<0.1	0	<1.0	<1.0 - 0.2	0
	Naphthalene	mg/kg	0.5 (Primary): 1 (Interlab)	0	<0.5	<0.1	0	<0.5	<1.0 - 0.2	0
	PAHs (Sum of total)	mg/kg	0.5					<0.5	0.39	0
	Pentachlorophenol	mg/kg	2					<2.0		
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	0.2	0
	Phenol	mg/kg	0.5					1.0		
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	0	<0.5	<0.1	0	<0.5	<0.1	0
Polychlorin	PCBs (Sum of total)	mg/kg	0.1							
Solvents	Methyl Ethyl Ketone	mg/kg	5							
	2-hexanone (MBK)	mg/kg	5							
	4-Methyl-2-pentanone	mg/kg	5							
	Carbon disulfide	mg/kg	0.5							
	Vinyl acetate	mg/kg	5							
TRH	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)	0	<10.0	<25.0	0	<10.0	<25.0	0
	> C10 - C16 Less Naphthalene (F2)	mg/kg	50	0	<50.0	<50.0	0	<50.0	<50.0	0
	C6 - C9	mg/kg	10 (Primary): 25 (Interlab)	0	<10.0	<25.0	0	11.0	<25.0	0
	C10 - C14	mg/kg	50	0	<50.0	<50.0	0	<50.0	<50.0	0
	C15 - C28	mg/kg	100	0	<100.0	<100.0	0	130.0	<100.0	26
	C29-C36	mg/kg	100	0	<100.0	<100.0	0	<100.0	<100.0	0
	+C10 - C36 (Sum of total)	mg/kg	50					130.0		



Field Duplicates (SOIL)
 Filter: SDG in('ES1326978','ES1326990','ES13261')

SDG	ES1326990	ES1326990	ES1327432	ES1327432	ES1327521	ES1327521	ES1327803	ES1327803	ES1328111
Field_ID	B0_MW05_2.5 D01_031213_GP	RPD	BF_MW05_3.0 D01_061213_JG	RPD	M_SB01 (2)_0.D01_061213_GP	RPD	BY_MW25_6.0 D01_111213_GP	RPD	BY_MW18_5.0
Sampled_Date-Time	10/12/13	10/12/13	6/12/13	6/12/13	6/12/13	6/12/13	11/12/13	11/12/13	18/12/13

Chem_Grd	ChemName	Units	EQL	ES1326990	ES1326990	ES1327432	ES1327432	ES1327521	ES1327521	ES1327803	ES1327803	ES1328111
	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5	0.6	0.6	0	0.6	0.6	0	0.6	0.6	0
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	1.2	1.2	0	1.2	1.2	0	1.2	1.2	0
	Benzene	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
	Toluene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Ethylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)									
	Xylene (o)	mg/kg	0.5 (Primary): 1 (Interlab)									
	Xylene (m & p)	mg/kg	0.5 (Primary): 2 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 2 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Xylene Total	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Total BTEX	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
Lead	Lead	mg/kg	5 (Primary): 1 (Interlab)	34.0	36.0	6	8.0	7.0	13	18.0	18.0	0
Metals	Arsenic	mg/kg	5 (Primary): 4 (Interlab)	29.0	39.0	29	5.0	<5.0	0	13.0	15.0	14
	Barium	mg/kg	10 (Primary): 1 (Interlab)	250.0	200.0	22						
	Beryllium	mg/kg	1	2.0	2.0	0						
	Boron	mg/kg	50 (Primary): 3 (Interlab)	<50.0	<50.0	0						
	Cadmium	mg/kg	1 (Primary): 0.4 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	24.0	31.0	25	11.0	8.0	32	14.0	12.0	15
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)	23.0	20.0	14						
	Copper	mg/kg	5 (Primary): 1 (Interlab)	30.0	32.0	6	8.0	6.0	29	23.0	20.0	14
	Manganese	mg/kg	5 (Primary): 1 (Interlab)	920.0	845.0	8						
	Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
	Molybdenum	mg/kg	2 (Primary): 1 (Interlab)	3.0	3.0	0						
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	34.0	34.0	0	2.0	<2.0	0	24.0	20.0	18
	Selenium	mg/kg	5 (Primary): 2 (Interlab)	<5.0	<5.0	0						
	Thallium	mg/kg	5 (Primary): 2 (Interlab)	<5.0	<5.0	0						
	Vanadium	mg/kg	5 (Primary): 1 (Interlab)	81.0	105.0	26						
	Zinc	mg/kg	5 (Primary): 1 (Interlab)	117.0	108.0	8	27.0	20.0	30	133.0	175.0	27
PAH/Phen	2,4,5-trichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-chlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-methylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	2-nitrophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	3-&4-methylphenol	mg/kg	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	4-chloro-3-methylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)pyrene	mg/kg	0.5 (Primary): 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(b)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(g,h,i)perylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Dibenz(a,h)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Naphthalene	mg/kg	5 (Primary): 1 (Interlab)									
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Naphthalene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	PAHs (Sum of total)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Pentachlorophenol	mg/kg	2	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Phenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
TRH	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0
	C6 - C9	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0
	C10 - C14	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
	C15 - C28	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0
	C29-C36	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0
	+C10 - C36 (Sum of total)	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
	C10 - C40 (Sum of total)	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
	C10-C16	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
	C16-C34	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0
	C34-C40	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 50 (1-10 x EQL); 50 (10-30 x EQL); 30 (> 30 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

- Soil and sediment samples were not homogenised prior to sampling to minimise volatilisation of volatile contaminants. The elevated RPD is likely a result of the heterogeneity of the soil matrix. The concentration is well below the adopted guidelines value and therefore this RPD non-conformance is unlikely to materially effect the outcomes of this investigation.
- Soil and sediment samples were not homogenised prior to sampling to minimise volatilisation of volatile contaminants. The elevated RPD is likely a result of the heterogeneity of the soil matrix. The RPD marginally exceeds the acceptable criteria and this non-conformance is unlikely to materially effect the outcomes of this investigation.
- The concentration is close to the laboratory detection limit and the elevated RPD is a result of the small different between the low concentrations. This RPD non-conformance is unlikely to materially effect the outcomes of this investigation.



Field Duplicates (SOIL)
 Filter: SDG in('ES1326978','ES1326990','ES1326')

SDG	ES1328111	ES1326990	Interlab_D	ES1327432	Interlab_D	ES1327521	Interlab_D	ES1327803							
Field_ID	D01_181213_GP	B0_MW05_2.5	T01_031213-GP	BF_MW07_2.4	T01_061213-JG	BM_MW03_0.2	T01_061213	BY_MW25_6.0							
Sampled_Date-Time	18/12/13	10/12/13	10/12/13	6/12/13	6/12/13	6/12/13	6/12/13	11/12/13							
Chem_Grd	ChemName	Units	EQL												
	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5	0.6	0	0.6	<0.5	18	0.6	<0.5	18	0.6			
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	1.2	0	1.2	<0.5	0		<0.5	0	1.2			
	Benzene	mg/kg	0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2			
	Toluene	mg/kg	0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5			
	Ethylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)						<0.5	<1.0	0				
	Xylene (o)	mg/kg	0.5 (Primary): 1 (Interlab)						<0.5	<1.0	0				
	Xylene (m & p)	mg/kg	0.5 (Primary): 2 (Interlab)	<0.5	0	<0.5	<1.0	0	<0.5	<1.0	0	<0.5			
	Xylene (m & p)	mg/kg	0.5 (Primary): 2 (Interlab)	<0.5	0	<0.5	<2.0	0	<0.5	<2.0	0	<0.5			
	Xylene Total	mg/kg	0.5	<0.5	0	<0.5						<0.5			
	Total BTEX	mg/kg	0.2	<0.2	0	<0.2						<0.2			
Lead	Lead	mg/kg	5 (Primary): 1 (Interlab)	13.0	26	34.0	33.0	3	6.0	7.0	15	22.0	15.0	38	23.0
Metals	Arsenic	mg/kg	5 (Primary): 4 (Interlab)	5.0	0	29.0	33.0	13	<5.0	<4.0	0	11.0	8.0	32	28.0
	Barium	mg/kg	10 (Primary): 1 (Interlab)			250.0	140.0	56							
	Beryllium	mg/kg	1			2.0	2.0	0							
	Boron	mg/kg	50 (Primary): 3 (Interlab)			<50.0	<3.0	0							
	Cadmium	mg/kg	1 (Primary): 0.4 (Interlab)	<1.0	0	<1.0	<0.4	0	<1.0	<0.4	0	<1.0	<0.4	0	<1.0
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	4.0	0	24.0	22.0	9	7.0	4.0	55	22.0	15.0	38	28.0
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)			23.0	19.0	19							
	Copper	mg/kg	5 (Primary): 1 (Interlab)	19.0	0	30.0	28.0	7	<5.0	2.0	0	29.0	19.0	42	32.0
	Manganese	mg/kg	5 (Primary): 1 (Interlab)			920.0	610.0	41							
	Mercury	mg/kg	0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1
	Molybdenum	mg/kg	2 (Primary): 1 (Interlab)			3.0	2.0	40							
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	6.0	0	34.0	26.0	27	<2.0	1.0	0	27.0	18.0	40	33.0
	Selenium	mg/kg	5 (Primary): 2 (Interlab)			<5.0	<2.0	0							
	Thallium	mg/kg	5 (Primary): 2 (Interlab)			<5.0	<2.0	0							
	Vanadium	mg/kg	5 (Primary): 1 (Interlab)			81.0	77.0	5							
	Zinc	mg/kg	5 (Primary): 1 (Interlab)	74.0	24	117.0	66.0	56	13.0	11.0	17	86.0	55.0	44	132.0
PAH/Phen	2,4,5-trichlorophenol	mg/kg	0.5	<0.5	0	<0.5									<0.5
	2,4,6-trichlorophenol	mg/kg	0.5	<0.5	0	<0.5									<0.5
	2,4-dichlorophenol	mg/kg	0.5	<0.5	0	<0.5									<0.5
	2,4-dimethylphenol	mg/kg	0.5	<0.5	0	<0.5									<0.5
	2,6-dichlorophenol	mg/kg	0.5	<0.5	0	<0.5									<0.5
	2-chlorophenol	mg/kg	0.5	<0.5	0	<0.5									<0.5
	2-methylphenol	mg/kg	0.5	<0.5	0	<0.5									<0.5
	2-nitrophenol	mg/kg	0.5	<0.5	0	<0.5									<0.5
	3-&4-methylphenol	mg/kg	1	<1.0	0	<1.0									<1.0
	4-chloro-3-methylphenol	mg/kg	0.5	<0.5	0	<0.5									<0.5
	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5
	Benzo(a) pyrene	mg/kg	0.5 (Primary): 0.05 (Interlab)	<0.5	0	<0.5	<0.05	0	<0.5	<0.05	0	<0.5	<0.05	0	<0.5
	Benzo(b)fluoranthene	mg/kg	0.5	<0.5	0	<0.5									<0.5
	Benzo(g,h,i)perylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	0	<0.5									<0.5
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5
	Naphthalene	mg/kg	5 (Primary): 1 (Interlab)									<5.0	<0.1	0	
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	0	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0	<1.0
	Naphthalene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5
	PAHs (Sum of total)	mg/kg	0.5	<0.5	0	<0.5	0.0	0	<0.5	0.0	0	<0.5	0.0	0	<0.5
	Pentachlorophenol	mg/kg	2	<2.0	0	<2.0									<2.0
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5
	Phenol	mg/kg	0.5	<0.5	0	<0.5									<0.5
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5
TRH	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)	<10.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0
	C6 - C9	mg/kg	10 (Primary): 25 (Interlab)	<10.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0
	C10 - C14	mg/kg	50	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0
	C15 - C28	mg/kg	100	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0
	C29-C36	mg/kg	100	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0
	+C10 - C36 (Sum of total)	mg/kg	50	<50.0	0	<50.0									<50.0
	C10 - C40 (Sum of total)	mg/kg	50	<50.0	0	<50.0									<50.0
	C10-C16	mg/kg	50	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0
	C16-C34	mg/kg	100	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0
	C34-C40	mg/kg	100	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)	<10.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 50 (1-10 x EQL); 5
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories

1. Soil and sediment samples were not homogenised prior to sampling to minimise volatilisation of volatile contaminants. The elevated RPD is likely a result of the heterogeneity of the soil matrix. The concentration is well below the adopted guidelines value and therefore this RPD non-conformance is unlikely to materially effect the outcomes of this investigation.
2. Soil and sediment samples were not homogenised prior to sampling to minimise volatilisation of volatile contaminants. The elevated RPD is likely a result of the heterogeneity of the soil matrix. The RPD marginally exceeds the acceptable criteria and this non-conformance is unlikely to materially effect the outcomes of this investigation.
3. The concentration is close to the laboratory detection limit and the elevated RPD is a result of the small difference between the low concentrations. This RPD non-conformance is unlikely to materially effect the outcomes of this investigation.

Field Duplicates (SOIL)
Filter: SDG in('ES1326978','ES1326990','ES1326')

SDG	Interlab_D	ES1328111	Interlab_D
Field_ID	T01_111213-GP	BY_MW18_5.0	T01_181213-GP
Sampled_Date-Time	11/12/13	18/12/13	18/12/13
	RPD		RPD

Chem_Grd	ChemName	Units	EQL				
	Benzo(a)pyrene TEQ (half LOR)	mg/kg	0.5	<0.5	18	0.6	<0.5
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5			1.2	
	Benzene	mg/kg	0.2	<0.2	0	<0.2	<0.2
	Toluene	mg/kg	0.5	<0.5	0	<0.5	<0.5
	Ethylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)				
	Xylene (o)	mg/kg	0.5 (Primary): 1 (Interlab)				
	Xylene (o)	mg/kg	0.5 (Primary): 1 (Interlab)	<1.0	0	<0.5	<1.0
	Xylene (m & p)	mg/kg	0.5 (Primary): 2 (Interlab)				
	Xylene (m & p)	mg/kg	0.5 (Primary): 2 (Interlab)	<2.0	0	<0.5	<2.0
	Xylene Total	mg/kg	0.5			<0.5	
	Total BTEX	mg/kg	0.2			<0.2	
Lead	Lead	mg/kg	5 (Primary): 1 (Interlab)	14.0	49	10.0	12.0
Metals	Arsenic	mg/kg	5 (Primary): 4 (Interlab)	16.0	55	<5.0	4.0
	Barium	mg/kg	10 (Primary): 1 (Interlab)				
	Beryllium	mg/kg	1				
	Boron	mg/kg	50 (Primary): 3 (Interlab)				
	Cadmium	mg/kg	1 (Primary): 0.4 (Interlab)	<0.4	0	<1.0	<0.4
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	17.0	49	4.0	3.0
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)				
	Copper	mg/kg	5 (Primary): 1 (Interlab)	21.0	42	19.0	15.0
	Manganese	mg/kg	5 (Primary): 1 (Interlab)				
	Mercury	mg/kg	0.1	0.1	0	<0.1	0.1
	Molybdenum	mg/kg	2 (Primary): 1 (Interlab)				
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	18.0	59	6.0	5.0
	Selenium	mg/kg	5 (Primary): 2 (Interlab)				
	Thallium	mg/kg	5 (Primary): 2 (Interlab)				
	Vanadium	mg/kg	5 (Primary): 1 (Interlab)				
	Zinc	mg/kg	5 (Primary): 1 (Interlab)	59.0	76	94.0	52.0
PAH/Phen	2,4,5-trichlorophenol	mg/kg	0.5			<0.5	
	2,4,6-trichlorophenol	mg/kg	0.5			<0.5	
	2,4-dichlorophenol	mg/kg	0.5			<0.5	
	2,4-dimethylphenol	mg/kg	0.5			<0.5	
	2,6-dichlorophenol	mg/kg	0.5			<0.5	
	2-chlorophenol	mg/kg	0.5			<0.5	
	2-methylphenol	mg/kg	0.5			<0.5	
	2-nitrophenol	mg/kg	0.5			<0.5	
	3-&4-methylphenol	mg/kg	1			<1.0	
	4-chloro-3-methylphenol	mg/kg	0.5			<0.5	
	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.1	0	<0.5	<0.1
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.1	0	<0.5	<0.1
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.1	0	<0.5	<0.1
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.1	0	<0.5	<0.1
	Benzo(a)pyrene	mg/kg	0.5 (Primary): 0.05 (Interlab)	<0.05	0	<0.5	<0.05
	Benzo(b)fluoranthene	mg/kg	0.5			<0.5	
	Benzo(g,h,i)perylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.1	0	<0.5	<0.1
	Benzo(k)fluoranthene	mg/kg	0.5			<0.5	
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.1	0	<0.5	<0.1
	Dibenz(a,h)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.1	0	<0.5	<0.1
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.1	0	<0.5	<0.1
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.1	0	<0.5	<0.1
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.1	0	<0.5	<0.1
	Naphthalene	mg/kg	5 (Primary): 1 (Interlab)				
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)	<0.1	0	<1.0	<0.1
	Naphthalene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.1	0	<0.5	<0.1
	PAHs (Sum of total)	mg/kg	0.5	0.0	0	<0.5	0.0
	Pentachlorophenol	mg/kg	2			<2.0	
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.1	0	<0.5	<0.1
	Phenol	mg/kg	0.5			<0.5	
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.1	0	<0.5	<0.1
TRH	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)	<25.0	0	<10.0	<25.0
	C6 - C9	mg/kg	10 (Primary): 25 (Interlab)	<25.0	0	<10.0	<25.0
	C10 - C14	mg/kg	50	<50.0	0	<50.0	<50.0
	C15 - C28	mg/kg	100	<100.0	0	<100.0	<100.0
	C29-C36	mg/kg	100	<100.0	0	<100.0	<100.0
	+C10 - C36 (Sum of total)	mg/kg	50			<50.0	
	C10 - C40 (Sum of total)	mg/kg	50			<50.0	
	C10-C16	mg/kg	50	<50.0	0	<50.0	<50.0
	C16-C34	mg/kg	100	<100.0	0	<100.0	<100.0
	C34-C40	mg/kg	100	<100.0	0	<100.0	<100.0
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)	<25.0	0	<10.0	<25.0

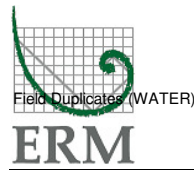
*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 50 (1-10 x EQL); 5
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories

1. Soil and sediment samples were not homogenised prior to sampling to minimise volatilisation of volatile contaminants. The elevated RPD is likely a result of the heterogeneity of the soil matrix. The concentration is well below the adopted guidelines value and therefore this RPD non-conformance is unlikely to materially effect the outcomes of this investigation.
2. Soil and sediment samples were not homogenised prior to sampling to minimise volatilisation of volatile contaminants. The elevated RPD is likely a result of the heterogeneity of the soil matrix. The RPD marginally exceeds the acceptable criteria and this non-conformance is unlikely to materially effect the outcomes of this investigation.
3. The concentration is close to the laboratory detection limit and the elevated RPD is a result of the small difference between the low concentrations. This RPD non-conformance is unlikely to materially effect the outcomes of this investigation.



Field Duplicates (WATER)

Chem. Grp	ChemName	Units	EQL	Interlab_D T01-031213-NH RPD		ES1327421 BQ_MW11		Interlab_D T01-101213-KF RPD		ES1327444 BQ_MW14		Interlab_D T01-121213-JG RPD		ES1327890 BY_MW12		Interlab_D T01-171213-JG RPD	
				Sampled	Date-Time	10/12/2013 15:00	10/12/2013 15:00	10/12/2013 15:00	10/12/2013 15:00	12/12/2013 15:00	12/12/2013 15:00	17/12/2013 15:00	17/12/2013 15:00				
	Benzo(a)pyrene TEO (zero)	µg/L	0.5														<0.5
BTEX	Benzene	µg/L	1	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Toluene	µg/L	2 (Primary): 1 (Interlab)	<1.0	0	<2.0	<1.0	0	<2.0	<1.0	0	<2.0	<1.0	0	<2.0	<1.0	0
	Ethylbenzene	µg/L	2 (Primary): 1 (Interlab)	<1.0	0	<2.0	<1.0	0	<2.0	<1.0	0	<2.0	<1.0	0	<2.0	<1.0	0
	Xylene (o)	µg/L	2 (Primary): 1 (Interlab)	<1.0	0	<2.0	<1.0	0	<2.0	<1.0	0	<2.0	<1.0	0	<2.0	<1.0	0
	Xylene (m & p)	µg/L	2	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0
	Xylene Total	µg/L	2														
	Total BTEX	mg/l	0.001														<0.001
Chlorinated	1,1,1,2-tetrachloroethane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,1,1-trichloroethane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,1,2,2-tetrachloroethane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,1,2-trichloroethane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,1-dichloroethane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,1-dichloroethene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,1-dichloropropene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,2,3-trichloropropane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,2-dibromo-3-chloropropane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,2-dichloroethane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,2-dichloropropane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,3-dichloropropane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	2,2-dichloropropane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Bromodichloromethane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Bromoform	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Carbon tetrachloride	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Chlorodibromomethane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Chloroethane	µg/L	50 (Primary): 10 (Interlab)	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0
	Chloroform	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Chloromethane	µg/L	50 (Primary): 10 (Interlab)	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0
	cis-1,2-dichloroethane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	cis-1,3-dichloropropene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Dibromomethane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Hexachlorobutadiene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Trichloroethene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Tetrachloroethane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	trans-1,2-dichloroethane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	trans-1,3-dichloropropene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Vinyl chloride	µg/L	50 (Primary): 10 (Interlab)	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0
Halogenated	1,2,3-trichlorobenzene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,2,4-trichlorobenzene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,2-dichlorobenzene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,3-dichlorobenzene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,4-dichlorobenzene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	2-chlorotoluene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	4-chlorotoluene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Bromobenzene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Chlorobenzene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
Halogenated	1,2-dibromoethane	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Bromomethane	µg/L	50 (Primary): 10 (Interlab)	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0
	Dichlorodifluoromethane	µg/L	50 (Primary): 10 (Interlab)	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0
	Iodomethane	µg/L	5														<5.0
	Trichlorofluoromethane	µg/L	50 (Primary): 10 (Interlab)	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0	<50.0	<10.0	0
Inorganics	Alkalinity (Hydroxide) as CaCO3	µg/L	1000														
	Alkalinity (total) as CaCO3	mg/l	1														
	Anions Total	meq/L	0.01														
	Alkalinity (Bicarbonate as CaCO3)	mg/l	1														
	Alkalinity (Carbonate as CaCO3)	mg/l	1														
	Cations Total	meq/L	0.01														
	Chloride	mg/l	1			1080.0	1100.0	2	1250.0	1300.0	4						
	Sodium (Filtered)	mg/l	1 (Primary): 0.5 (Interlab)			2130.0	2600.0	20	1480.0	1600.0	8						
	Sulfate as S (Filtered)	mg/l	1														
Lead	Lead (Filtered)	mg/l	0.0001 (Primary): 0.001 (Interlab)	0.053	15	0.0012	0.001	18	0.0001	<0.001	0	0.0073	0.006	20			
	Lead	mg/l	0.0001														
MAH	1,2,4-trimethylbenzene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	1,3,5-trimethylbenzene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Isopropylbenzene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	n-butylbenzene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	n-propylbenzene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	p-isopropyltoluene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	sec-butylbenzene	µg/L	5 (Primary): 1 (Interlab)	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<				



SDG	ES1326081	ES1326081	ES1326163	ES1326163	ES1326163	Interlab_D	ES1326163	Interlab_D	ES1326163	Interlab_D
Field_ID	BW_SS40	D01_271113_TA/W	BW_SS19	D01_281113_TA/W	BW_SS20	T01-281113-TA/W	BW_SS21	T02-281113-TA/W	BW_SS22	T03-281113-TA/W
Sampled_Date-Time	27/11/13	27/11/13	28/11/13	28/11/13	28/11/13	28/11/13	28/11/13	28/11/13	28/11/13	28/11/13
Chem_Grd	ChemName	Units	EQL							
	Benzo(a)pyrene TEQ (zero)	µg/L	0.5	<0.5	<0.5	0	<0.5	<0.5	0	
BTEX	Benzene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	Toluene	µg/L	2 (Primary): 1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0	<2.0
	Ethylbenzene	µg/L	2 (Primary): 1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0	<2.0
	Xylene (o)	µg/L	2 (Primary): 1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0	<2.0
	Xylene (m & p)	µg/L	2	<2.0	<2.0	0	<2.0	<2.0	0	<2.0
	Xylene Total	µg/L	2	<2.0	<2.0	0	<2.0	<2.0	0	<2.0
	Total BTEX	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0	
Lead	Lead	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0	
Metals	Arsenic	mg/l	0.001	0.005	0.007	33	0.004	0.004	0	
	Barium	mg/l	0.001	0.098	0.095	3	0.093	0.098	5	
	Beryllium	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0	
	Boron	mg/l	0.05	0.9	0.89	1	0.84	0.84	0	
	Cadmium	mg/l	0.0001	0.0001	<0.0001	0	<0.0001	<0.0001	0	
	Chromium (III+VI)	mg/l	0.001	0.004	<0.001	120	<0.001	<0.001	0	
	Cobalt	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0	
	Copper	mg/l	0.001	0.005	0.006	18	0.006	0.003	67	
	Manganese	mg/l	0.001	0.008	0.007	13	0.006	0.006	0	
	Molybdenum	mg/l	0.001	0.105	0.104	1	0.1	0.104	4	
	Nickel	mg/l	0.001	0.004	0.004	0	0.004	0.004	0	
	Thallium	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0	
	Vanadium	mg/l	0.01	0.01	0.01	0	<0.01	<0.01	0	
	Zinc	mg/l	0.005	0.013	0.024	59	<0.005	0.024	131	
PAH/Phen	2,4,5-trichlorophenol	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	
	2,4,6-trichlorophenol	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	
	2,4-dichlorophenol	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	
	2,4-dimethylphenol	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	
	2,6-dichlorophenol	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	
	2-chlorophenol	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	
	2-methylphenol	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	
	2-nitrophenol	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	
	3-84-methylphenol	µg/L	2	<2.0	<2.0	0	<2.0	<2.0	0	
	4-chloro-3-methylphenol	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	
	Acenaphthene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	Acenaphthylene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	Anthracene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	Benz(a)anthracene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	Benzo(a) pyrene	µg/L	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Benzo(b)fluoranthene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	Benzo(g,h,i)perylene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	Benzo(k)fluoranthene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	Chrysene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	Dibenz(a,h)anthracene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	Fluoranthene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	Fluorene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	Indeno(1,2,3-c,d)pyrene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	Naphthalene	µg/L	5 (Primary): 1 (Interlab)	<5.0	<5.0	0	<5.0	<5.0	0	<5.0
	Naphthalene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	PAHs (Sum of total)	µg/L	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Pentachlorophenol	µg/L	2	<2.0	<2.0	0	<2.0	<2.0	0	<2.0
	Phenanthrene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	Phenol	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
	Pyrene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0
TRH	C6-C10 less BTEX (F1)	mg/l	0.02 (Primary): 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02
	> C10 - C16 Less Naphthalene (F2)	mg/l	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0	<0.1
	C6 - C9	µg/L	20 (Primary): 10 (Interlab)	<20.0	<20.0	0	<20.0	<10.0	0	<20.0
	C10 - C14	µg/L	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0
	C15 - C28	µg/L	100	<100.0	<100.0	0	<100.0	<100.0	0	<100.0
	C29-C36	µg/L	50 (Primary): 100 (Interlab)	<50.0	<50.0	0	<50.0	<50.0	0	<50.0
	>C10 - C36 (Sum of total)	µg/L	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0
	C10 - C40 (Sum of total)	µg/L	100	<100.0	<100.0	0	<100.0	<100.0	0	<100.0
	C10-C16	mg/l	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0	<0.1
	C16-C34	mg/l	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1
	C34-C40	mg/l	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1
	C6-C10	mg/l	0.02 (Primary): 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.01	0	<0.02

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
 **High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 50 (1-10 x EQL); 50 (10-30 x EQL); 30 (> 30 x EQL))
 ***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

- RPD exceeds the acceptable limit however concentration is well below the adopted guideline value therefore this non-conformance is unlikely to materially effect the outcomes of this investigation.
- The RPD marginally exceeds the acceptable criteria and this non-conformance is unlikely to materially effect the outcomes of this investigation.
- The concentration is close to the laboratory detection limit and the elevated RPD is a result of the small difference between the low concentrations. This RPD non-conformance is unlikely to materially effect the outcomes of this investigation.
- The RPD exceeds the acceptable limits. The higher value was reported for conservatism.

Field Duplicates (Sediment)

Chem_Group	ChemName	Units	EQL	ES1326082		RPD	ES1326164		RPD
				Field_ID	Sampled_Date-Time		Field_ID	Sampled_Date-Time	
BTEX	Benzene	mg/kg	0.2		<0.2	0	<0.2	<0.2	0
	Toluene	mg/kg	0.2		<0.2	0	<0.2	<0.2	0
	Ethylbenzene	mg/kg	0.2		<0.2	0	<0.2	<0.2	0
	Xylene (o)	mg/kg	0.2		<0.2	0	<0.2	<0.2	0
	Xylene (m & p)	mg/kg	0.2		<0.2	0	<0.2	<0.2	0
	Xylene Total	mg/kg	0.5		<0.5	0	<0.5	<0.5	0
	Total BTEX	mg/kg	0.2		<0.2	0	<0.2	<0.2	0
Inorganics	Moisture	%	1		51.4	2	48.2	44.7	8
	TOC	%	0.02		3.26	4	12.9	16.4	24
Lead	Lead	mg/kg	1		7.7	5	20.4	17.2	17
Metals	Arsenic	mg/kg	1		15.8	10	14.1	13.1	7
	Barium	mg/kg	0.1		100.0	2	135.0	117.0	14
	Beryllium	mg/kg	0.1		0.6	15	0.5	0.4	22
	Boron	mg/kg	5		10.0	11	10.0	8.0	22
	Cadmium	mg/kg	0.1		0.4	0	0.2	0.1	67
	Chromium (III+VI)	mg/kg	1		18.1	5	9.3	8.2	13
	Cobalt	mg/kg	0.5		4.3	2	4.1	4.0	2
	Copper	mg/kg	1		230.0	3	94.6	84.0	12
	Manganese	mg/kg	10		229.0	6	176.0	146.0	19
	Mercury	mg/kg	0.01		0.24	4	0.14	0.12	15
	Molybdenum	mg/kg	0.1		7.4	16	4.9	4.6	6
	Nickel	mg/kg	1		23.3	0	15.3	14.2	7
	Selenium	mg/kg	0.1		11.3	0	4.5	4.1	9
	Thallium	mg/kg	0.1		0.1	0	<0.1	<0.1	0
	Vanadium	mg/kg	2		44.6	0	49.1	44.8	9
	Zinc	mg/kg	1		84.2	2	97.9	90.9	7
PAH/Phenols	2,4,5-trichlorophenol	mg/kg	0.5		<0.8	0	<0.5	<0.5	0
	2,4,6-trichlorophenol	mg/kg	0.5		<0.8	0	<0.5	<0.5	0
	2,4-dichlorophenol	mg/kg	0.5		<0.8	0	<0.5	<0.5	0
	2,4-dimethylphenol	mg/kg	0.5		<0.8	0	<0.5	<0.5	0
	2,6-dichlorophenol	mg/kg	0.5		<0.8	0	<0.5	<0.5	0
	2-chlorophenol	mg/kg	0.5		<0.8	0	<0.5	<0.5	0
	2-methylnaphthalene	mg/kg	0.005		0.016	22	0.568	0.332	52
	2-methylphenol	mg/kg	0.5		<0.8	0	14.2	14.0	1
	2-nitrophenol	mg/kg	0.5		<0.8	0	<0.5	<0.5	0
	3-&4-methylphenol	mg/kg	1		<2.0	0	11.0	11.0	0
	4-chloro-3-methylphenol	mg/kg	0.5		<0.8	0	<0.5	<0.5	0
	Acenaphthene	mg/kg	0.004		<0.005	33	0.039	0.045	14
	Acenaphthylene	mg/kg	0.004		<0.005	0	<0.025	<0.025	0
	Anthracene	mg/kg	0.004		0.009	0	0.039	0.042	7
	Benz(a)anthracene	mg/kg	0.004		0.028	28	0.186	0.186	0
	Benzo(a) pyrene	mg/kg	0.004		0.013	21	<0.025	0.043	53
	Benzo(b)fluoranthene	mg/kg	0.004		0.031	20	0.112	<0.025	127
	Benzo(g,h,i)perylene	mg/kg	0.004		0.018	24	0.065	0.071	9
	Benzo(k)fluoranthene	mg/kg	0.004		0.007	0	0.065	<0.025	89
	Chrysene	mg/kg	0.004		0.028	25	0.201	0.21	4
	Dibenz(a,h)anthracene	mg/kg	0.004		<0.005	0	<0.025	<0.025	0
	Fluoranthene	mg/kg	0.004		0.055	24	0.366	0.361	1
	Fluorene	mg/kg	0.004		0.01	33	0.117	0.121	3
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.004		0.008	22	0.033	0.034	3
	Naphthalene	mg/kg	0.005		0.01	18	0.132	0.142	7
	PAHs (Sum of total)	mg/kg	0.004		0.549	23	2.79	2.46	13
	Pentachlorophenol	mg/kg	2		<2.0	0	<2.0	<2.0	0
	Phenanthrene	mg/kg	0.004		0.047	39	0.463	0.466	1
	Phenol	mg/kg	0.5		<0.8	0	8.5	8.7	2
	Pyrene	mg/kg	0.004		0.039	36	0.278	0.276	1
Particle Size	+1180µm	%	1				<1.0	<1.0	0
	+150µm	%	1				14.0	16.0	13
	+19.0mm	%	1				<1.0	<1.0	0
	+2.36mm	%	1				<1.0	<1.0	0
	+300µm	%	1				4.0	4.0	0
	+37.5mm	%	1				<1.0	<1.0	0
	+4.75mm	%	1				<1.0	<1.0	0
	+425µm	%	1				2.0	2.0	0
	+600µm	%	1				1.0	2.0	67
	+75.0mm	%	1				<1.0	<1.0	0
	+75µm	%	1				41.0	49.0	18
	+9.5mm	%	1				<1.0	<1.0	0
	Clay (<2 µm)	%	1				11.0	10.0	10
	Silt (2-60 µm)	%	1				46.0	41.0	11
	Sand (0.06-2.00 mm)	%	1				43.0	49.0	13
	Gravel (>2mm)	%	1				<1.0	<1.0	0
	Cobbles (>6cm)	%	1				<1.0	<1.0	0
Polychlorinated	Arochlor 1016	mg/kg	0.005		<0.005	0	<0.005	<0.005	0
	Arochlor 1221	mg/kg	0.005		<0.005	0	<0.005	<0.005	0
	Arochlor 1232	mg/kg	0.005		<0.005	0	<0.005	<0.005	0
	Arochlor 1242	mg/kg	0.005		<0.005	0	<0.005	<0.005	0
	Arochlor 1248	mg/kg	0.005		<0.005	0	<0.005	<0.005	0
	Arochlor 1254	mg/kg	0.005		<0.005	0	<0.005	<0.005	0
	Arochlor 1260	mg/kg	0.005		<0.005	0	<0.005	<0.005	0
	PCBs (Sum of total)	mg/kg	0.005		<0.005	0	<0.005	<0.005	0
SVOCs	Benzo(e)pyrene	mg/kg	0.004		0.021	21	0.101	0.104	3
	Coronene	mg/kg	0.005		0.01	26	<0.025	<0.025	0
	Perylene	mg/kg	0.004		0.199	13	0.026	0.029	11
TRH	C6 - C9	mg/kg	3		<3.0	0	<3.0	<3.0	0
	C10 - C14	mg/kg	3		5.0	22	49.0	52.0	6
	C15 - C28	mg/kg	3		76.0	5	2400.0	2470.0	3
	C29-C36	mg/kg	5		61.0	19	1340.0	1380.0	3
	+C10 - C36 (Sum of total)	mg/kg	3		142.0	11	3790.0	3900.0	3
	C6-C10	mg/kg	3		<3.0	0	<3.0	<3.0	0

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 50 (1-10 x EQL); 30 (10-30 x EQL); 30 (> 30 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

1. Soil and sediment samples were not homogenised prior to sampling to minimise volatilisation of volatile contaminants. The elevated RPD is likely a result of the heterogeneity of the soil matrix. The concentration is well below the adopted guidelines value and therefore this RPD non-conformance is unlikely to materially effect the outcomes of this investigation.

2. Soil and sediment samples were not homogenised prior to sampling to minimise volatilisation of volatile contaminants. The elevated RPD is likely a result of the heterogeneity of the soil matrix. The RPD marginally exceeds the acceptable criteria and this non-conformance is unlikely to materially effect the outcomes of this investigation.

3. The concentration is close to the laboratory detection limit and the elevated RPD is a result of the small difference between the low concentrations. This RPD non-conformance is unlikely to materially effect the outcomes of this investigation.



Field Blanks (WATER)

SDG	ES1323960	ES1323960	ES1323960	ES1324374	ES1324374	ES1324590	ES1324722	ES1324726	ES1324729	ES1325015	ES1325572	ES1325580	ES1325842	ES1325842	ES1325883	ES1325884	ES1326688
Field_ID	R01_311013_TC	R01_011113_TC	R01_041113_TC	R01_051113_SM	R01_061113_SM	R20131108_AM	R20131111_AM	R01_121113_SM	R01_071113_SM	R01_131113_AM	R01_201113_WG	R01_211113_TC	R01_251113_SM	R01_261113_SM	R01_201113_SM	R01_191113_AM	R01_221113_WG
Sampled_Date-Time	31/10/13	1/11/13	4/11/13	6/11/13	6/11/13	8/11/13	11/11/13	12/11/13	7/11/13	13/11/13	20/11/13	21/11/13	25/11/13	26/11/13	20/11/13	19/11/13	22/11/13
Sample_Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Chem_Group	ChemName	Units	EQL														
	Benzo(a)pyrene TEQ (zero)	µg/L	0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BTEX	Benzene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Ethylbenzene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Xylene (o)	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Xylene (m & p)	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Xylene Total	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Total BTEX	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,1,1-trichloroethane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,1,2,2-tetrachloroethane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,1,2-trichloroethane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,1-dichloroethane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,1-dichloroethene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,1-dichloropropene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,2,3-trichloropropane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,2-dibromo-3-chloropropane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,2-dichloroethane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,2-dichloropropane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,3-dichloropropane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	2,2-dichloropropane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Bromodichloromethane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Bromoforn	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Carbon tetrachloride	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Chlorodibromomethane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Chloroethane	µg/L	50							<50	<50	<50	<50	<50	<50	<50	<50
	Chloroform	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Chloromethane	µg/L	50							<50	<50	<50	<50	<50	<50	<50	<50
	cis-1,2-dichloroethene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	cis-1,3-dichloropropene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Dibromomethane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Hexachlorobutadiene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Trichloroethene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Tetrachloroethene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	trans-1,2-dichloroethene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	trans-1,3-dichloropropene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Vinyl chloride	µg/L	50							<50	<50	<50	<50	<50	<50	<50	<50
Halogenated Benzenes	1,2,3-trichlorobenzene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,2,4-trichlorobenzene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,2-dichlorobenzene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,3-dichlorobenzene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,4-dichlorobenzene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	2-chlorotoluene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	4-chlorotoluene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Bromobenzene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Chlorobenzene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
Halogenated Hydrocarbons	1,2-dibromoethane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Bromomethane	µg/L	50							<50	<50	<50	<50	<50	<50	<50	<50
	Dichlorodifluoromethane	µg/L	50							<50	<50	<50	<50	<50	<50	<50	<50
	Iodomethane	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Trichlorofluoromethane	µg/L	50							<50	<50	<50	<50	<50	<50	<50	<50
Lead	Lead	mg/l	0.000001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MAH	1,2,4-trimethylbenzene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	1,3,5-trimethylbenzene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Isopropylbenzene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	n-butylbenzene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	n-propylbenzene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	p-isopropyltoluene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	sec-butylbenzene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	Styrene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
	tert-butylbenzene	µg/L	5							<5	<5	<5	<5	<5	<5	<5	<5
Metals	Arsenic	mg/l	0.000001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Barium	mg/l	0.000001														<0.001
	Beryllium	mg/l	0.000001										<0.001				<0.001
	Boron	mg/l	0.00005										<0.05				<0.05
	Cadmium	mg/l	0.0000001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Cadmium (Filtered)	mg/l	0.00005														
	Chromium (III+VI)	mg/l	0.000001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Cobalt	mg/l	0.000001										<0.001				<0.001
	Copper	mg/l	0.000001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	0.004	0.001	<0.001
	Manganese	mg/l	0.000001										0.002				<0.001
	Mercury	mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Molybdenum	mg/l	0.000001										<0.001				<0.001
	Nickel	mg/l	0.000001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Selenium	mg/l	0.0002														<0.01
	Thallium	mg/l	0.000001										<0.001				<0.001
	Vanadium	mg/l	0.00001										<0.01				<0.01
	Zinc	mg/l	0.000005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
PAH/Phenols	2,4,5-trichlorophenol	µg/L	1	<1	<1	<1				<1	<1	<1	<				



Field Blanks (WATER)

SDG	ES1323960	ES1323960	ES1323960	ES1324374	ES1324374	ES1324590	ES1324722	ES1324726	ES1324729	ES1325015	ES1325572	ES1325580	ES1325842	ES1325842	ES1325883	ES1325884	ES1326688
Field_ID	R01_311013_TC	R01_011113_TC	R01_041113_TC	R01_051113_SM	R01_061113_SM	R20131108_AM	R20131111_AM	R01_121113_SM	R01_071113_SM	R01_131113_AM	R01_201113_WG	R01_211113_TC	R01_251113_SM	R01_261113_SM	R01_201113_SM	R01_19-11-13_AM	R01_221113_WG
Sampled_Date-Time	31/10/13	1/11/13	4/11/13	6/11/13	6/11/13	8/11/13	11/11/13	12/11/13	7/11/13	13/11/13	20/11/13	21/11/13	25/11/13	26/11/13	20/11/13	19/11/13	22/11/13
Sample_Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Chem_Group	ChemName	Units	EQL														
PAHs (Sum of total)	4-chloro-3-methylphenol	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1
	Acenaphthene	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1
	Acenaphthylene	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1
	Anthracene	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benz(a)anthracene	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(a) pyrene	µg/L	0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(b)fluoranthene	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(g,h,i)perylene	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(k)fluoranthene	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1
	Chrysene	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1
	Dibenz(a,h)anthracene	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluoranthene	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluorene	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1
	Indeno(1,2,3-c,d)pyrene	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1
	Naphthalene	µg/L	1	<5	<5	<5	<5	<5	<5	<7	<7	<7	<7	<7	<7	<7	<7
	PAHs (Sum of total)	µg/L	0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pentachlorophenol	µg/L	2	<2	<2	<2			<2	<2	<2	<2	<2	<2	<2	<2	<2
Phenanthrene	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1	
Phenol	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1	
Pyrene	µg/L	1	<1	<1	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1	
Polychlorinated Biphenyls	PCBs (Sum of total)	µg/L	1						<1	<1	<1		<1	<1	<1	<1	
Solvents	Methyl Ethyl Ketone	µg/L	50						<50	<50	<50	<50	<50	<50	<50	<50	
	2-hexanone (MBK)	µg/L	50						<50	<50	<50	<50	<50	<50	<50	<50	
	4-Methyl-2-pentanone	µg/L	50						<50	<50	<50	<50	<50	<50	<50	<50	
	Carbon disulfide	µg/L	5						<5	<5	<5	<5	<5	<5	<5	<5	
	Vinyl acetate	µg/L	50						<50	<50	<50	<50	<50	<50	<50	<50	
TRH	C6-C10 less BTEX (F1)	mg/l	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
	> C10 - C16 Less Naphthalene (F2)	mg/l	0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	C6 - C9	µg/L	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	
	C10 - C14	µg/L	50	<50	<50	<50			<50	<50	<50	<50	<50	<50	<50	<50	
	C15 - C28	µg/L	100	<100	<100	<100			<100	<100	<100	<100	<100	<100	<100	<100	
	C29-C36	µg/L	50	<50	<50	<50			<50	<50	<50	<50	<50	<50	<50	<50	
	+C10 - C36 (Sum of total)	µg/L	50	<50	<50	<50			<50	<50	<50	<50	<50	<50	<50	<50	
	C10 - C40 (Sum of total)	µg/L	100	<100	<100	<100			<100	<100	<100	<100	<100	<100	<100	<100	
	C10-C16	mg/l	0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	C16-C34	mg/l	0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	C34-C40	mg/l	0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
	C6-C10	mg/l	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
VOCs	cis-1,4-Dichloro-2-butene	µg/L	5						<5	<5	<5	<5	<5	<5	<5	<5	
	Pentachloroethane	µg/L	5						<5	<5	<5	<5	<5	<5	<5	<5	
	trans-1,4-Dichloro-2-butene	µg/L	5						<5	<5	<5	<5	<5	<5	<5	<5	

Field Blanks (WATER)

SDG	ES1326688	ES1326688	ES1326695	ES1326990	ES1326999	ES1327521	ES1327803
Field_ID	R01_261113_WG	R01_271113_WG	R01_021213_GP	R01_031213_GP	R01_041213_HC	R01_091213_GP	R01_111213_GP
Sampled_Date-Time	26/11/13	27/11/13	2/12/13	10/12/13	4/12/13	9/12/13	11/12/13
Sample_Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate

Chem_Group	ChemName	Units	EQL	ES1326688	ES1326688	ES1326695	ES1326990	ES1326999	ES1327521	ES1327803
	Benzo(a)pyrene TEQ (zero)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5
BTEX	Benzene	µg/L	1	<1	<1	<1	<1	<1	<1	<1
	Toluene	µg/L	2	<2	<2	<2	<2	<2	<2	<2
	Ethylbenzene	µg/L	2	<2	<2	<2	<2	<2	<2	<2
	Xylene (o)	µg/L	2	<2	<2	<2	<2	<2	<2	<2
	Xylene (m & p)	µg/L	2	<2	<2	<2	<2	<2	<2	<2
	Xylene Total	µg/L	2	<2	<2	<2	<2	<2	<2	<2
	Total BTEX	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	µg/L	5							
	1,1,1-trichloroethane	µg/L	5							
	1,1,2,2-tetrachloroethane	µg/L	5							
	1,1,2-trichloroethane	µg/L	5							
	1,1-dichloroethane	µg/L	5							
	1,1-dichloroethene	µg/L	5							
	1,1-dichloropropene	µg/L	5							
	1,2,3-trichloropropane	µg/L	5							
	1,2-dibromo-3-chloropropane	µg/L	5							
	1,2-dichloroethane	µg/L	5							
	1,2-dichloropropane	µg/L	5							
	1,3-dichloropropane	µg/L	5							
	2,2-dichloropropane	µg/L	5							
	Bromodichloromethane	µg/L	5							
	Bromoforn	µg/L	5							
	Carbon tetrachloride	µg/L	5							
	Chlorodibromomethane	µg/L	5							
	Chloroethane	µg/L	50							
	Chloroform	µg/L	5							
	Chloromethane	µg/L	50							
	cis-1,2-dichloroethene	µg/L	5							
	cis-1,3-dichloropropene	µg/L	5							
	Dibromomethane	µg/L	5							
	Hexachlorobutadiene	µg/L	5							
	Trichloroethene	µg/L	5							
	Tetrachloroethene	µg/L	5							
	trans-1,2-dichloroethene	µg/L	5							
	trans-1,3-dichloropropene	µg/L	5							
	Vinyl chloride	µg/L	50							
Halogenated Benzenes	1,2,3-trichlorobenzene	µg/L	5							
	1,2,4-trichlorobenzene	µg/L	5							
	1,2-dichlorobenzene	µg/L	5							
	1,3-dichlorobenzene	µg/L	5							
	1,4-dichlorobenzene	µg/L	5							
	2-chlorotoluene	µg/L	5							
	4-chlorotoluene	µg/L	5							
	Bromobenzene	µg/L	5							
	Chlorobenzene	µg/L	5							
Halogenated Hydrocarbons	1,2-dibromoethane	µg/L	5							
	Bromomethane	µg/L	50							
	Dichlorodifluoromethane	µg/L	50							
	Iodomethane	µg/L	5							
	Trichlorofluoromethane	µg/L	50							
Lead	Lead	mg/l	0.000001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MAH	1,2,4-trimethylbenzene	µg/L	5							
	1,3,5-trimethylbenzene	µg/L	5							
	Isopropylbenzene	µg/L	5							
	n-butylbenzene	µg/L	5							
	n-propylbenzene	µg/L	5							
	p-isopropyltoluene	µg/L	5							
	sec-butylbenzene	µg/L	5							
	Styrene	µg/L	5							
	tert-butylbenzene	µg/L	5							
Metals	Arsenic	mg/l	0.000001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Barium	mg/l	0.000001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001
	Beryllium	mg/l	0.000001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Boron	mg/l	0.00005	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Cadmium	mg/l	0.0000001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Cadmium (Filtered)	mg/l	0.00005							
	Chromium (III+VI)	mg/l	0.000001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Cobalt	mg/l	0.000001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Copper	mg/l	0.000001	0.001	0.001	<0.001	0.002	<0.001	<0.001	<0.001
	Manganese	mg/l	0.000001	0.006	0.009	<0.001	<0.001	<0.001	<0.001	<0.001
	Mercury	mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Molybdenum	mg/l	0.000001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001
	Nickel	mg/l	0.000001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Selenium	mg/l	0.0002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Thallium	mg/l	0.000001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Vanadium	mg/l	0.00001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Zinc	mg/l	0.000005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
PAH/Phenols	2,4,5-trichlorophenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1
	2,4,6-trichlorophenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1
	2,4-dichlorophenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1
	2,4-dimethylphenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1
	2,6-dichlorophenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1
	2-chlorophenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1
	2-methylphenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1
	2-nitrophenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1
	3-&4-methylphenol	µg/L	2	<2	<2	<2	<2	<2	<2	<2

Field Blanks (WATER)

SDG	ES1326688	ES1326688	ES1326695	ES1326990	ES1326999	ES1327521	ES1327803
Field_ID	R01_261113_WG	R01_271113_WG	R01_021213_GP	R01_031213_GP	R01_041213_HC	R01_091213_GP	R01_111213_GP
Sampled_Date-Time	26/11/13	27/11/13	2/12/13	10/12/13	4/12/13	9/12/13	11/12/13
Sample_Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate

Chem_Group	ChemName	Units	EQL							
	4-chloro-3-methylphenol	µg/L	1	<1	<1	<1	<1		<1	<1
	Acenaphthene	µg/L	1	<1	<1	<1	<1		<1	<1
	Acenaphthylene	µg/L	1	<1	<1	<1	<1		<1	<1
	Anthracene	µg/L	1	<1	<1	<1	<1		<1	<1
	Benz(a)anthracene	µg/L	1	<1	<1	<1	<1		<1	<1
	Benzo(a) pyrene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5
	Benzo(b)fluoranthene	µg/L	1	<1	<1	<1	<1		<1	<1
	Benzo(g,h)perylene	µg/L	1	<1	<1	<1	<1		<1	<1
	Benzo(k)fluoranthene	µg/L	1	<1	<1	<1	<1		<1	<1
	Chrysene	µg/L	1	<1	<1	<1	<1		<1	<1
	Dibenz(a,h)anthracene	µg/L	1	<1	<1	<1	<1		<1	<1
	Fluoranthene	µg/L	1	<1	<1	<1	<1		<1	<1
	Fluorene	µg/L	1	<1	<1	<1	<1		<1	<1
	Indeno(1,2,3-c,d)pyrene	µg/L	1	<1	<1	<1	<1		<1	<1
	Naphthalene	µg/L	1	<5	<5	<5	<5	<5	<5	<5
	PAHs (Sum of total)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5
	Pentachlorophenol	µg/L	2	<2	<2	<2	<2		<2	<2
	Phenanthrene	µg/L	1	<1	<1	<1	<1		<1	<1
	Phenol	µg/L	1	<1	<1	<1	<1		<1	<1
	Pyrene	µg/L	1	<1	<1	<1	<1		<1	<1
Polychlorinated Biphenyls	PCBs (Sum of total)	µg/L	1							
Solvents	Methyl Ethyl Ketone	µg/L	50							
	2-hexanone (MBK)	µg/L	50							
	4-Methyl-2-pentanone	µg/L	50							
	Carbon disulfide	µg/L	5							
	Vinyl acetate	µg/L	50							
TRH	C6-C10 less BTEX (F1)	mg/l	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	> C10 - C16 Less Naphthalene (F2)	mg/l	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	C6 - C9	µg/L	20	<20	<20	<20	<20	<20	<20	<20
	C10 - C14	µg/L	50	<50	<50	<50	<50	<50	<50	<50
	C15 - C28	µg/L	100	<100	<100	<100	<100	<100	<100	<100
	C29-C36	µg/L	50	<50	<50	<50	<50	<50	<50	<50
	+C10 - C36 (Sum of total)	µg/L	50	<50	<50	<50	<50	<50	<50	<50
	C10 - C40 (Sum of total)	µg/L	100	<100	<100	<100	<100	<100	<100	<100
	C10-C16	mg/l	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	C16-C34	mg/l	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	C34-C40	mg/l	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	C6-C10	mg/l	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
VOCs	cis-1,4-Dichloro-2-butene	µg/L	5							
	Pentachloroethane	µg/L	5							
	trans-1,4-Dichloro-2-butene	µg/L	5							



Field Blanks (WATER)

SDG	ES1326215	ES1326215	ES1326993	ES1326993	ES1326994	ES1327009	ES1327010	ES1327010	ES1327011	ES1327421	ES1327434	ES1327435	ES1327436	ES1327444	ES1327444
Field_ID	R01_281113_NH	R01_291113_NH	R01_041213_CH	R01_041213_KF	R01_031213_NH	R01_041213_NH	R01_051213_CH	R01_051213_KF	RINSATE_021213_NH	R01_101213_KF	R01_121213_KF	R01_111213_KF	R01_091213_KF	R01_111213	R01_121213_JG
Sampled_Date	28/11/2013 16:00	29/11/2013 13:45	4/12/2013 15:00	4/12/2013 15:00	3/12/2013 15:54	4/12/2013 11:05	5/12/2013 15:00	5/12/2013 15:00	2/12/2013 15:50	10/12/2013 15:00	12/12/2013 15:00	11/12/2013 15:00	9/12/2013 15:00	11/12/2013 15:00	12/12/2013 15:00
Sample_Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Chem_Group	ChemName	Units	EQL												
	Benzo(a)pyrene TEQ (zero)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BTEX	Benzene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Ethylbenzene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Xylene (o)	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Xylene (m & p)	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Xylene Total	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Total BTEX	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,1,1-trichloroethane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,1,2,2-tetrachloroethane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,1,2-trichloroethane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,1-dichloroethane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,1-dichloroethene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,1-dichloropropene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,2,3-trichloropropane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,2-dibromo-3-chloropropane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,2-dichloroethane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,2-dichloropropane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,3-dichloropropane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	2,2-dichloropropane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Bromodichloromethane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Bromoform	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Carbon tetrachloride	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Chlorodibromomethane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Chloroethane	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	Chloroform	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Chloromethane	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	cis-1,2-dichloroethene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	cis-1,3-dichloropropene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Dibromomethane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Hexachlorobutadiene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Trichloroethene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Tetrachloroethene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	trans-1,2-dichloroethene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	trans-1,3-dichloropropene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Vinyl chloride	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Halogenated Benzenes	1,2,3-trichlorobenzene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,2,4-trichlorobenzene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,2-dichlorobenzene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,3-dichlorobenzene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,4-dichlorobenzene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	2-chlorotoluene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	4-chlorotoluene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Bromobenzene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Chlorobenzene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Halogenated Hydrocarbons	1,2-dibromoethane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Bromomethane	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	Dichlorodifluoromethane	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	Iodomethane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Trichlorofluoromethane	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Inorganics	Alkalinity (Hydroxide) as CaCO3	µg/l	1000						<1000	<1000	<1000		<1000	<1000	<1000
	Alkalinity (total) as CaCO3	mg/l	1						<1	2	1		<1	<1	<1
	Anions Total	meq/L	0.01						<0.01	0.06	0.04		0.02	<0.01	<0.01
	Alkalinity (Bicarbonate as CaCO3)	mg/l	1						<1	1	2		1	<1	<1
	Alkalinity (Carbonate as CaCO3)	mg/l	1						<1	<1	<1		<1	<1	<1
	Cations Total	meq/L	0.01						<0.01	<0.01	<0.01		<0.01	<0.01	<0.01
	Chloride	mg/l	1						<1	<1	<1		<1	<1	<1
	Ionic Balance	%	0.01												
	Sodium (Filtered)	mg/l	1						<1	<1	<1		<1	<1	<1
	Sulphate as S (Filtered)	mg/l	1						2	<1	<1		<1	<1	<1
Lead	Lead	mg/l	0.0001	<0.001	<0.001				<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Lead (Filtered)	mg/l	0.0001		<0.0001	<0.0001	<0.001		<0.001	<0.001					
MAH	1,2,4-trimethylbenzene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	1,3,5-trimethylbenzene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Isopropylbenzene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	n-butylbenzene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	n-propylbenzene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	p-isopropyltoluene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	sec-butylbenzene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Styrene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	tert-butylbenzene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Metals	Arsenic	mg/l	0.0002	<0.001	<0.001	<0.0002	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002
	Barium	mg/l	0.0005								0.008	0.011	0.004		<0.0005
	Beryllium	mg/l	0.0001								<0.001	<0			

Field Blanks (WATER)

SDG	ES1326215	ES1326215	ES1326993	ES1326993	ES1326994	ES1327009	ES1327010	ES1327010	ES1327010	ES1327011	ES1327421	ES1327434	ES1327435	ES1327436	ES1327444	ES1327444
Field_ID	R01_281113_NH	R01_291113_NH	R01_041213_CH	R01_041213_KF	R01_031213_NH	R01_041213_NH	R01_051213_CH	R01_051213_KF	RINSATE_021213_NH	R01_101213_KF	R01_121213_KF	R01_111213_KF	R01_091213_KF	R01_111213	R01_121213_JG	
Sampled_Date	28/11/2013 16:00	29/11/2013 13:45	4/12/2013 15:00	4/12/2013 15:00	3/12/2013 15:54	4/12/2013 11:05	5/12/2013 15:00	5/12/2013 15:00	2/12/2013 15:50	10/12/2013 15:00	12/12/2013 15:00	11/12/2013 15:00	9/12/2013 15:00	11/12/2013 15:00	12/12/2013 15:00	
Sample_Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	
Chem_Group	ChemName	Units	EQL													
	Calcium (Filtered)	mg/l	1						<1					<1		<1
	Chromium (III+VI)	mg/l	0.0002	<0.001	<0.001	<0.0002	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.0002
	Cobalt	mg/l	0.0001													
	Copper	mg/l	0.0005	<0.001	<0.001	0.0012	0.002	<0.001	0.001	<0.001	<0.001	<0.001	0.002	0.002	0.003	0.002
	Magnesium (Filtered)	mg/l	1						<1					<1		<1
	Manganese	mg/l	0.0005										0.021	0.035	0.008	<0.0005
	Mercury	mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Molybdenum	mg/l	0.0001													
	Nickel	mg/l	0.0005	<0.001	<0.001	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.0005
	Potassium (Filtered)	mg/l	1						<1					<1		<1
	Selenium	mg/l	0.0002										<0.01	<0.01	<0.01	<0.0002
	Thallium	mg/l	0.00002										<0.001	<0.001	<0.001	<0.00002
	Titanium	mg/l	0.01													
	Vanadium	mg/l	0.0002													
	Zinc	mg/l	0.001	<0.005	<0.005	0.004	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.0002
													0.008	0.012	0.005	0.013
PAH/Phenols	2,4,5-trichlorophenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	2,4,6-trichlorophenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	2,4-dichlorophenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	2,4-dimethylphenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	2,6-dichlorophenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	2-chlorophenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	2-methylphenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	2-nitrophenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	3,4-methylphenol	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	4-chloro-3-methylphenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Acenaphthene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Acenaphthylene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Anthracene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benz(a)anthracene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(a)pyrene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(b)fluoranthene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(g,h,i)perylene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Benzo(k)fluoranthene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Chrysene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Dibenz(a,h)anthracene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluoranthene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Fluorene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Indeno(1,2,3-c,d)pyrene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Naphthalene	µg/L	1	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7
	PAHs (Sum of total)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pentachlorophenol	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Phenanthrene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Phenol	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Pyrene	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Polychlorinated Biphenyls	PCBs (Sum of total)	µg/L	1	<1										<1		
Solvents	Methyl Ethyl Ketone	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	2-hexanone (MBK)	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	4-Methyl-2-pentanone	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	Carbon disulfide	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Vinyl acetate	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
TRH	C6-C10 less BTEX (F1)	mg/l	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	> C10 - C16 Less Naphthalene (F2)	mg/l	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	C6 - C9	µg/L	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C10 - C14	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C15 - C28	µg/L	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	C29-C36	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	+C10 - C36 (Sum of total)	µg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C10 - C40 (Sum of total)	µg/L	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	C10-C16	mg/l	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	C16-C34	mg/l	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	C34-C40	mg/l	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	C6-C10	mg/l	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
VOCs	cis-1,4-Dichloro-2-butene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Pentachloroethane	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	trans-1,4-Dichloro-2-butene	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

Field Blanks (WATER)

SDG	ES1327444	ES1327890	ES1327963	ES1328108	ES1328110	ES1328113
Field_ID	R01_131213_JG	R01_171213_JG	R01_181213_JG	R01_201213_JG	R01_191213_JN	R01_191213_SC
Sampled_Date	13/12/2013 15:00	17/12/2013 15:00	18/12/2013 15:00	20/12/2013 10:00	19/12/2013 11:06	19/12/2013 18:00
Sample_Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate

Chem_Group	ChemName	Units	EQL	ES1327444	ES1327890	ES1327963	ES1328108	ES1328110	ES1328113
	Benzo(a)pyrene TEQ (zero)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BTEX	Benzene	µg/L	1	<1	<1	<1	<1	<1	<1
	Toluene	µg/L	2	<2	<2	<2	<2	<2	<2
	Ethylbenzene	µg/L	2	<2	<2	<2	<2	<2	<2
	Xylene (o)	µg/L	2	<2	<2	<2	<2	<2	<2
	Xylene (m & p)	µg/L	2	<2	<2	<2	<2	<2	<2
	Xylene Total	µg/L	2	<2	<2	<2	<2	<2	<2
	Total BTEX	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	µg/L	5	<5	<5	<5	<5	<5	<5
	1,1,1-trichloroethane	µg/L	5	<5	<5	<5	<5	<5	<5
	1,1,2,2-tetrachloroethane	µg/L	5	<5	<5	<5	<5	<5	<5
	1,1,2-trichloroethane	µg/L	5	<5	<5	<5	<5	<5	<5
	1,1-dichloroethane	µg/L	5	<5	<5	<5	<5	<5	<5
	1,1-dichloroethene	µg/L	5	<5	<5	<5	<5	<5	<5
	1,1-dichloropropene	µg/L	5	<5	<5	<5	<5	<5	<5
	1,2,3-trichloropropane	µg/L	5	<5	<5	<5	<5	<5	<5
	1,2-dibromo-3-chloropropane	µg/L	5	<5	<5	<5	<5	<5	<5
	1,2-dichloroethane	µg/L	5	<5	<5	<5	<5	<5	<5
	1,2-dichloropropane	µg/L	5	<5	<5	<5	<5	<5	<5
	1,3-dichloropropane	µg/L	5	<5	<5	<5	<5	<5	<5
	2,2-dichloropropane	µg/L	5	<5	<5	<5	<5	<5	<5
	Bromodichloromethane	µg/L	5	<5	<5	<5	<5	<5	<5
	Bromoform	µg/L	5	<5	<5	<5	<5	<5	<5
	Carbon tetrachloride	µg/L	5	<5	<5	<5	<5	<5	<5
	Chlorodibromomethane	µg/L	5	<5	<5	<5	<5	<5	<5
	Chloroethane	µg/L	50	<50	<50	<50	<50	<50	<50
	Chloroform	µg/L	5	<5	<5	<5	<5	<5	<5
	Chloromethane	µg/L	50	<50	<50	<50	<50	<50	<50
	cis-1,2-dichloroethene	µg/L	5	<5	<5	<5	<5	<5	<5
	cis-1,3-dichloropropene	µg/L	5	<5	<5	<5	<5	<5	<5
	Dibromomethane	µg/L	5	<5	<5	<5	<5	<5	<5
	Hexachlorobutadiene	µg/L	5	<5	<5	<5	<5	<5	<5
	Trichloroethene	µg/L	5	<5	<5	<5	<5	<5	<5
	Tetrachloroethene	µg/L	5	<5	<5	<5	<5	<5	<5
	trans-1,2-dichloroethene	µg/L	5	<5	<5	<5	<5	<5	<5
	trans-1,3-dichloropropene	µg/L	5	<5	<5	<5	<5	<5	<5
	Vinyl chloride	µg/L	50	<50	<50	<50	<50	<50	<50
Halogenated Benzenes	1,2,3-trichlorobenzene	µg/L	5	<5	<5	<5	<5	<5	<5
	1,2,4-trichlorobenzene	µg/L	5	<5	<5	<5	<5	<5	<5
	1,2-dichlorobenzene	µg/L	5	<5	<5	<5	<5	<5	<5
	1,3-dichlorobenzene	µg/L	5	<5	<5	<5	<5	<5	<5
	1,4-dichlorobenzene	µg/L	5	<5	<5	<5	<5	<5	<5
	2-chlorotoluene	µg/L	5	<5	<5	<5	<5	<5	<5
	4-chlorotoluene	µg/L	5	<5	<5	<5	<5	<5	<5
	Bromobenzene	µg/L	5	<5	<5	<5	<5	<5	<5
	Chlorobenzene	µg/L	5	<5	<5	<5	<5	<5	<5
Halogenated Hydrocarbons	1,2-dibromoethane	µg/L	5	<5	<5	<5	<5	<5	<5
	Bromomethane	µg/L	50	<50	<50	<50	<50	<50	<50
	Dichlorodifluoromethane	µg/L	50	<50	<50	<50	<50	<50	<50
	Iodomethane	µg/L	5	<5	<5	<5	<5	<5	<5
	Trichlorofluoromethane	µg/L	50	<50	<50	<50	<50	<50	<50
Inorganics	Alkalinity (Hydroxide) as CaCO3	µg/l	1000						<1000
	Alkalinity (total) as CaCO3	mg/l	1						<1
	Anions Total	meq/L	0.01						<0.01
	Alkalinity (Bicarbonate as CaCO3)	mg/l	1						<1
	Alkalinity (Carbonate as CaCO3)	mg/l	1						<1
	Cations Total	meq/L	0.01						<0.01
	Chloride	mg/l	1						<1
	Ionic Balance	%	0.01						
	Sodium (Filtered)	mg/l	1						<1
	Sulphate as S (Filtered)	mg/l	1						<1
Lead	Lead	mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Lead (Filtered)	mg/l	0.0001						
MAH	1,2,4-trimethylbenzene	µg/L	5	<5	<5	<5	<5	<5	<5
	1,3,5-trimethylbenzene	µg/L	5	<5	<5	<5	<5	<5	<5
	Isopropylbenzene	µg/L	5	<5	<5	<5	<5	<5	<5
	n-butylbenzene	µg/L	5	<5	<5	<5	<5	<5	<5
	n-propylbenzene	µg/L	5	<5	<5	<5	<5	<5	<5
	p-isopropyltoluene	µg/L	5	<5	<5	<5	<5	<5	<5
	sec-butylbenzene	µg/L	5	<5	<5	<5	<5	<5	<5
	Styrene	µg/L	5	<5	<5	<5	<5	<5	<5
	tert-butylbenzene	µg/L	5	<5	<5	<5	<5	<5	<5
Metals	Arsenic	mg/l	0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002
	Barium	mg/l	0.0005				<0.001		<0.0005
	Beryllium	mg/l	0.0001				<0.001		<0.0001
	Boron	mg/l	0.005				<0.05		<0.005
	Cadmium	mg/l	0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	<0.00005

Field Blanks (WATER)

SDG	ES1327444	ES1327890	ES1327963	ES1328108	ES1328110	ES1328113
Field_ID	R01_131213_JG	R01_171213_JG	R01_181213_JG	R01_201213_JG	R01_191213_JN	R01_191213_SC
Sampled_Date	13/12/2013 15:00	17/12/2013 15:00	18/12/2013 15:00	20/12/2013 10:00	19/12/2013 11:06	19/12/2013 18:00
Sample_Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate

Chem_Group	ChemName	Units	EQL	ES1327444	ES1327890	ES1327963	ES1328108	ES1328110	ES1328113
	Calcium (Filtered)	mg/l	1						<1
	Chromium (III+VI)	mg/l	0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002
	Cobalt	mg/l	0.0001				<0.001		<0.0001
	Copper	mg/l	0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005
	Magnesium (Filtered)	mg/l	1						<1
	Manganese	mg/l	0.0005				<0.001		<0.0005
	Mercury	mg/l	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	Molybdenum	mg/l	0.0001				<0.001		<0.0001
	Nickel	mg/l	0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005
	Potassium (Filtered)	mg/l	1						<1
	Selenium	mg/l	0.0002						
	Thallium	mg/l	0.00002						<0.00002
	Titanium	mg/l	0.01				<0.01		
	Vanadium	mg/l	0.0002				<0.01		<0.0002
	Zinc	mg/l	0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001
PAH/Phenols	2,4,5-trichlorophenol	µg/L	1	<1	<1	<1	<1	<1	<1
	2,4,6-trichlorophenol	µg/L	1	<1	<1	<1	<1	<1	<1
	2,4-dichlorophenol	µg/L	1	<1	<1	<1	<1	<1	<1
	2,4-dimethylphenol	µg/L	1	<1	<1	<1	<1	<1	<1
	2,6-dichlorophenol	µg/L	1	<1	<1	<1	<1	<1	<1
	2-chlorophenol	µg/L	1	<1	<1	<1	<1	<1	<1
	2-methylphenol	µg/L	1	<1	<1	<1	<1	<1	<1
	2-nitrophenol	µg/L	1	<1	<1	<1	<1	<1	<1
	3,4-methylphenol	µg/L	2	<2	<2	<2	<2	<2	<2
	4-chloro-3-methylphenol	µg/L	1	<1	<1	<1	<1	<1	<1
	Acenaphthene	µg/L	1	<1	<1	<1	<1	<1	<1
	Acenaphthylene	µg/L	1	<1	<1	<1	<1	<1	<1
	Anthracene	µg/L	1	<1	<1	<1	<1	<1	<1
	Benz(a)anthracene	µg/L	1	<1	<1	<1	<1	<1	<1
	Benzo(a) pyrene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(b)fluoranthene	µg/L	1	<1	<1	<1	<1	<1	<1
	Benzo(g,h,i)perylene	µg/L	1	<1	<1	<1	<1	<1	<1
	Benzo(k)fluoranthene	µg/L	1	<1	<1	<1	<1	<1	<1
	Chrysene	µg/L	1	<1	<1	<1	<1	<1	<1
	Dibenz(a,h)anthracene	µg/L	1	<1	<1	<1	<1	<1	<1
	Fluoranthene	µg/L	1	<1	<1	<1	<1	<1	<1
	Fluorene	µg/L	1	<1	<1	<1	<1	<1	<1
	Indeno(1,2,3-c,d)pyrene	µg/L	1	<1	<1	<1	<1	<1	<1
	Naphthalene	µg/L	1	<7	<7	<7	<7	<7	<7
	PAHs (Sum of total)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pentachlorophenol	µg/L	2	<2	<2	<2	<2	<2	<2
	Phenanthrene	µg/L	1	<1	<1	<1	<1	<1	<1
	Phenol	µg/L	1	<1	<1	<1	<1	<1	<1
	Pyrene	µg/L	1	<1	<1	<1	<1	<1	<1
Polychlorinated Biphenyls	PCBs (Sum of total)	µg/L	1	<1					
Solvents	Methyl Ethyl Ketone	µg/L	50	<50	<50	<50	<50	<50	<50
	2-hexanone (MBK)	µg/L	50	<50	<50	<50	<50	<50	<50
	4-Methyl-2-pentanone	µg/L	50	<50	<50	<50	<50	<50	<50
	Carbon disulfide	µg/L	5	<5	<5	<5	<5	<5	<5
	Vinyl acetate	µg/L	50	<50	<50	<50	<50	<50	<50
TRH	C6-C10 less BTEX (F1)	mg/l	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	> C10 - C16 Less Naphthalene (F2)	mg/l	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	C6 - C9	µg/L	20	<20	<20	<20	<20	<20	<20
	C10 - C14	µg/L	50	<50	<50	<50	<50	<50	<50
	C15 - C28	µg/L	100	<100	<100	<100	<100	<100	<100
	C29-C36	µg/L	50	<50	<50	<50	<50	<50	<50
	+C10 - C36 (Sum of total)	µg/L	50	<50	<50	<50	<50	<50	<50
	C10 - C40 (Sum of total)	µg/L	100	<100	<100	<100	<100	<100	<100
	C10-C16	mg/l	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	C16-C34	mg/l	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	C34-C40	mg/l	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	C6-C10	mg/l	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
VOCs	cis-1,4-Dichloro-2-butene	µg/L	5	<5	<5	<5	<5	<5	<5
	Pentachloroethane	µg/L	5	<5	<5	<5	<5	<5	<5
	trans-1,4-Dichloro-2-butene	µg/L	5	<5	<5	<5	<5	<5	<5



Field Blanks (WATER)

SDG	ES1326081	ES1326639
Field_ID	R01_271113_TA	R01_291113_TA
Sampled_Date-Time	27/11/2013 15:00	29/11/2013 15:00
Sample_Type	Rinsate	Rinsate

Chem_Group	ChemName	Units	EQL		
	Benzo(a)pyrene TEQ (zero)	µg/L	0.5	<0.5	<0.5
BTEX	Benzene	µg/L	1	<1	<1
	Toluene	µg/L	2	<2	<2
	Ethylbenzene	µg/L	2	<2	<2
	Xylene (o)	µg/L	2	<2	<2
	Xylene (m & p)	µg/L	2	<2	<2
	Xylene Total	µg/L	2	<2	<2
	Total BTEX	mg/l	0.001	<0.001	<0.001
Lead	Lead	mg/l	0.001	<0.001	<0.001
Metals	Arsenic	mg/l	0.001	<0.001	<0.001
	Barium	mg/l	0.001	0.011	<0.001
	Beryllium	mg/l	0.001	<0.001	<0.001
	Boron	mg/l	0.05	<0.05	<0.05
	Cadmium	mg/l	0.0001	<0.0001	<0.0001
	Chromium (III+VI)	mg/l	0.001	<0.001	<0.001
	Cobalt	mg/l	0.001	<0.001	<0.001
	Copper	mg/l	0.001	<0.001	<0.001
	Manganese	mg/l	0.001	0.008	<0.001
	Mercury	mg/l	0.0001		<0.0001
	Molybdenum	mg/l	0.001	<0.001	<0.001
	Nickel	mg/l	0.001	<0.001	<0.001
	Thallium	mg/l	0.001	<0.001	<0.001
	Vanadium	mg/l	0.01	<0.01	<0.01
	Zinc	mg/l	0.005	<0.005	<0.005
PAH/Phenols	2,4,5-trichlorophenol	µg/L	1	<1	<1
	2,4,6-trichlorophenol	µg/L	1	<1	<1
	2,4-dichlorophenol	µg/L	1	<1	<1
	2,4-dimethylphenol	µg/L	1	<1	<1
	2,6-dichlorophenol	µg/L	1	<1	<1
	2-chlorophenol	µg/L	1	<1	<1
	2-methylphenol	µg/L	1	<1	<1
	2-nitrophenol	µg/L	1	<1	<1
	3-&4-methylphenol	µg/L	2	<2	<2
	4-chloro-3-methylphenol	µg/L	1	<1	<1
	Acenaphthene	µg/L	1	<1	<1
	Acenaphthylene	µg/L	1	<1	<1
	Anthracene	µg/L	1	<1	<1
	Benz(a)anthracene	µg/L	1	<1	<1
	Benzo(a) pyrene	µg/L	0.5	<0.5	<0.5
	Benzo(b)fluoranthene	µg/L	1	<1	<1
	Benzo(g,h,i)perylene	µg/L	1	<1	<1
	Benzo(k)fluoranthene	µg/L	1	<1	<1
	Chrysene	µg/L	1	<1	<1
	Dibenz(a,h)anthracene	µg/L	1	<1	<1
	Fluoranthene	µg/L	1	<1	<1
	Fluorene	µg/L	1	<1	<1
	Indeno(1,2,3-c,d)pyrene	µg/L	1	<1	<1
	Naphthalene	µg/L	1	<5	<5
	PAHs (Sum of total)	µg/L	0.5	<0.5	<0.5
	Pentachlorophenol	µg/L	2	<2	<2
	Phenanthrene	µg/L	1	<1	<1
	Phenol	µg/L	1	<1	<1
	Pyrene	µg/L	1	<1	<1
TRH	C6-C10 less BTEX (F1)	mg/l	0.02	<0.02	<0.02
	> C10 - C16 Less Naphthalene (F2)	mg/l	0.1	<0.1	<0.1
	C6 - C9	µg/L	20	<20	<20
	C10 - C14	µg/L	50	<50	<50
	C15 - C28	µg/L	100	<100	<100
	C29-C36	µg/L	50	<50	<50
	+C10 - C36 (Sum of total)	µg/L	50	<50	<50
	C10 - C40 (Sum of total)	µg/L	100	<100	<100
	C10-C16	mg/l	0.1	<0.1	<0.1
	C16-C34	mg/l	0.1	<0.1	<0.1
	C34-C40	mg/l	0.1	<0.1	<0.1
	C6-C10	mg/l	0.02	<0.02	<0.02



Field Blanks (SOIL)

SDG	ES1323960	ES1324374	ES1324374	ES1324590	ES1324722	ES1324726	ES1324729	ES1324839	ES1325015
Field_ID	TRIP BLANK	TRIP BLANK	TRIP BLANK	BLANK	TRIP BLANK	TRIP BLANK	TB_051113_SM	TRIP BLANK 5	TRIP BLANK 8
Sampled_Date-Time	4/11/13	5/11/13	6/11/13	8/11/13	11/11/13	8/11/13	5/11/13	8/11/13	8/11/13
Sample_Type	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B

Chem_Group	ChemName	Units	EQL									
BTEX	Benzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Toluene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Total BTEX	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PAH/Phenols	Naphthalene	mg/kg	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
TRH	C6-C10 less BTEX (F1)	mg/kg	10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	> C10 - C16 Less Naphthalene (F2)	mg/kg	50									
	C6 - C9	mg/kg	10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	C6-C10	mg/kg	10	<10	<10	<10	<10	<10	<10	<10	<10	<10



Field Blanks (SOIL)

SDG	ES1325572	ES1325842	ES1325879	ES1325880	ES1325880	ES1326079	ES1326688	ES1326693	ES1326695	ES1326978
Field_ID	TB10_151113	TRIP BLANK	T.BLANK	TB1_201113	TB7_201113	BLANK TRIP	B/K_WG	TRIP BLANK	TRIP BLANK	TRIP BLANK
Sampled_Date-Time	15/11/13	25/11/13	15/11/13	20/11/13	20/11/13	22/11/13	4/12/13	28/11/13	2/12/13	25/11/13
Sample_Type	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B

Chem_Group	ChemName	Units	EQL										
BTEX	Benzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Toluene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Total BTEX	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PAH/Phenols	Naphthalene	mg/kg	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TRH	C6-C10 less BTEX (F1)	mg/kg	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	> C10 - C16 Less Naphthalene (F2)	mg/kg	50										
	C6 - C9	mg/kg	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	C6-C10	mg/kg	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10



Field Blanks (SOIL)

SDG	ES1326990	ES1326999	ES1327429	ES1327432	ES1327521	ES1327803	ES1327892	ES1328111
Field_ID	TRIP BLANK	BLK	TB	TB	BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
Sampled_Date-Time	10/12/13	28/11/13	9/12/13	28/11/13	11/12/13	11/12/13	19/12/13	20/12/13
Sample_Type	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B

Chem_Group	ChemName	Units	EQL								
BTEX	Benzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Toluene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Total BTEX	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PAH/Phenols	Naphthalene	mg/kg	0.5	<1	<1	<1	<1	<1	<1	<1	<1
TRH	C6-C10 less BTEX (F1)	mg/kg	10	<10	<10	<10	<10	<10	<10	<10	<10
	> C10 - C16 Less Naphthalene (F2)	mg/kg	50								
	C6 - C9	mg/kg	10	<10	<10	<10	<10	<10	<10	<10	<10
	C6-C10	mg/kg	10	<10	<10	<10	<10	<10	<10	<10	<10



Field Blanks (WATER)

		SDG	ES1326993	ES1326994	ES1326996	ES1327009	ES1327010	ES1327011	ES1327421	ES1327434	ES1327435	ES1327436	ES1327444	ES1327444	ES1328110	ES1328113	ES1328113
Field_ID	Sampled_Date-Time	Field_ID	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TB_101213	TB5_121213	TB1_111213	TB_091213	TB_11	TB_06	2 X TRIP BLANK	TB 13	TB 14
Sample_Type		Sample_Type	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B
Chem_Gr	ChemName	Units	EQL														
BTEX	Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Toluene	ug/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Ethylbenzene	ug/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Xylene (o)	ug/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Xylene (m & p)	ug/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Xylene Total	ug/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Total BTEX	mg/l	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
PAH/Phen	Naphthalene	ug/L	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
TRH	C6-C10 less BTEX (F1)	mg/l	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	C6 - C9	ug/L	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C6-C10	mg/l	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02



Field Blanks (WATER)

SDG	ES1326081	ES1326163	ES1326639
Field_ID	T/BLANK	T/BLANK	T/BLANK
Sampled_Date-Time	27/11/13	22/11/13	29/11/13
Sample_Type	Trip_B	Trip_B	Trip_B

Chem_Group	ChemName	Units	EQL			
BTEX	Benzene	µg/L	1	<1	<1	<1
	Toluene	µg/L	2	<2	<2	<2
	Ethylbenzene	µg/L	2	<2	<2	<2
	Xylene (o)	µg/L	2	<2	<2	<2
	Xylene (m & p)	µg/L	2	<2	<2	<2
	Xylene Total	µg/L	2	<2	<2	<2
	Total BTEX	mg/l	0.001	<0.001	<0.001	<0.001
PAH/Phenols	Naphthalene	µg/L	1	<5	<5	<5
TRH	C6-C10 less BTEX (F1)	mg/l	0.02	<0.02	<0.02	<0.02
	C6 - C9	µg/L	20	<20	<20	<20
	C6-C10	mg/l	0.02	<0.02	<0.02	<0.02



Field Blanks (SOIL)

SDG	ES1326082	ES1326083	ES1326691
Field_ID	T/BLANK	T/BLANK	T/BLANK
Sampled_Date-Time	26/11/13	22/11/13	29/11/13
Sample_Type	Trip_B	Trip_B	Trip_B

Chem_Group	ChemName	Units	EQL			
BTEX	Benzene	mg/kg	0.2	<0.2	<0.2	<0.2
	Toluene	mg/kg	0.2	<0.5	<0.5	<0.5
	Ethylbenzene	mg/kg	0.2	<0.5	<0.5	<0.5
	Xylene (o)	mg/kg	0.2	<0.5	<0.5	<0.5
	Xylene (m & p)	mg/kg	0.2	<0.5	<0.5	<0.5
	Xylene Total	mg/kg	0.5	<0.5	<0.5	<0.5
	Total BTEX	mg/kg	0.2	<0.2	<0.2	<0.2
PAH/Phenols	Naphthalene	mg/kg	0.005	<1	<1	<1
	TRH	C6-C10 less BTEX (F1)	mg/kg	10	<10	<10
	C6 - C9	mg/kg	3	<10	<10	<10
	C6-C10	mg/kg	3	<10	<10	<10

SDG	Field ID	Compound	Trip Spike Result	Trip Spike Control	Result Units	Spike Recovery %	Acceptable
ES1323960	TRIP SPIKE	C6 - C9 Fraction	73	82	mg/kg	89	Y
ES1323960	TRIP SPIKE	C6 - C10 Fraction	81	90	mg/kg	90	Y
ES1323960	TRIP SPIKE	C6 - C10 Fraction minus BTEX (F1)	50	55	mg/kg	91	Y
ES1323960	TRIP SPIKE	Benzene	0.7	0.8	mg/kg	88	Y
ES1323960	TRIP SPIKE	Ethylbenzene	1.8	2	mg/kg	90	Y
ES1323960	TRIP SPIKE	meta- & para-Xylene	8.7	9.8	mg/kg	89	Y
ES1323960	TRIP SPIKE	Naphthalene	<1	<1	mg/kg	100	Y
ES1323960	TRIP SPIKE	ortho-Xylene	3.4	3.8	mg/kg	89	Y
ES1323960	TRIP SPIKE	Sum of BTEX	31.2	34.6	mg/kg	90	Y
ES1323960	TRIP SPIKE	Toluene	16.6	18.2	mg/kg	91	Y
ES1323960	TRIP SPIKE	Total Xylenes	12.1	13.6	mg/kg	89	Y
ES1324374	TRIP SPIKE TS15	C6 - C9 Fraction	41	59	mg/kg	69	N
ES1324374	TRIP SPIKE TS15	C6 - C10 Fraction	48	64	mg/kg	75	Y
ES1324374	TRIP SPIKE TS15	C6 - C10 Fraction minus BTEX (F1)	30	43	mg/kg	70	Y
ES1324374	TRIP SPIKE TS15	Benzene	<0.2	0.3	mg/kg	67	N
ES1324374	TRIP SPIKE TS15	Ethylbenzene	1.2	1.2	mg/kg	100	Y
ES1324374	TRIP SPIKE TS15	meta- & para-Xylene	6	6.5	mg/kg	92	Y
ES1324374	TRIP SPIKE TS15	Naphthalene	<1	<1	mg/kg	100	Y
ES1324374	TRIP SPIKE TS15	ortho-Xylene	2.4	2.5	mg/kg	96	Y
ES1324374	TRIP SPIKE TS15	Sum of BTEX	17.8	20.8	mg/kg	86	Y
ES1324374	TRIP SPIKE TS15	Toluene	8.2	10.3	mg/kg	80	Y
ES1324374	TRIP SPIKE TS15	Total Xylenes	8.4	9	mg/kg	93	Y
ES1324374	TRIP SPIKE TS6	C6 - C9 Fraction	62	70	mg/kg	89	Y
ES1324374	TRIP SPIKE TS6	C6 - C10 Fraction	66	74	mg/kg	89	Y
ES1324374	TRIP SPIKE TS6	C6 - C10 Fraction minus BTEX (F1)	45	50	mg/kg	90	Y
ES1324374	TRIP SPIKE TS6	Benzene	0.5	0.5	mg/kg	100	Y
ES1324374	TRIP SPIKE TS6	Ethylbenzene	1.2	1.4	mg/kg	86	Y
ES1324374	TRIP SPIKE TS6	meta- & para-Xylene	6.1	6.9	mg/kg	88	Y
ES1324374	TRIP SPIKE TS6	Naphthalene	<1	<1	mg/kg	100	Y
ES1324374	TRIP SPIKE TS6	ortho-Xylene	2.4	2.7	mg/kg	89	Y
ES1324374	TRIP SPIKE TS6	Sum of BTEX	21.4	23.6	mg/kg	91	Y
ES1324374	TRIP SPIKE TS6	Toluene	11.2	12.1	mg/kg	93	Y
ES1324374	TRIP SPIKE TS6	Total Xylenes	8.5	9.6	mg/kg	89	Y
ES1324590	TRIP SPIKE 04	C6 - C9 Fraction	54	79	mg/kg	68	N
ES1324590	TRIP SPIKE 04	C6 - C10 Fraction	59	84	mg/kg	70	Y
ES1324590	TRIP SPIKE 04	C6 - C10 Fraction minus BTEX (F1)	32	50	mg/kg	64	N
ES1324590	TRIP SPIKE 04	Benzene	0.6	0.8	mg/kg	75	Y
ES1324590	TRIP SPIKE 04	Ethylbenzene	1.5	1.9	mg/kg	79	Y
ES1324590	TRIP SPIKE 04	meta- & para-Xylene	7.5	9.2	mg/kg	82	Y
ES1324590	TRIP SPIKE 04	Naphthalene	<1	<1	mg/kg	100	Y
ES1324590	TRIP SPIKE 04	ortho-Xylene	3.2	3.7	mg/kg	86	Y
ES1324590	TRIP SPIKE 04	Sum of BTEX	27.5	34.1	mg/kg	81	Y
ES1324590	TRIP SPIKE 04	Toluene	14.7	18.5	mg/kg	79	Y
ES1324590	TRIP SPIKE 04	Total Xylenes	10.7	12.9	mg/kg	83	Y
ES1324722	TRIP SPIKE (TS6)	C6 - C9 Fraction	97	105	mg/kg	92	Y
ES1324722	TRIP SPIKE (TS6)	C6 - C10 Fraction	106	117	mg/kg	91	Y
ES1324722	TRIP SPIKE (TS6)	C6 - C10 Fraction minus BTEX (F1)	71	82	mg/kg	87	Y
ES1324722	TRIP SPIKE (TS6)	Benzene	0.8	0.7	mg/kg	114	Y
ES1324722	TRIP SPIKE (TS6)	Ethylbenzene	2	2.1	mg/kg	95	Y
ES1324722	TRIP SPIKE (TS6)	meta- & para-Xylene	10.3	10.4	mg/kg	99	Y
ES1324722	TRIP SPIKE (TS6)	Naphthalene	<1	<1	mg/kg	100	Y
ES1324722	TRIP SPIKE (TS6)	ortho-Xylene	4.1	4	mg/kg	103	Y
ES1324722	TRIP SPIKE (TS6)	Sum of BTEX	35	35.3	mg/kg	99	Y
ES1324722	TRIP SPIKE (TS6)	Toluene	17.8	18.1	mg/kg	98	Y
ES1324722	TRIP SPIKE (TS6)	Total Xylenes	14.4	14.4	mg/kg	100	Y
ES1324726	TRIP SPIKE	C6 - C9 Fraction	49	64	mg/kg	77	Y
ES1324726	TRIP SPIKE	C6 - C10 Fraction	55	71	mg/kg	77	Y
ES1324726	TRIP SPIKE	C6 - C10 Fraction minus BTEX (F1)	30	39	mg/kg	77	Y
ES1324726	TRIP SPIKE	Benzene	0.4	0.6	mg/kg	67	N
ES1324726	TRIP SPIKE	Ethylbenzene	1.5	1.8	mg/kg	83	Y
ES1324726	TRIP SPIKE	meta- & para-Xylene	7.6	9.2	mg/kg	83	Y
ES1324726	TRIP SPIKE	Naphthalene	<1	<1	mg/kg	100	Y
ES1324726	TRIP SPIKE	ortho-Xylene	3.1	3.7	mg/kg	84	Y
ES1324726	TRIP SPIKE	Sum of BTEX	25.5	31.8	mg/kg	80	Y
ES1324726	TRIP SPIKE	Toluene	12.9	16.5	mg/kg	78	Y
ES1324726	TRIP SPIKE	Total Xylenes	10.7	12.9	mg/kg	83	Y
ES1324729	TS_051113_SM	C6 - C9 Fraction	69	104	mg/kg	66	N
ES1324729	TS_051113_SM	C6 - C10 Fraction	76	113	mg/kg	67	N
ES1324729	TS_051113_SM	C6 - C10 Fraction minus BTEX (F1)	44	72	mg/kg	61	N
ES1324729	TS_051113_SM	Benzene	0.7	0.8	mg/kg	88	Y
ES1324729	TS_051113_SM	Ethylbenzene	2	2.4	mg/kg	83	Y
ES1324729	TS_051113_SM	meta- & para-Xylene	9.4	11.4	mg/kg	82	Y
ES1324729	TS_051113_SM	Naphthalene	<1	<1	mg/kg	100	Y
ES1324729	TS_051113_SM	ortho-Xylene	3.7	4.5	mg/kg	82	Y
ES1324729	TS_051113_SM	Sum of BTEX	31.8	40.9	mg/kg	78	Y
ES1324729	TS_051113_SM	Toluene	16	21.8	mg/kg	73	Y
ES1324729	TS_051113_SM	Total Xylenes	13.1	15.9	mg/kg	82	Y
ES1324839	TRIP SPK 2	C6 - C9 Fraction	130	117	mg/kg	111	Y
ES1324839	TRIP SPK 2	C6 - C10 Fraction	142	130	mg/kg	109	Y
ES1324839	TRIP SPK 2	C6 - C10 Fraction minus BTEX (F1)	91	76	mg/kg	120	Y
ES1324839	TRIP SPK 2	Benzene	1.2	1.3	mg/kg	92	Y
ES1324839	TRIP SPK 2	Ethylbenzene	3.2	3	mg/kg	107	Y
ES1324839	TRIP SPK 2	meta- & para-Xylene	15.4	15.4	mg/kg	100	Y
ES1324839	TRIP SPK 2	Naphthalene	<1	<1	mg/kg	100	Y
ES1324839	TRIP SPK 2	ortho-Xylene	6.2	6.1	mg/kg	102	Y
ES1324839	TRIP SPK 2	Sum of BTEX	51.3	53.6	mg/kg	96	Y
ES1324839	TRIP SPK 2	Toluene	25.3	27.8	mg/kg	91	Y

SDG	Field ID	Compound	Trip Spike Result	Trip Spike Control	Result Units	Spike Recovery %	Acceptable
ES1324839	TRIP SPK 2	Total Xylenes	21.6	21.5	mg/kg	100	Y
ES1325015	TRIP SPIKE 1	C6 - C9 Fraction	79	107	mg/kg	74	Y
ES1325015	TRIP SPIKE 1	C6 - C10 Fraction	88	121	mg/kg	73	Y
ES1325015	TRIP SPIKE 1	C6 - C10 Fraction minus BTEX (F1)	52	80	mg/kg	65	N
ES1325015	TRIP SPIKE 1	Benzene	0.7	1	mg/kg	70	Y
ES1325015	TRIP SPIKE 1	Ethylbenzene	2.1	2.7	mg/kg	78	Y
ES1325015	TRIP SPIKE 1	meta- & para-Xylene	10.1	11.8	mg/kg	86	Y
ES1325015	TRIP SPIKE 1	Naphthalene	<1	<1	mg/kg	100	Y
ES1325015	TRIP SPIKE 1	ortho-Xylene	4.1	5	mg/kg	82	Y
ES1325015	TRIP SPIKE 1	Sum of BTEX	35.8	41.1	mg/kg	87	Y
ES1325015	TRIP SPIKE 1	Toluene	18.8	20.6	mg/kg	91	Y
ES1325015	TRIP SPIKE 1	Total Xylenes	14.2	16.8	mg/kg	85	Y
ES1325572	TS2_151113	C6 - C9 Fraction	<10	94	mg/kg	11	N
ES1325572	TS2_151113	C6 - C10 Fraction	<10	107	mg/kg	9	N
ES1325572	TS2_151113	C6 - C10 Fraction minus BTEX (F1)	<10	65	mg/kg	15	N
ES1325572	TS2_151113	Benzene	<0.2	0.8	mg/kg	25	N
ES1325572	TS2_151113	Ethylbenzene	<0.5	2.8	mg/kg	18	N
ES1325572	TS2_151113	meta- & para-Xylene	0.6	12.7	mg/kg	5	N
ES1325572	TS2_151113	Naphthalene	<1	<1	mg/kg	100	Y
ES1325572	TS2_151113	ortho-Xylene	<0.5	5.1	mg/kg	10	N
ES1325572	TS2_151113	Sum of BTEX	1.7	42.3	mg/kg	4	N
ES1325572	TS2_151113	Toluene	1.1	20.9	mg/kg	5	N
ES1325572	TS2_151113	Total Xylenes	0.6	17.8	mg/kg	3	N
ES1325580	TRIP SPIKE	C6 - C9 Fraction	51	70	mg/kg	73	Y
ES1325580	TRIP SPIKE	C6 - C10 Fraction	56	78	mg/kg	72	Y
ES1325580	TRIP SPIKE	C6 - C10 Fraction minus BTEX (F1)	32	43	mg/kg	74	Y
ES1325580	TRIP SPIKE	Benzene	0.4	0.6	mg/kg	67	N
ES1325580	TRIP SPIKE	Ethylbenzene	1.5	2.1	mg/kg	71	Y
ES1325580	TRIP SPIKE	meta- & para-Xylene	7	9.9	mg/kg	71	Y
ES1325580	TRIP SPIKE	Naphthalene	<1	<1	mg/kg	100	Y
ES1325580	TRIP SPIKE	ortho-Xylene	2.8	4.1	mg/kg	68	N
ES1325580	TRIP SPIKE	Sum of BTEX	24.5	35	mg/kg	70	Y
ES1325580	TRIP SPIKE	Toluene	12.8	18.3	mg/kg	70	Y
ES1325580	TRIP SPIKE	Total Xylenes	9.8	14	mg/kg	70	Y
ES1325580	TS 6	C6 - C9 Fraction	59	84	mg/kg	70	Y
ES1325580	TS 6	C6 - C10 Fraction	66	94	mg/kg	70	Y
ES1325580	TS 6	C6 - C10 Fraction minus BTEX (F1)	36	54	mg/kg	67	N
ES1325580	TS 6	Benzene	0.5	0.7	mg/kg	71	Y
ES1325580	TS 6	Ethylbenzene	1.8	2.4	mg/kg	75	Y
ES1325580	TS 6	meta- & para-Xylene	8.5	11.4	mg/kg	75	Y
ES1325580	TS 6	Naphthalene	<1	<1	mg/kg	100	Y
ES1325580	TS 6	ortho-Xylene	3.6	4.7	mg/kg	77	Y
ES1325580	TS 6	Sum of BTEX	29.9	40.2	mg/kg	74	Y
ES1325580	TS 6	Toluene	15.5	21	mg/kg	74	Y
ES1325580	TS 6	Total Xylenes	12.1	16.1	mg/kg	75	Y
ES1325842	TRIP SPIKE 5	C6 - C9 Fraction	64	67	mg/kg	96	Y
ES1325842	TRIP SPIKE 5	C6 - C10 Fraction	76	79	mg/kg	96	Y
ES1325842	TRIP SPIKE 5	C6 - C10 Fraction minus BTEX (F1)	45	49	mg/kg	92	Y
ES1325842	TRIP SPIKE 5	Benzene	0.7	0.8	mg/kg	88	Y
ES1325842	TRIP SPIKE 5	Ethylbenzene	2.1	1.8	mg/kg	117	Y
ES1325842	TRIP SPIKE 5	meta- & para-Xylene	9.4	8.7	mg/kg	108	Y
ES1325842	TRIP SPIKE 5	Naphthalene	<1	<1	mg/kg	100	Y
ES1325842	TRIP SPIKE 5	ortho-Xylene	3.8	4.5	mg/kg	84	Y
ES1325842	TRIP SPIKE 5	Sum of BTEX	30.8	30.2	mg/kg	102	Y
ES1325842	TRIP SPIKE 5	Toluene	14.8	14.4	mg/kg	103	Y
ES1325842	TRIP SPIKE 5	Total Xylenes	13.2	13.2	mg/kg	100	Y
ES1325842	TRIP SPIKE 6	C6 - C9 Fraction	63	82	mg/kg	77	Y
ES1325842	TRIP SPIKE 6	C6 - C10 Fraction	74	95	mg/kg	78	Y
ES1325842	TRIP SPIKE 6	C6 - C10 Fraction minus BTEX (F1)	45	59	mg/kg	76	Y
ES1325842	TRIP SPIKE 6	Benzene	0.6	0.9	mg/kg	67	N
ES1325842	TRIP SPIKE 6	Ethylbenzene	1.6	2.2	mg/kg	73	Y
ES1325842	TRIP SPIKE 6	meta- & para-Xylene	8.1	12.1	mg/kg	67	N
ES1325842	TRIP SPIKE 6	Naphthalene	<1	<1	mg/kg	100	Y
ES1325842	TRIP SPIKE 6	ortho-Xylene	3.2	5.2	mg/kg	62	N
ES1325842	TRIP SPIKE 6	Sum of BTEX	29	36	mg/kg	81	Y
ES1325842	TRIP SPIKE 6	Toluene	15.5	15.6	mg/kg	99	Y
ES1325842	TRIP SPIKE 6	Total Xylenes	11.3	17.3	mg/kg	65	N
ES1325879	T.SPIKE 5	C6 - C9 Fraction	42	61	mg/kg	69	N
ES1325879	T.SPIKE 5	C6 - C10 Fraction	51	73	mg/kg	70	Y
ES1325879	T.SPIKE 5	C6 - C10 Fraction minus BTEX (F1)	28	44	mg/kg	64	N
ES1325879	T.SPIKE 5	Benzene	0.4	0.5	mg/kg	80	Y
ES1325879	T.SPIKE 5	Ethylbenzene	1.4	1.9	mg/kg	74	Y
ES1325879	T.SPIKE 5	meta- & para-Xylene	6.9	8.6	mg/kg	80	Y
ES1325879	T.SPIKE 5	Naphthalene	<1	<1	mg/kg	100	Y
ES1325879	T.SPIKE 5	ortho-Xylene	3.4	4.2	mg/kg	81	Y
ES1325879	T.SPIKE 5	Sum of BTEX	23.2	29.1	mg/kg	80	Y
ES1325879	T.SPIKE 5	Toluene	11.1	13.9	mg/kg	80	Y
ES1325879	T.SPIKE 5	Total Xylenes	10.3	12.8	mg/kg	80	Y
ES1326079	ERM TRIP SPIKE2	C6 - C9 Fraction	28	52	mg/kg	54	N
ES1326079	ERM TRIP SPIKE2	C6 - C10 Fraction	33	62	mg/kg	53	N
ES1326079	ERM TRIP SPIKE2	C6 - C10 Fraction minus BTEX (F1)	18	34	mg/kg	53	N
ES1326079	ERM TRIP SPIKE2	Benzene	0.2	0.4	mg/kg	50	N
ES1326079	ERM TRIP SPIKE2	Ethylbenzene	0.9	1.8	mg/kg	50	N
ES1326079	ERM TRIP SPIKE2	meta- & para-Xylene	4.6	8.8	mg/kg	52	N
ES1326079	ERM TRIP SPIKE2	Naphthalene	<1	<1	mg/kg	100	Y
ES1326079	ERM TRIP SPIKE2	ortho-Xylene	2	3.6	mg/kg	56	N



Table F8a. Laboratory Supplied Trip Spike Results and Recoveries (%) - Soil
Bayswater Power Station - Stage 2 ESA
Project Symphony - 0224193

SDG	Field ID	Compound	Trip Spike Result	Trip Spike Control	Result Units	Spike Recovery %	Acceptable
ES1326079	ERM TRIP SPIKE2	Sum of BTEX	15.4	28	mg/kg	55	N
ES1326079	ERM TRIP SPIKE2	Toluene	7.7	13.4	mg/kg	57	N
ES1326079	ERM TRIP SPIKE2	Total Xylenes	6.6	12.4	mg/kg	53	N
ES1326688	TSP7_WG	C6 - C9 Fraction	106	109	mg/kg	97	Y
ES1326688	TSP7_WG	C6 - C10 Fraction	116	119	mg/kg	97	Y
ES1326688	TSP7_WG	C6 - C10 Fraction minus BTEX (F1)	84	86	mg/kg	98	Y
ES1326688	TSP7_WG	Benzene	0.7	0.8	mg/kg	88	Y
ES1326688	TSP7_WG	Ethylbenzene	1.9	2	mg/kg	95	Y
ES1326688	TSP7_WG	meta- & para-Xylene	9.5	9.6	mg/kg	99	Y
ES1326688	TSP7_WG	Naphthalene	<1	<1	mg/kg	100	Y
ES1326688	TSP7_WG	ortho-Xylene	3.8	3.8	mg/kg	100	Y
ES1326688	TSP7_WG	Sum of BTEX	32.2	33	mg/kg	98	Y
ES1326688	TSP7_WG	Toluene	16.3	16.8	mg/kg	97	Y
ES1326688	TSP7_WG	Total Xylenes	13.3	13.4	mg/kg	99	Y
ES1326693	TRIP SPIKE	Benzene	0.6	0.8	mg/kg	75	Y
ES1326693	TRIP SPIKE	Ethylbenzene	1.8	2	mg/kg	90	Y
ES1326693	TRIP SPIKE	meta- & para-Xylene	9.2	10.1	mg/kg	91	Y
ES1326693	TRIP SPIKE	Naphthalene	<1	<1	mg/kg	100	Y
ES1326693	TRIP SPIKE	ortho-Xylene	3.7	4	mg/kg	93	Y
ES1326693	TRIP SPIKE	Sum of BTEX	30.7	33.8	mg/kg	91	Y
ES1326693	TRIP SPIKE	Toluene	15.4	16.9	mg/kg	91	Y
ES1326693	TRIP SPIKE	Total Xylenes	12.9	14.1	mg/kg	91	Y
ES1326695	TRIP SPIKE	C6 - C9 Fraction	85	86	mg/kg	99	Y
ES1326695	TRIP SPIKE	C6 - C10 Fraction	95	96	mg/kg	99	Y
ES1326695	TRIP SPIKE	C6 - C10 Fraction minus BTEX (F1)	56	57	mg/kg	98	Y
ES1326695	TRIP SPIKE	Benzene	0.8	0.8	mg/kg	100	Y
ES1326695	TRIP SPIKE	Ethylbenzene	2.3	2.3	mg/kg	100	Y
ES1326695	TRIP SPIKE	meta- & para-Xylene	11.2	11.2	mg/kg	100	Y
ES1326695	TRIP SPIKE	Naphthalene	<1	<1	mg/kg	100	Y
ES1326695	TRIP SPIKE	ortho-Xylene	4.5	4.6	mg/kg	98	Y
ES1326695	TRIP SPIKE	Sum of BTEX	38.9	39.4	mg/kg	99	Y
ES1326695	TRIP SPIKE	Toluene	20.1	20.5	mg/kg	98	Y
ES1326695	TRIP SPIKE	Total Xylenes	15.7	15.8	mg/kg	99	Y
ES1326978	TRIP SPIKE	C6 - C9 Fraction	78	84	mg/kg	93	Y
ES1326978	TRIP SPIKE	C6 - C10 Fraction	90	96	mg/kg	94	Y
ES1326978	TRIP SPIKE	C6 - C10 Fraction minus BTEX (F1)	56	58	mg/kg	97	Y
ES1326978	TRIP SPIKE	Benzene	0.6	0.7	mg/kg	86	Y
ES1326978	TRIP SPIKE	Ethylbenzene	2.2	2.4	mg/kg	92	Y
ES1326978	TRIP SPIKE	meta- & para-Xylene	10.6	11.6	mg/kg	91	Y
ES1326978	TRIP SPIKE	Naphthalene	<1	<1	mg/kg	100	Y
ES1326978	TRIP SPIKE	ortho-Xylene	4.3	4.7	mg/kg	91	Y
ES1326978	TRIP SPIKE	Sum of BTEX	34.5	37.9	mg/kg	91	Y
ES1326978	TRIP SPIKE	Toluene	16.8	18.5	mg/kg	91	Y
ES1326978	TRIP SPIKE	Total Xylenes	14.9	16.3	mg/kg	91	Y
ES1326990	TRIP SPIKE	C6 - C9 Fraction	28	102	mg/kg	27	N
ES1326990	TRIP SPIKE	C6 - C10 Fraction	33	118	mg/kg	28	N
ES1326990	TRIP SPIKE	C6 - C10 Fraction minus BTEX (F1)	21	62	mg/kg	34	N
ES1326990	TRIP SPIKE	Benzene	0.2	1.1	mg/kg	18	N
ES1326990	TRIP SPIKE	Ethylbenzene	0.7	2.8	mg/kg	25	N
ES1326990	TRIP SPIKE	meta- & para-Xylene	3.7	13.8	mg/kg	27	N
ES1326990	TRIP SPIKE	Naphthalene	<1	<1	mg/kg	100	Y
ES1326990	TRIP SPIKE	ortho-Xylene	1.5	5.5	mg/kg	27	N
ES1326990	TRIP SPIKE	Sum of BTEX	12.1	56	mg/kg	22	N
ES1326990	TRIP SPIKE	Toluene	6	32.8	mg/kg	18	N
ES1326990	TRIP SPIKE	Total Xylenes	5.2	19.3	mg/kg	27	N
ES1326999	ERM TSP13	Benzene	<0.2	<0.2	mg/kg	100	Y
ES1326999	ERM TSP13	Ethylbenzene	1.2	1.3	mg/kg	92	Y
ES1326999	ERM TSP13	meta- & para-Xylene	6.5	6.8	mg/kg	96	Y
ES1326999	ERM TSP13	Naphthalene	<1	<1	mg/kg	100	Y
ES1326999	ERM TSP13	ortho-Xylene	2.9	2.9	mg/kg	100	Y
ES1326999	ERM TSP13	Sum of BTEX	17.9	18.9	mg/kg	95	Y
ES1326999	ERM TSP13	Toluene	7.3	7.9	mg/kg	92	Y
ES1326999	ERM TSP13	Total Xylenes	9.4	9.7	mg/kg	97	Y
ES1327429	TS	C6 - C9 Fraction	90	121	mg/kg	74	Y
ES1327429	TS	C6 - C10 Fraction	101	136	mg/kg	74	Y
ES1327429	TS	C6 - C10 Fraction minus BTEX (F1)	64	88	mg/kg	73	Y
ES1327429	TS	Benzene	0.8	1.1	mg/kg	73	Y
ES1327429	TS	Ethylbenzene	2.3	3	mg/kg	77	Y
ES1327429	TS	meta- & para-Xylene	10.9	14.2	mg/kg	77	Y
ES1327429	TS	Naphthalene	<1	<1	mg/kg	100	Y
ES1327429	TS	ortho-Xylene	4.3	5.7	mg/kg	75	Y
ES1327429	TS	Sum of BTEX	37.1	48.3	mg/kg	77	Y
ES1327429	TS	Toluene	18.8	24.3	mg/kg	77	Y
ES1327429	TS	Total Xylenes	15.2	19.9	mg/kg	76	Y
ES1327432	TS	Benzene	<0.2	0.6	mg/kg	33	N
ES1327432	TS	Ethylbenzene	0.7	2.1	mg/kg	33	N
ES1327432	TS	meta- & para-Xylene	3.5	10.3	mg/kg	34	N
ES1327432	TS	Naphthalene	<1	<1	mg/kg	100	Y
ES1327432	TS	ortho-Xylene	1.5	4.1	mg/kg	37	N
ES1327432	TS	Sum of BTEX	11.3	34.2	mg/kg	33	N
ES1327432	TS	Toluene	5.6	17.1	mg/kg	33	N
ES1327432	TS	Total Xylenes	5	14.4	mg/kg	35	N
ES1327521	SPIKE	C6 - C9 Fraction	56	73	mg/kg	77	Y
ES1327521	SPIKE	C6 - C10 Fraction	62	80	mg/kg	78	Y
ES1327521	SPIKE	C6 - C10 Fraction minus BTEX (F1)	35	42	mg/kg	83	Y

SDG	Field_ID	Compound	Trip_Spike_Result	Trip_Spike_Control	Result_Units	Spike_Recovery_%	Acceptable
ES1327521	SPIKE	Benzene	0.6	0.8	mg/kg	75	Y
ES1327521	SPIKE	Ethylbenzene	1.6	2.2	mg/kg	73	Y
ES1327521	SPIKE	meta- & para-Xylene	7.6	10.7	mg/kg	71	Y
ES1327521	SPIKE	Naphthalene	<1	<1	mg/kg	100	Y
ES1327521	SPIKE	ortho-Xylene	3.1	4.2	mg/kg	74	Y
ES1327521	SPIKE	Sum of BTEX	27.1	38.4	mg/kg	71	Y
ES1327521	SPIKE	Toluene	14.2	20.5	mg/kg	69	N
ES1327521	SPIKE	Total Xylenes	10.7	14.9	mg/kg	72	Y
ES1327803	TRIP SPIKE 6	C6 - C9 Fraction	104	108	mg/kg	96	Y
ES1327803	TRIP SPIKE 6	C6 - C10 Fraction	116	122	mg/kg	95	Y
ES1327803	TRIP SPIKE 6	C6 - C10 Fraction minus BTEX (F1)	69	74	mg/kg	93	Y
ES1327803	TRIP SPIKE 6	Benzene	0.9	0.9	mg/kg	100	Y
ES1327803	TRIP SPIKE 6	Ethylbenzene	2.8	2.9	mg/kg	97	Y
ES1327803	TRIP SPIKE 6	meta- & para-Xylene	13.6	14	mg/kg	97	Y
ES1327803	TRIP SPIKE 6	Naphthalene	<1	<1	mg/kg	100	Y
ES1327803	TRIP SPIKE 6	ortho-Xylene	5.4	5.6	mg/kg	96	Y
ES1327803	TRIP SPIKE 6	Sum of BTEX	46.9	48.2	mg/kg	97	Y
ES1327803	TRIP SPIKE 6	Toluene	24.2	24.8	mg/kg	98	Y
ES1327803	TRIP SPIKE 6	Total Xylenes	19	19.6	mg/kg	97	Y
ES1327892	TRIP SPIKE	C6 - C9 Fraction	84	95	mg/kg	88	Y
ES1327892	TRIP SPIKE	C6 - C10 Fraction	88	99	mg/kg	89	Y
ES1327892	TRIP SPIKE	C6 - C10 Fraction minus BTEX (F1)	58	68	mg/kg	85	Y
ES1327892	TRIP SPIKE	Benzene	0.6	0.6	mg/kg	100	Y
ES1327892	TRIP SPIKE	Ethylbenzene	2	2.1	mg/kg	95	Y
ES1327892	TRIP SPIKE	meta- & para-Xylene	9	9.2	mg/kg	98	Y
ES1327892	TRIP SPIKE	Naphthalene	<1	<1	mg/kg	100	Y
ES1327892	TRIP SPIKE	ortho-Xylene	3.8	4.3	mg/kg	88	Y
ES1327892	TRIP SPIKE	Sum of BTEX	29.9	31.4	mg/kg	95	Y
ES1327892	TRIP SPIKE	Toluene	14.5	15.2	mg/kg	95	Y
ES1327892	TRIP SPIKE	Total Xylenes	12.8	13.5	mg/kg	95	Y
ES1328111	TRIP SPIKE	C6 - C9 Fraction	73	90	mg/kg	81	Y
ES1328111	TRIP SPIKE	C6 - C10 Fraction	78	94	mg/kg	83	Y
ES1328111	TRIP SPIKE	C6 - C10 Fraction minus BTEX (F1)	52	64	mg/kg	81	Y
ES1328111	TRIP SPIKE	Benzene	0.6	0.6	mg/kg	100	Y
ES1328111	TRIP SPIKE	Ethylbenzene	1.7	2	mg/kg	85	Y
ES1328111	TRIP SPIKE	meta- & para-Xylene	7.9	9	mg/kg	88	Y
ES1328111	TRIP SPIKE	Naphthalene	<1	<1	mg/kg	100	Y
ES1328111	TRIP SPIKE	ortho-Xylene	3.3	3.7	mg/kg	89	Y
ES1328111	TRIP SPIKE	Sum of BTEX	26.5	30.5	mg/kg	87	Y
ES1328111	TRIP SPIKE	Toluene	13	15.2	mg/kg	86	Y
ES1328111	TRIP SPIKE	Total Xylenes	11.2	12.7	mg/kg	88	Y



Table F8b. Laboratory Supplied Trip Spike Results and Recoveries (%) - Groundwater
 Bayswater Power Station - Stage 2 ESA
 Project Symphony - 0224193

	Benzene	Spike_Recovery_%	Toluene	Spike_Recovery_%	Ethylbenzene	Spike_Recovery_%	Xylene (o)	Spike_Recovery_%	Xylene (m & p)	Spike_Recovery_%
	µg/L		µg/L		µg/L		µg/L		µg/L	
EQL	1		2		2		2		2	

SDG	Field ID	Sampled Date	Sample Type	16	80	17	85	18	90	18	90	18	90
ES1326696	TRIP SPIKE	29/11/2013	Trip S	16	80	17	85	18	90	18	90	18	90
ES1326993	TRIP SPIKE	4/12/2013	Trip S	16	80	16	80	15	75	16	80	15	75
ES1326994	TRIP SPIKE	3/12/2013	Trip S	17	85	17	85	16	80	18	90	17	85
ES1326996	TRIP SPIKE	25/11/2013	Trip S	17	85	15	75	15	75	15	75	16	80
ES1327009	TRIP SPIKE	4/12/2013	Trip S	14	70	14	70	15	75	16	80	15	75
ES1327010	TRIP SPIKE	5/12/2013	Trip S	16	80	16	80	16	80	18	90	16	80
ES1327011	TRIP SPIKE	2/12/2013	Trip S	18	90	17	85	16	80	16	80	15	75
ES1327421	TS 101213	10/12/2013	Trip S	16	80	16	80	15	75	18	90	15	75
ES1327434	TS7 121213	12/12/2013	Trip S	15	75	16	80	16	80	15	75	15	75
ES1327435	TS11 111213	11/12/2013	Trip S	18	90	17	85	16	80	17	85	16	80
ES1327436	TS 091213	9/12/2013	Trip S	19	95	18	90	16	80	17	85	16	80
ES1327444	TS 12	11/12/2013	Trip S	16	80	14	70	14	70	15	75	14	70
ES1327444	TS 15	12/12/2013	Trip S	18	90	16	80	15	75	16	80	15	75
ES1328110	2X TRIP SPIK	20/12/2013	Trip S	13	65	13	65	12	60	13	65	12	60
ES1328113	TS 1	19/12/2013	Trip S	17	85	16	80	18	90	18	90	18	90
ES1328113	TS 5	19/12/2013	Trip S	15	75	15	75	14	70	15	75	14	70



Table F8c. Laboratory Supplied Trip Spike Results and Recoveries (%) - Surface Water
 Bayswater Power Station - Stage 2 ESA
 Project Symphony - 0224193

	Benzene	Spike_Recovery_%	Toluene	Spike_Recovery_%	Ethylbenzene	Spike_Recovery_%	Xylene (o)	Spike_Recovery_%	Xylene (m & p)	Spike_Recovery_%	Naphthalene	Spike_Recovery_%
	µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
EQL	1		2		2		2		2		5	

SDG	Sample_Type												
ES1326081	Trip_S	16	80	15	75	15	75	15	75	15	75	16	75
ES1326163	Trip_S	16	80	18	90	15	75	17	85	15	75	16	75
ES1326639	Trip_S	14	70	14	70	13	65	15	75	15	75	19	75



SDG	Field ID	Compound	Trip Spike Result	Trip Spike Control	Result Units	Spike Recovery %	Acceptable
ES1326082	T/SPIKE	Benzene	0.2	0.6	mg/kg	33	N
ES1326082	T/SPIKE	Ethylbenzene	1	1.9	mg/kg	53	N
ES1326082	T/SPIKE	meta- & para-Xylene	5.2	9.6	mg/kg	54	N
ES1326082	T/SPIKE	Naphthalene	<1	<1	mg/kg	100	Y
ES1326082	T/SPIKE	ortho-Xylene	2.1	3.8	mg/kg	55	N
ES1326082	T/SPIKE	Sum of BTEX	16.4	31.3	mg/kg	52	N
ES1326082	T/SPIKE	Toluene	7.9	15.4	mg/kg	51	N
ES1326082	T/SPIKE	Total Xylenes	7.3	13.4	mg/kg	54	N
ES1326083	T/SPIKE	Benzene	<0.2	0.5	mg/kg	40	N
ES1326083	T/SPIKE	Ethylbenzene	0.9	1.8	mg/kg	50	N
ES1326083	T/SPIKE	meta- & para-Xylene	5	9.1	mg/kg	55	N
ES1326083	T/SPIKE	Naphthalene	<1	<1	mg/kg	100	Y
ES1326083	T/SPIKE	ortho-Xylene	2.1	3.6	mg/kg	58	N
ES1326083	T/SPIKE	Sum of BTEX	14.9	29.6	mg/kg	50	N
ES1326083	T/SPIKE	Toluene	6.9	14.6	mg/kg	47	N
ES1326083	T/SPIKE	Total Xylenes	7.1	12.7	mg/kg	56	N
ES1326164	T/SPIKE 4	C6 - C9 Fraction	52	72	mg/kg	72	Y
ES1326164	T/SPIKE 4	C6 - C10 Fraction	62	83	mg/kg	75	Y
ES1326164	T/SPIKE 4	C6 - C10 Fraction minus BTEX (F1)	34	47	mg/kg	72	Y
ES1326164	T/SPIKE 4	Benzene	0.5	0.7	mg/kg	71	Y
ES1326164	T/SPIKE 4	Ethylbenzene	1.7	2.2	mg/kg	77	Y
ES1326164	T/SPIKE 4	meta- & para-Xylene	8.2	10.3	mg/kg	80	Y
ES1326164	T/SPIKE 4	Naphthalene	<1	<1	mg/kg	100	Y
ES1326164	T/SPIKE 4	ortho-Xylene	3.5	4.4	mg/kg	80	Y
ES1326164	T/SPIKE 4	Sum of BTEX	27.9	36	mg/kg	78	Y
ES1326164	T/SPIKE 4	Toluene	14	18.4	mg/kg	76	Y
ES1326164	T/SPIKE 4	Total Xylenes	11.7	14.7	mg/kg	80	Y
ES1326691	T/SPIKE	C6 - C9 Fraction	36	66	mg/kg	55	N
ES1326691	T/SPIKE	C6 - C10 Fraction	42	75	mg/kg	56	N
ES1326691	T/SPIKE	C6 - C10 Fraction minus BTEX (F1)	28	49	mg/kg	57	N
ES1326691	T/SPIKE	Benzene	<0.2	0.4	mg/kg	50	N
ES1326691	T/SPIKE	Ethylbenzene	0.9	1.6	mg/kg	56	N
ES1326691	T/SPIKE	meta- & para-Xylene	4.6	8	mg/kg	58	N
ES1326691	T/SPIKE	Naphthalene	<1	<1	mg/kg	100	Y
ES1326691	T/SPIKE	ortho-Xylene	2	3.3	mg/kg	61	N
ES1326691	T/SPIKE	Sum of BTEX	14	25.7	mg/kg	54	N
ES1326691	T/SPIKE	Toluene	6.5	12.4	mg/kg	52	N
ES1326691	T/SPIKE	Total Xylenes	6.6	11.3	mg/kg	58	N



SDG	Field ID	Sampled Date	ChemName	Sampled_to_Extraction Days	Sampled_to_Analysis Days
ES1327521	BM_SB01 (2)_0.8	6/12/2013	Styrene	12	15
ES1327521	BM_MW01_0.2	6/12/2013	Styrene	12	15
ES1327521	BM_MW02_0.5	6/12/2013	Styrene	12	15
ES1327521	BM_MW02_1.0	6/12/2013	Styrene	12	15
ES1327521	BM_MW03_0.2	6/12/2013	Styrene	12	15
ES1327521	BM_MW05_0.2	6/12/2013	Styrene	12	15
ES1327521	BM_MW05_1.5	6/12/2013	Styrene	12	15
ES1327521	BM_SB01 (2)_0.8	6/12/2013	Vinyl chloride	12	15
ES1327521	BM_MW01_0.2	6/12/2013	Vinyl chloride	12	15
ES1327521	BM_MW02_0.5	6/12/2013	Vinyl chloride	12	15
ES1327521	BM_MW02_1.0	6/12/2013	Vinyl chloride	12	15
ES1327521	BM_MW03_0.2	6/12/2013	Vinyl chloride	12	15
ES1327521	BM_MW05_0.2	6/12/2013	Vinyl chloride	12	15
ES1327521	BM_MW05_1.5	6/12/2013	Vinyl chloride	12	15
ES1324729	BH_SB05_0.1	7/11/2013	Electrical conductivity *(lab)	14	17
ES1324729	BH_SB06_0.25	7/11/2013	Electrical conductivity *(lab)	14	14
ES1325879	T.BLANK	15/11/2013	C6-C10	16	17
ES1326978	TRIP BLANK	25/11/2013	C6-C10	16	17
ES1325879	T.BLANK	15/11/2013	C6-C10 less BTEX (F1)	16	17
ES1326978	TRIP BLANK	25/11/2013	C6-C10 less BTEX (F1)	16	17
ES1325879	T.BLANK	15/11/2013	Naphthalene	16	17
ES1326978	TRIP BLANK	25/11/2013	Naphthalene	16	17
ES1325879	T.BLANK	15/11/2013	Total BTEX	16	17
ES1326978	TRIP BLANK	25/11/2013	Total BTEX	16	17
ES1325879	T.BLANK	15/11/2013	Benzene	16	17
ES1326978	TRIP BLANK	25/11/2013	Benzene	16	17
ES1325879	T.BLANK	15/11/2013	C6 - C9	16	17
ES1326978	TRIP BLANK	25/11/2013	C6 - C9	16	17
ES1325879	T.BLANK	15/11/2013	Ethylbenzene	16	17
ES1326978	TRIP BLANK	25/11/2013	Ethylbenzene	16	17
ES1325879	T.BLANK	15/11/2013	Toluene	16	17
ES1326978	TRIP BLANK	25/11/2013	Toluene	16	17
ES1325879	T.BLANK	15/11/2013	Xylene (m & p)	16	17
ES1326978	TRIP BLANK	25/11/2013	Xylene (m & p)	16	17
ES1325879	T.BLANK	15/11/2013	Xylene (o)	16	17
ES1326978	TRIP BLANK	25/11/2013	Xylene (o)	16	17
ES1325879	T.BLANK	15/11/2013	Xylene Total	16	17
ES1326978	TRIP BLANK	25/11/2013	Xylene Total	16	17
ES1326688	R01_221113_WG	22/11/2013	+C10 - C36 (Sum of total)	17	17
ES1326688	R01_221113_WG	22/11/2013	> C10 - C16 Less Naphthalene (F2)	17	17
ES1326688	R01_221113_WG	22/11/2013	2,4,5-trichlorophenol	17	17
ES1326688	R01_221113_WG	22/11/2013	2,4,6-trichlorophenol	17	17
ES1326688	R01_221113_WG	22/11/2013	2,4-dichlorophenol	17	17
ES1326688	R01_221113_WG	22/11/2013	2,4-dimethylphenol	17	17
ES1326688	R01_221113_WG	22/11/2013	2,6-dichlorophenol	17	17
ES1326688	R01_221113_WG	22/11/2013	2-chlorophenol	17	17
ES1326688	R01_221113_WG	22/11/2013	2-methylphenol	17	17
ES1326688	R01_221113_WG	22/11/2013	2-nitrophenol	17	17
ES1326688	R01_221113_WG	22/11/2013	3-&4-methylphenol	17	17
ES1326688	R01_221113_WG	22/11/2013	4-chloro-3-methylphenol	17	17
ES1326688	R01_221113_WG	22/11/2013	Acenaphthene	17	17
ES1326688	R01_221113_WG	22/11/2013	Acenaphthylene	17	17
ES1326688	R01_221113_WG	22/11/2013	Anthracene	17	17
ES1326688	R01_221113_WG	22/11/2013	Benz(a)anthracene	17	17
ES1326688	R01_221113_WG	22/11/2013	Benzo(a) pyrene	17	17
ES1326688	R01_221113_WG	22/11/2013	Benzo(a)pyrene TEQ (zero)	17	17
ES1326688	R01_221113_WG	22/11/2013	Benzo(b)fluoranthene	17	17
ES1326688	R01_221113_WG	22/11/2013	Benzo(g,h,i)perylene	17	17
ES1326688	R01_221113_WG	22/11/2013	Benzo(k)fluoranthene	17	17
ES1326688	R01_221113_WG	22/11/2013	C10 - C14	17	17
ES1326688	R01_221113_WG	22/11/2013	C10 - C40 (Sum of total)	17	17
ES1326688	R01_221113_WG	22/11/2013	C10-C16	17	17
ES1326688	R01_221113_WG	22/11/2013	C15 - C28	17	17
ES1326688	R01_221113_WG	22/11/2013	C16-C34	17	17
ES1326688	R01_221113_WG	22/11/2013	C29-C36	17	17
ES1326688	R01_221113_WG	22/11/2013	C34-C40	17	17
ES1326688	R01_221113_WG	22/11/2013	Chrysene	17	17
ES1326688	R01_221113_WG	22/11/2013	Dibenz(a,h)anthracene	17	17



Table F9a. Laboratory Holding Time Exceedances - Soil
Bayswater Power Station - Stage 2 ESA
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ES1326688	R01_221113_WG	22/11/2013	Fluoranthene	17	17
ES1326688	R01_221113_WG	22/11/2013	Fluorene	17	17
ES1326688	R01_221113_WG	22/11/2013	Indeno(1,2,3-c,d)pyrene	17	17
ES1326688	R01_221113_WG	22/11/2013	Naphthalene	17	17
ES1326688	R01_221113_WG	22/11/2013	PAHs (Sum of total)	17	17
ES1326688	R01_221113_WG	22/11/2013	Pentachlorophenol	17	17
ES1326688	R01_221113_WG	22/11/2013	Phenanthrene	17	17
ES1326688	R01_221113_WG	22/11/2013	Phenol	17	17
ES1326688	R01_221113_WG	22/11/2013	Pyrene	17	17
ES1326688	BR_MW01_49MBGS	22/11/2013	Electrical conductivity *(lab)	17	17
ES1326688	BR_MW01_49MBGS	22/11/2013	pH (Lab)	17	17
ES1326688	BR_MW01_25MBG	22/11/2013	Electrical conductivity *(lab)	17	17
ES1326688	BR_MW01_25MBG	22/11/2013	pH (Lab)	17	17
ES1326996	TRIP BLANK	25/11/2013	C6-C10	17	17
ES1326996	TRIP BLANK	25/11/2013	C6-C10 less BTEX (F1)	17	17
ES1326996	TRIP BLANK	25/11/2013	Naphthalene	17	17
ES1326996	TRIP BLANK	25/11/2013	Total BTEX	17	17
ES1326996	TRIP BLANK	25/11/2013	Benzene	17	17
ES1326996	TRIP BLANK	25/11/2013	C6 - C9	17	17
ES1326996	TRIP BLANK	25/11/2013	Ethylbenzene	17	17
ES1326996	TRIP BLANK	25/11/2013	Toluene	17	17
ES1326996	TRIP BLANK	25/11/2013	Xylene (m & p)	17	17
ES1326996	TRIP BLANK	25/11/2013	Xylene (o)	17	17
ES1326996	TRIP BLANK	25/11/2013	Xylene Total	17	17
ES1327324	BP_MW01_0.25	26/11/2013	pH (Lab)	19	19
ES1327324	BE_MW09_0.9	26/11/2013	pH (Lab)	19	19
ES1327324	BX_MW02_0.5	26/11/2013	pH (Lab)	19	19
ES1327432	TB	28/11/2013	C6-C10	19	19
ES1327432	TB	28/11/2013	C6-C10 less BTEX (F1)	19	19
ES1327432	TB	28/11/2013	Naphthalene	19	19
ES1327432	TB	28/11/2013	Total BTEX	19	19
ES1327432	TB	28/11/2013	Benzene	19	19
ES1327432	TB	28/11/2013	C6 - C9	19	19
ES1327432	TB	28/11/2013	Ethylbenzene	19	19
ES1327432	TB	28/11/2013	Toluene	19	19
ES1327432	TB	28/11/2013	Xylene (m & p)	19	19
ES1327432	TB	28/11/2013	Xylene (o)	19	19
ES1327432	TB	28/11/2013	Xylene Total	19	19
ES1327324	BV_SB07_0.25	25/11/2013	pH (Lab)	20	20
ES1327324	BL_SB01_0.25	25/11/2013	pH (Lab)	20	20
ES1327324	BH_SB07_0.2	26/11/2013	Organic Matter	21	21
ES1327324	BP_MW01_0.25	26/11/2013	Organic Matter	21	21
ES1327324	BE_MW09_0.9	26/11/2013	Organic Matter	21	21
ES1327324	BX_MW02_0.5	26/11/2013	Organic Matter	21	21
ES1327324	BV_SB07_0.25	25/11/2013	Organic Matter	22	22
ES1327324	BL_SB01_0.25	25/11/2013	Organic Matter	22	22
ES1327324	BI_MW03_0.6	20/11/2013	Organic Matter	27	27
ES1327324	BK_SB06_0.6	14/11/2013	pH (Lab)	31	31
ES1327324	BK_SB06_0.6	14/11/2013	Organic Matter	33	33
ES1325879	BI_MW01_3.0	20/11/2013	Electrical conductivity *(lab)		13
ES1325880	BV_MW02_3.1	20/11/2013	Electrical conductivity *(lab)		13
ES1325882	BH_SB06_1.6	19/11/2013	Electrical conductivity *(lab)		14
ES1325882	BH_MW04_3.0	19/11/2013	Electrical conductivity *(lab)		14
ES1325882	BH_SB08_3.0	19/11/2013	Electrical conductivity *(lab)		14
ES1325882	BH_MW03_4.5	19/11/2013	Electrical conductivity *(lab)		14
ES1325883	BI_MW03_0.6	20/11/2013	Electrical conductivity *(lab)		13
ES1326692	BB_MW04_9.5	28/11/2013	Electrical conductivity *(lab)		13
ES1326692	BB_MW03_3.6	28/11/2013	Electrical conductivity *(lab)		13
ES1326692	BB_MW03_5.9	28/11/2013	Electrical conductivity *(lab)		13
ES1326692	BO_MW03_0.2	28/11/2013	Electrical conductivity *(lab)		13
ES1326692	BO_MW04_0.5	28/11/2013	Electrical conductivity *(lab)		13
ES1326692	BQ_MW06_2.0	28/11/2013	Electrical conductivity *(lab)		13
ES1326692	BQ_MW05_2.0	28/11/2013	Electrical conductivity *(lab)		13
ES1326692	BQ_MW07_2.0	28/11/2013	Electrical conductivity *(lab)		13
ES1326692	BO_MW01_0.1	28/11/2013	Electrical conductivity *(lab)		13
ES1327432	BF_MW05_3.0	6/12/2013	Electrical conductivity *(lab)		11

SDG	Field_ID	Sampled Date	ChemName	Sampled to Extraction Days	Sampled to Analysis Days
ES1326696	BU_MW02	29/11/2013	Naphthalene	9	9
ES1326696	BU_MW03	29/11/2013	Naphthalene	9	9
ES1326696	TRIP SPIKE	29/11/2013	Naphthalene	9	10
ES1326994	R01_031213_NH	3/12/2013	Naphthalene	10	10
ES1326994	BG_MW06	3/12/2013	Naphthalene	10	10
ES1326994	BG_MW05	3/12/2013	Naphthalene	10	10
ES1326994	TRIP BLANK	3/12/2013	Naphthalene	10	10
ES1326994	BG_MW04	3/12/2013	Naphthalene	10	10
ES1326994	BG_MW03	3/12/2013	Naphthalene	10	10
ES1326994	BG_MW02	3/12/2013	Naphthalene	11	11
ES1326994	BG_MW01	3/12/2013	Naphthalene	11	11
ES1326996	TRIP BLANK	25/11/2013	Benzene	17	17
ES1326996	TRIP BLANK	25/11/2013	C6 - C9	17	17
ES1326996	TRIP BLANK	25/11/2013	Ethylbenzene	17	17
ES1326996	BP_MW01	3/12/2013	Naphthalene	11	11
ES1326996	BP_MW02	3/12/2013	Naphthalene	11	11
ES1326996	BP_MW03	3/12/2013	Naphthalene	11	11
ES1326996	BP_MW04	3/12/2013	Naphthalene	11	11
ES1326996	BP_MW05	3/12/2013	Naphthalene	11	11
ES1326996	BP_MW06	3/12/2013	Naphthalene	11	11
ES1326996	D01_031213	3/12/2013	Naphthalene	11	11
ES1326996	TRIP BLANK	25/11/2013	Naphthalene	17	17
ES1326996	TRIP BLANK	25/11/2013	Toluene	17	17
ES1326996	TRIP BLANK	25/11/2013	Total BTEX	17	17
ES1326996	TRIP BLANK	25/11/2013	Xylene (m & p)	17	17
ES1326996	TRIP BLANK	25/11/2013	Xylene (o)	17	17
ES1326996	TRIP BLANK	25/11/2013	Xylene Total	17	17
ES1327009	BV_MW13	4/12/2013	Naphthalene	9	9
ES1327009	TRIP BLANK	4/12/2013	Naphthalene	9	9
ES1327009	BV_MW12	4/12/2013	Naphthalene	9	9
ES1327009	BV_MW11	4/12/2013	Naphthalene	9	9
ES1327009	BH_MW04	4/12/2013	Naphthalene	9	9
ES1327009	D01_041213_NH	4/12/2013	Naphthalene	9	9
ES1327009	BH_MW03	4/12/2013	Naphthalene	10	10
ES1327009	R01_041213_NH	4/12/2013	Naphthalene	10	10
ES1327009	BU_MW01	4/12/2013	Naphthalene	10	10
ES1327010	BB_MW01	5/12/2013	Naphthalene	8	8
ES1327010	BB_MW02	5/12/2013	Naphthalene	8	8
ES1327010	BB_MW03	5/12/2013	Naphthalene	8	8
ES1327010	BB_MW04	5/12/2013	Naphthalene	8	8
ES1327010	BB_MW05	5/12/2013	Naphthalene	8	8
ES1327010	BWGMW1D10	5/12/2013	Naphthalene	8	8
ES1327010	BE_MW08	5/12/2013	Naphthalene	8	8
ES1327010	R01_051213_CH	5/12/2013	Naphthalene	8	8
ES1327010	R01_051213_KF	5/12/2013	Naphthalene	8	8
ES1327010	TRIP BLANK	5/12/2013	Naphthalene	8	8
ES1327011	BH_MW02	2/12/2013	2,4,5-trichlorophenol	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	2,4,5-trichlorophenol	10	11
ES1327011	BH_MW01	2/12/2013	2,4,5-trichlorophenol	10	11
ES1327011	BI_MW02	2/12/2013	2,4,5-trichlorophenol	10	11
ES1327011	BI_MW03	2/12/2013	2,4,5-trichlorophenol	10	11
ES1327011	BI_MW01	2/12/2013	2,4,5-trichlorophenol	11	12
ES1327011	BH_MW02	2/12/2013	2,4,6-trichlorophenol	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	2,4,6-trichlorophenol	10	11
ES1327011	BH_MW01	2/12/2013	2,4,6-trichlorophenol	10	11
ES1327011	BI_MW02	2/12/2013	2,4,6-trichlorophenol	10	11
ES1327011	BI_MW03	2/12/2013	2,4,6-trichlorophenol	10	11
ES1327011	BI_MW01	2/12/2013	2,4,6-trichlorophenol	11	12
ES1327011	BH_MW02	2/12/2013	2,4-dichlorophenol	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	2,4-dichlorophenol	10	11
ES1327011	BH_MW01	2/12/2013	2,4-dichlorophenol	10	11
ES1327011	BI_MW02	2/12/2013	2,4-dichlorophenol	10	11
ES1327011	BI_MW03	2/12/2013	2,4-dichlorophenol	10	11
ES1327011	BI_MW01	2/12/2013	2,4-dichlorophenol	11	12
ES1327011	BH_MW02	2/12/2013	2,4-dimethylphenol	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	2,4-dimethylphenol	10	11
ES1327011	BH_MW01	2/12/2013	2,4-dimethylphenol	10	11
ES1327011	BI_MW02	2/12/2013	2,4-dimethylphenol	10	11
ES1327011	BI_MW03	2/12/2013	2,4-dimethylphenol	10	11
ES1327011	BI_MW01	2/12/2013	2,4-dimethylphenol	11	12
ES1327011	BH_MW02	2/12/2013	2,6-dichlorophenol	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	2,6-dichlorophenol	10	11
ES1327011	BH_MW01	2/12/2013	2,6-dichlorophenol	10	11
ES1327011	BI_MW02	2/12/2013	2,6-dichlorophenol	10	11
ES1327011	BI_MW03	2/12/2013	2,6-dichlorophenol	10	11
ES1327011	BI_MW01	2/12/2013	2,6-dichlorophenol	11	12
ES1327011	BH_MW02	2/12/2013	2-chlorophenol	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	2-chlorophenol	10	11
ES1327011	BH_MW01	2/12/2013	2-chlorophenol	10	11
ES1327011	BI_MW02	2/12/2013	2-chlorophenol	10	11
ES1327011	BI_MW03	2/12/2013	2-chlorophenol	10	11
ES1327011	BI_MW01	2/12/2013	2-chlorophenol	11	12
ES1327011	BH_MW02	2/12/2013	2-methylphenol	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	2-methylphenol	10	11
ES1327011	BH_MW01	2/12/2013	2-methylphenol	10	11
ES1327011	BI_MW02	2/12/2013	2-methylphenol	10	11
ES1327011	BI_MW03	2/12/2013	2-methylphenol	10	11
ES1327011	BI_MW01	2/12/2013	2-methylphenol	11	12
ES1327011	BH_MW02	2/12/2013	2-nitrophenol	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	2-nitrophenol	10	11
ES1327011	BH_MW01	2/12/2013	2-nitrophenol	10	11
ES1327011	BI_MW02	2/12/2013	2-nitrophenol	10	11
ES1327011	BI_MW03	2/12/2013	2-nitrophenol	10	11
ES1327011	BI_MW01	2/12/2013	2-nitrophenol	11	12
ES1327011	BH_MW02	2/12/2013	3-&4-methylphenol	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	3-&4-methylphenol	10	11
ES1327011	BH_MW01	2/12/2013	3-&4-methylphenol	10	11
ES1327011	BI_MW02	2/12/2013	3-&4-methylphenol	10	11
ES1327011	BI_MW03	2/12/2013	3-&4-methylphenol	10	11
ES1327011	BI_MW01	2/12/2013	3-&4-methylphenol	11	12
ES1327011	BH_MW02	2/12/2013	4-chloro-3-methylphenol	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	4-chloro-3-methylphenol	10	11
ES1327011	BH_MW01	2/12/2013	4-chloro-3-methylphenol	10	11
ES1327011	BI_MW02	2/12/2013	4-chloro-3-methylphenol	10	11
ES1327011	BI_MW03	2/12/2013	4-chloro-3-methylphenol	10	11
ES1327011	BI_MW01	2/12/2013	4-chloro-3-methylphenol	11	12
ES1327011	BH_MW02	2/12/2013	Acenaphthene	10	11

SDG	Field_ID	Sampled Date	ChemName	Sampled to Extraction Days	Sampled to Analysis Days
ES1327011	RINSATE_021213_NH	2/12/2013	Acenaphthene	10	11
ES1327011	BH_MW01	2/12/2013	Acenaphthene	10	11
ES1327011	BI_MW02	2/12/2013	Acenaphthene	10	11
ES1327011	BI_MW03	2/12/2013	Acenaphthene	10	11
ES1327011	BI_MW01	2/12/2013	Acenaphthene	11	12
ES1327011	BH_MW02	2/12/2013	Acenaphthylene	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Acenaphthylene	10	11
ES1327011	BH_MW01	2/12/2013	Acenaphthylene	10	11
ES1327011	BI_MW02	2/12/2013	Acenaphthylene	10	11
ES1327011	BI_MW03	2/12/2013	Acenaphthylene	10	11
ES1327011	BI_MW01	2/12/2013	Acenaphthylene	11	12
ES1327011	BH_MW02	2/12/2013	Anthracene	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Anthracene	10	11
ES1327011	BH_MW01	2/12/2013	Anthracene	10	11
ES1327011	BI_MW02	2/12/2013	Anthracene	10	11
ES1327011	BI_MW03	2/12/2013	Anthracene	10	11
ES1327011	BI_MW01	2/12/2013	Anthracene	11	12
ES1327011	BH_MW02	2/12/2013	Benz(a)anthracene	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Benz(a)anthracene	10	11
ES1327011	BH_MW01	2/12/2013	Benz(a)anthracene	10	11
ES1327011	BI_MW02	2/12/2013	Benz(a)anthracene	10	11
ES1327011	BI_MW03	2/12/2013	Benz(a)anthracene	10	11
ES1327011	BI_MW01	2/12/2013	Benz(a)anthracene	11	12
ES1327011	BH_MW02	2/12/2013	Benzo(a) pyrene	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Benzo(a) pyrene	10	11
ES1327011	BH_MW01	2/12/2013	Benzo(a) pyrene	10	11
ES1327011	BI_MW02	2/12/2013	Benzo(a) pyrene	10	11
ES1327011	BI_MW03	2/12/2013	Benzo(a) pyrene	10	11
ES1327011	BI_MW01	2/12/2013	Benzo(a) pyrene	11	12
ES1327011	BH_MW02	2/12/2013	Benzo(a)pyrene TEQ (zero)	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Benzo(a)pyrene TEQ (zero)	10	11
ES1327011	BH_MW01	2/12/2013	Benzo(a)pyrene TEQ (zero)	10	11
ES1327011	BI_MW02	2/12/2013	Benzo(a)pyrene TEQ (zero)	10	11
ES1327011	BI_MW03	2/12/2013	Benzo(a)pyrene TEQ (zero)	10	11
ES1327011	BI_MW01	2/12/2013	Benzo(a)pyrene TEQ (zero)	11	12
ES1327011	BH_MW02	2/12/2013	Benzo(b)fluoranthene	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Benzo(b)fluoranthene	10	11
ES1327011	BH_MW01	2/12/2013	Benzo(b)fluoranthene	10	11
ES1327011	BI_MW02	2/12/2013	Benzo(b)fluoranthene	10	11
ES1327011	BI_MW03	2/12/2013	Benzo(b)fluoranthene	10	11
ES1327011	BI_MW01	2/12/2013	Benzo(b)fluoranthene	11	12
ES1327011	BH_MW02	2/12/2013	Benzo(g,h,i)perylene	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Benzo(g,h,i)perylene	10	11
ES1327011	BH_MW01	2/12/2013	Benzo(g,h,i)perylene	10	11
ES1327011	BI_MW02	2/12/2013	Benzo(g,h,i)perylene	10	11
ES1327011	BI_MW03	2/12/2013	Benzo(g,h,i)perylene	10	11
ES1327011	BI_MW01	2/12/2013	Benzo(g,h,i)perylene	11	12
ES1327011	BH_MW02	2/12/2013	Benzo(k)fluoranthene	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Benzo(k)fluoranthene	10	11
ES1327011	BH_MW01	2/12/2013	Benzo(k)fluoranthene	10	11
ES1327011	BI_MW02	2/12/2013	Benzo(k)fluoranthene	10	11
ES1327011	BI_MW03	2/12/2013	Benzo(k)fluoranthene	10	11
ES1327011	BI_MW01	2/12/2013	Benzo(k)fluoranthene	11	12
ES1327011	BH_MW02	2/12/2013	C10 - C14	10	10
ES1327011	RINSATE_021213_NH	2/12/2013	C10 - C14	10	10
ES1327011	BH_MW01	2/12/2013	C10 - C14	10	10
ES1327011	BI_MW02	2/12/2013	C10 - C14	10	10
ES1327011	BI_MW03	2/12/2013	C10 - C14	10	10
ES1327011	BI_MW01	2/12/2013	C10 - C14	11	11
ES1327011	BH_MW02	2/12/2013	C10 - C40 (Sum of total)	10	10
ES1327011	RINSATE_021213_NH	2/12/2013	C10 - C40 (Sum of total)	10	10
ES1327011	BH_MW01	2/12/2013	C10 - C40 (Sum of total)	10	10
ES1327011	BI_MW02	2/12/2013	C10 - C40 (Sum of total)	10	10
ES1327011	BI_MW03	2/12/2013	C10 - C40 (Sum of total)	10	10
ES1327011	BI_MW01	2/12/2013	C10 - C40 (Sum of total)	11	11
ES1327011	BH_MW02	2/12/2013	C10-C16	10	10
ES1327011	RINSATE_021213_NH	2/12/2013	C10-C16	10	10
ES1327011	BH_MW01	2/12/2013	C10-C16	10	10
ES1327011	BI_MW02	2/12/2013	C10-C16	10	10
ES1327011	BI_MW03	2/12/2013	C10-C16	10	10
ES1327011	BI_MW01	2/12/2013	C10-C16	11	11
ES1327011	BH_MW02	2/12/2013	C15 - C28	10	10
ES1327011	RINSATE_021213_NH	2/12/2013	C15 - C28	10	10
ES1327011	BH_MW01	2/12/2013	C15 - C28	10	10
ES1327011	BI_MW02	2/12/2013	C15 - C28	10	10
ES1327011	BI_MW03	2/12/2013	C15 - C28	10	10
ES1327011	BI_MW01	2/12/2013	C15 - C28	11	11
ES1327011	BH_MW02	2/12/2013	C16-C34	10	10
ES1327011	RINSATE_021213_NH	2/12/2013	C16-C34	10	10
ES1327011	BH_MW01	2/12/2013	C16-C34	10	10
ES1327011	BI_MW02	2/12/2013	C16-C34	10	10
ES1327011	BI_MW03	2/12/2013	C16-C34	10	10
ES1327011	BI_MW01	2/12/2013	C16-C34	11	11
ES1327011	BH_MW02	2/12/2013	C29-C36	10	10
ES1327011	RINSATE_021213_NH	2/12/2013	C29-C36	10	10
ES1327011	BH_MW01	2/12/2013	C29-C36	10	10
ES1327011	BI_MW02	2/12/2013	C29-C36	10	10
ES1327011	BI_MW03	2/12/2013	C29-C36	10	10
ES1327011	BI_MW01	2/12/2013	C29-C36	11	11
ES1327011	BH_MW02	2/12/2013	C34-C40	10	10
ES1327011	RINSATE_021213_NH	2/12/2013	C34-C40	10	10
ES1327011	BH_MW01	2/12/2013	C34-C40	10	10
ES1327011	BI_MW02	2/12/2013	C34-C40	10	10
ES1327011	BI_MW03	2/12/2013	C34-C40	10	10
ES1327011	BI_MW01	2/12/2013	C34-C40	11	11
ES1327011	BH_MW02	2/12/2013	Chrysene	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Chrysene	10	11
ES1327011	BH_MW01	2/12/2013	Chrysene	10	11
ES1327011	BI_MW02	2/12/2013	Chrysene	10	11
ES1327011	BI_MW03	2/12/2013	Chrysene	10	11
ES1327011	BI_MW01	2/12/2013	Chrysene	11	12
ES1327011	BH_MW02	2/12/2013	Dibenz(a,h)anthracene	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Dibenz(a,h)anthracene	10	11
ES1327011	BH_MW01	2/12/2013	Dibenz(a,h)anthracene	10	11
ES1327011	BI_MW02	2/12/2013	Dibenz(a,h)anthracene	10	11
ES1327011	BI_MW03	2/12/2013	Dibenz(a,h)anthracene	10	11
ES1327011	BI_MW01	2/12/2013	Dibenz(a,h)anthracene	11	12

SDG	Field_ID	Sampled Date	ChemName	Sampled to Extraction Days	Sampled to Analysis Days
ES1327011	BH MW02	2/12/2013	Fluoranthene	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Fluoranthene	10	11
ES1327011	BH MW01	2/12/2013	Fluoranthene	10	11
ES1327011	BI MW02	2/12/2013	Fluoranthene	10	11
ES1327011	BI MW03	2/12/2013	Fluoranthene	10	11
ES1327011	BI MW01	2/12/2013	Fluoranthene	11	12
ES1327011	BH MW02	2/12/2013	Fluorene	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Fluorene	10	11
ES1327011	BH MW01	2/12/2013	Fluorene	10	11
ES1327011	BI MW02	2/12/2013	Fluorene	10	11
ES1327011	BI MW03	2/12/2013	Fluorene	10	11
ES1327011	BI MW01	2/12/2013	Fluorene	11	12
ES1327011	BH MW02	2/12/2013	Indeno(1,2,3-c,d)pyrene	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Indeno(1,2,3-c,d)pyrene	10	11
ES1327011	BH MW01	2/12/2013	Indeno(1,2,3-c,d)pyrene	10	11
ES1327011	BI MW02	2/12/2013	Indeno(1,2,3-c,d)pyrene	10	11
ES1327011	BI MW03	2/12/2013	Indeno(1,2,3-c,d)pyrene	10	11
ES1327011	BI MW01	2/12/2013	Indeno(1,2,3-c,d)pyrene	11	12
ES1327011	BH MW02	2/12/2013	Naphthalene	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Naphthalene	10	11
ES1327011	BH MW01	2/12/2013	Naphthalene	10	11
ES1327011	BI MW02	2/12/2013	Naphthalene	10	11
ES1327011	BI MW03	2/12/2013	Naphthalene	10	11
ES1327011	BI MW01	2/12/2013	Naphthalene	11	12
ES1327011	BH MW02	2/12/2013	Naphthalene	11	11
ES1327011	RINSATE_021213_NH	2/12/2013	Naphthalene	11	11
ES1327011	BH MW01	2/12/2013	Naphthalene	11	11
ES1327011	TRIP BLANK	2/12/2013	Naphthalene	11	11
ES1327011	BV MW06	5/12/2013	Naphthalene	11	11
ES1327011	BI MW02	2/12/2013	Naphthalene	11	11
ES1327011	BI MW03	2/12/2013	Naphthalene	11	11
ES1327011	BI MW01	2/12/2013	Naphthalene	12	12
ES1327011	BH MW02	2/12/2013	PAHs (Sum of total)	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	PAHs (Sum of total)	10	11
ES1327011	BH MW01	2/12/2013	PAHs (Sum of total)	10	11
ES1327011	BI MW02	2/12/2013	PAHs (Sum of total)	10	11
ES1327011	BI MW03	2/12/2013	PAHs (Sum of total)	10	11
ES1327011	BI MW01	2/12/2013	PAHs (Sum of total)	11	12
ES1327011	BH MW02	2/12/2013	Pentachlorophenol	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Pentachlorophenol	10	11
ES1327011	BH MW01	2/12/2013	Pentachlorophenol	10	11
ES1327011	BI MW02	2/12/2013	Pentachlorophenol	10	11
ES1327011	BI MW03	2/12/2013	Pentachlorophenol	10	11
ES1327011	BI MW01	2/12/2013	Pentachlorophenol	11	12
ES1327011	BH MW02	2/12/2013	Phenanthrene	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Phenanthrene	10	11
ES1327011	BH MW01	2/12/2013	Phenanthrene	10	11
ES1327011	BI MW02	2/12/2013	Phenanthrene	10	11
ES1327011	BI MW03	2/12/2013	Phenanthrene	10	11
ES1327011	BI MW01	2/12/2013	Phenanthrene	11	12
ES1327011	BH MW02	2/12/2013	Phenol	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Phenol	10	11
ES1327011	BH MW01	2/12/2013	Phenol	10	11
ES1327011	BI MW02	2/12/2013	Phenol	10	11
ES1327011	BI MW03	2/12/2013	Phenol	10	11
ES1327011	BI MW01	2/12/2013	Phenol	11	12
ES1327011	BH MW02	2/12/2013	Pyrene	10	11
ES1327011	RINSATE_021213_NH	2/12/2013	Pyrene	10	11
ES1327011	BH MW01	2/12/2013	Pyrene	10	11
ES1327011	BI MW02	2/12/2013	Pyrene	10	11
ES1327011	BI MW03	2/12/2013	Pyrene	10	11
ES1327011	BI MW01	2/12/2013	Pyrene	11	12
ES1327444	BY MW21	11/12/2013	2,4,5-trichlorophenol	8	9
ES1327444	BY MW21	11/12/2013	2,4,6-trichlorophenol	8	9
ES1327444	BY MW21	11/12/2013	2,4-dichlorophenol	8	9
ES1327444	BY MW21	11/12/2013	2,4-dimethylphenol	8	9
ES1327444	BY MW21	11/12/2013	2,6-dichlorophenol	8	9
ES1327444	BY MW21	11/12/2013	2-chlorophenol	8	9
ES1327444	BY MW21	11/12/2013	2-methylphenol	8	9
ES1327444	BY MW21	11/12/2013	2-nitrophenol	8	9
ES1327444	BY MW21	11/12/2013	3-&4-methylphenol	8	9
ES1327444	BY MW21	11/12/2013	4-chloro-3-methylphenol	8	9
ES1327444	BY MW21	11/12/2013	Acenaphthene	8	9
ES1327444	BY MW21	11/12/2013	Acenaphthylene	8	9
ES1327444	BY MW21	11/12/2013	Anthracene	8	9
ES1327444	BY MW21	11/12/2013	Benz(a)anthracene	8	9
ES1327444	BY MW21	11/12/2013	Benzo(a) pyrene	8	9
ES1327444	BY MW21	11/12/2013	Benzo(a,h)pyrene TEQ (zero)	8	9
ES1327444	BY MW21	11/12/2013	Benzo(b)fluoranthene	8	9
ES1327444	BY MW21	11/12/2013	Benzo(g,h,i)perylene	8	9
ES1327444	BY MW21	11/12/2013	Benzo(k)fluoranthene	8	9
ES1327444	BY MW21	11/12/2013	C10 - C14	8	9
ES1327444	BY MW21	11/12/2013	C10 - C40 (Sum of total)	8	9
ES1327444	BY MW21	11/12/2013	C10-C16	8	9
ES1327444	BY MW21	11/12/2013	C15 - C28	8	9
ES1327444	BY MW21	11/12/2013	C16-C34	8	9
ES1327444	BY MW21	11/12/2013	C29-C36	8	9
ES1327444	BY MW21	11/12/2013	C34-C40	8	9
ES1327444	BY MW21	11/12/2013	Chrysene	8	9
ES1327444	BY MW21	11/12/2013	Dibenz(a,h)anthracene	8	9
ES1327444	BY MW21	11/12/2013	Fluoranthene	8	9
ES1327444	BY MW21	11/12/2013	Fluorene	8	9
ES1327444	BY MW21	11/12/2013	Indeno(1,2,3-c,d)pyrene	8	9
ES1327444	BY MW21	11/12/2013	Naphthalene	8	8
ES1327444	BY MW21	11/12/2013	Naphthalene	8	9
ES1327444	BY MW21	11/12/2013	Naphthalene	8	8
ES1327444	BY MW21	11/12/2013	Pentachlorophenol	8	9
ES1327444	BY MW21	11/12/2013	Phenanthrene	8	9
ES1327444	BY MW21	11/12/2013	Phenol	8	9
ES1327444	BY MW21	11/12/2013	Pyrene	8	9
ES1328110	BN MW02	19/12/2013	Naphthalene	8	8
ES1328110	BV MW04	19/12/2013	Naphthalene	8	8



Table F9c. Laboratory Holding Time Exceedances - Surface Water
 Bayswater Power Station - Stage 2 ESA
 Project Symphony - 0224193

SDG	Field_ID	Sampled_ Date-Time	ChemName	Sampled_to_Extraction_ Days	Sampled_to_Analysis_ Days
ES1327427	BW_SS06	6/12/2013	Pyrene	10	10
ES1327427	BW_SS10	6/12/2013	Pyrene	10	10
ES1327427	BW_SS06	6/12/2013	Phenol	10	10
ES1327427	BW_SS10	6/12/2013	Phenol	10	10
ES1327427	BW_SS06	6/12/2013	Phenanthrene	10	10
ES1327427	BW_SS10	6/12/2013	Phenanthrene	10	10
ES1327427	BW_SS06	6/12/2013	Pentachlorophenol	10	10
ES1327427	BW_SS10	6/12/2013	Pentachlorophenol	10	10
ES1327427	BW_SS06	6/12/2013	PCBs (Sum of total)	10	10
ES1327427	BW_SS10	6/12/2013	PCBs (Sum of total)	10	10
ES1327427	BW_SS06	6/12/2013	PAHs (Sum of total)	10	10
ES1327427	BW_SS10	6/12/2013	PAHs (Sum of total)	10	10
ES1326163	T/BLANK	22/11/2013	Naphthalene	11	11
ES1326639	BW_SS25	29/11/2013	Naphthalene	9	9
ES1326639	BW_SS27	29/11/2013	Naphthalene	9	9
ES1326639	BW_SS28	29/11/2013	Naphthalene	9	9
ES1326639	BW_SS29	29/11/2013	Naphthalene	9	9
ES1326639	BW_SS30	29/11/2013	Naphthalene	9	9
ES1326639	BW_SS31	29/11/2013	Naphthalene	9	9
ES1326639	BW_SS32	29/11/2013	Naphthalene	9	9
ES1326639	BW_SS34	29/11/2013	Naphthalene	9	9
ES1326639	R01_291113_TA	29/11/2013	Naphthalene	9	9
ES1326639	T/BLANK	29/11/2013	Naphthalene	9	9
ES1327427	BW_SS06	6/12/2013	Naphthalene	10	10
ES1327427	BW_SS06	6/12/2013	Naphthalene	11	11
ES1327427	BW_SS10	6/12/2013	Naphthalene	10	10
ES1327427	BW_SS10	6/12/2013	Naphthalene	11	11
ES1326081	BW_SS40	27/11/2013	Mercury		33
ES1326081	BW_SS41	27/11/2013	Mercury		33
ES1326081	BW_SS42	27/11/2013	Mercury		33
ES1326081	BW_SS43	27/11/2013	Mercury		33
ES1326081	BW_SS45	27/11/2013	Mercury		33
ES1326081	BW_SS46	27/11/2013	Mercury		33
ES1326081	BW_SS47	27/11/2013	Mercury		33
ES1326081	BW_SS48	27/11/2013	Mercury		33
ES1326081	BW_SS49	27/11/2013	Mercury		33
ES1326081	BW_SS50	27/11/2013	Mercury		33
ES1326081	BW_SS51	27/11/2013	Mercury		33
ES1326081	BW_SS52	27/11/2013	Mercury		33
ES1326081	BW_SS53	27/11/2013	Mercury		33
ES1326081	BW_SS54	27/11/2013	Mercury		33
ES1326081	BW_SS11	27/11/2013	Mercury		33
ES1326081	BW_SS12	27/11/2013	Mercury		33
ES1326081	BW_SS13	27/11/2013	Mercury		33
ES1326081	BW_SS14	27/11/2013	Mercury		33
ES1326081	BW_SS15	27/11/2013	Mercury		33
ES1326081	BW_SS16	27/11/2013	Mercury		33
ES1326081	BW_SS17	27/11/2013	Mercury		33
ES1326081	BW_SS18	27/11/2013	Mercury		33
ES1326163	BW_SS01	28/11/2013	Mercury		32
ES1326163	BW_SS07	28/11/2013	Mercury		32
ES1326163	BW_SS08	28/11/2013	Mercury		32
ES1326163	BW_SS09	28/11/2013	Mercury		32
ES1326163	BW_SS19	28/11/2013	Mercury		32
ES1326163	BW_SS20	28/11/2013	Mercury		32
ES1326163	BW_SS21	28/11/2013	Mercury		32
ES1326163	BW_SS22	28/11/2013	Mercury		32
ES1326163	BW_SS23	28/11/2013	Mercury		32
ES1326163	BW_SS24	28/11/2013	Mercury		32
ES1326163	BW_SS26	28/11/2013	Mercury		32
ES1326163	BW_SS33	28/11/2013	Mercury		32
ES1327427	BW_SS06	6/12/2013	Indeno(1,2,3-c,d)pyrene	10	10
ES1327427	BW_SS10	6/12/2013	Indeno(1,2,3-c,d)pyrene	10	10
ES1327427	BW_SS06	6/12/2013	Fluorene	10	10
ES1327427	BW_SS10	6/12/2013	Fluorene	10	10



Table F9c. Laboratory Holding Time Exceedances - Surface Water
 Bayswater Power Station - Stage 2 ESA
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SDG	Field_ID	Sampled_ Date-Time	ChemName	Sampled_to_Extraction_ Days	Sampled_to_Analysis_ Days
ES1327427	BW_SS06	6/12/2013	Fluoranthene	10	10
ES1327427	BW_SS10	6/12/2013	Fluoranthene	10	10
ES1327427	BW_SS06	6/12/2013	Dibenz(a,h)anthracene	10	10
ES1327427	BW_SS10	6/12/2013	Dibenz(a,h)anthracene	10	10
ES1327427	BW_SS06	6/12/2013	Chrysene	10	10
ES1327427	BW_SS10	6/12/2013	Chrysene	10	10
ES1327427	BW_SS06	6/12/2013	C34-C40	10	10
ES1327427	BW_SS10	6/12/2013	C34-C40	10	10
ES1327427	BW_SS06	6/12/2013	C29-C36	10	10
ES1327427	BW_SS10	6/12/2013	C29-C36	10	10
ES1327427	BW_SS06	6/12/2013	C16-C34	10	10
ES1327427	BW_SS10	6/12/2013	C16-C34	10	10
ES1327427	BW_SS06	6/12/2013	C15 - C28	10	10
ES1327427	BW_SS10	6/12/2013	C15 - C28	10	10
ES1327427	BW_SS06	6/12/2013	C10-C16	10	10
ES1327427	BW_SS10	6/12/2013	C10-C16	10	10
ES1327427	BW_SS06	6/12/2013	C10 - C40 (Sum of total)	10	10
ES1327427	BW_SS10	6/12/2013	C10 - C40 (Sum of total)	10	10
ES1327427	BW_SS06	6/12/2013	C10 - C14	10	10
ES1327427	BW_SS10	6/12/2013	C10 - C14	10	10
ES1327427	BW_SS06	6/12/2013	Benzo(k)fluoranthene	10	10
ES1327427	BW_SS10	6/12/2013	Benzo(k)fluoranthene	10	10
ES1327427	BW_SS06	6/12/2013	Benzo(g,h,i)perylene	10	10
ES1327427	BW_SS10	6/12/2013	Benzo(g,h,i)perylene	10	10
ES1327427	BW_SS06	6/12/2013	Benzo(b)fluoranthene	10	10
ES1327427	BW_SS10	6/12/2013	Benzo(b)fluoranthene	10	10
ES1327427	BW_SS06	6/12/2013	Benzo(a)pyrene TEQ (zero)	10	10
ES1327427	BW_SS10	6/12/2013	Benzo(a)pyrene TEQ (zero)	10	10
ES1327427	BW_SS06	6/12/2013	Benzo(a) pyrene	10	10
ES1327427	BW_SS10	6/12/2013	Benzo(a) pyrene	10	10
ES1327427	BW_SS06	6/12/2013	Benz(a)anthracene	10	10
ES1327427	BW_SS10	6/12/2013	Benz(a)anthracene	10	10
ES1327427	BW_SS06	6/12/2013	Anthracene	10	10
ES1327427	BW_SS10	6/12/2013	Anthracene	10	10
ES1327427	BW_SS06	6/12/2013	Acenaphthylene	10	10
ES1327427	BW_SS10	6/12/2013	Acenaphthylene	10	10
ES1327427	BW_SS06	6/12/2013	Acenaphthene	10	10
ES1327427	BW_SS10	6/12/2013	Acenaphthene	10	10
ES1327427	BW_SS06	6/12/2013	4-chloro-3-methylphenol	10	10
ES1327427	BW_SS10	6/12/2013	4-chloro-3-methylphenol	10	10
ES1327427	BW_SS06	6/12/2013	3-&4-methylphenol	10	10
ES1327427	BW_SS10	6/12/2013	3-&4-methylphenol	10	10
ES1327427	BW_SS06	6/12/2013	2-nitrophenol	10	10
ES1327427	BW_SS10	6/12/2013	2-nitrophenol	10	10
ES1327427	BW_SS06	6/12/2013	2-methylphenol	10	10
ES1327427	BW_SS10	6/12/2013	2-methylphenol	10	10
ES1327427	BW_SS06	6/12/2013	2-chlorophenol	10	10
ES1327427	BW_SS10	6/12/2013	2-chlorophenol	10	10
ES1327427	BW_SS06	6/12/2013	2,6-dichlorophenol	10	10
ES1327427	BW_SS10	6/12/2013	2,6-dichlorophenol	10	10
ES1327427	BW_SS06	6/12/2013	2,4-dimethylphenol	10	10
ES1327427	BW_SS10	6/12/2013	2,4-dimethylphenol	10	10
ES1327427	BW_SS06	6/12/2013	2,4-dichlorophenol	10	10
ES1327427	BW_SS10	6/12/2013	2,4-dichlorophenol	10	10
ES1327427	BW_SS06	6/12/2013	2,4,6-trichlorophenol	10	10
ES1327427	BW_SS10	6/12/2013	2,4,6-trichlorophenol	10	10
ES1327427	BW_SS06	6/12/2013	2,4,5-trichlorophenol	10	10
ES1327427	BW_SS10	6/12/2013	2,4,5-trichlorophenol	10	10
ES1327427	BW_SS06	6/12/2013	+C10 - C16 Less Naphthalene (10	10
ES1327427	BW_SS10	6/12/2013	+C10 - C16 Less Naphthalene (10	10
ES1327427	BW_SS06	6/12/2013	+C10 - C36 (Sum of total)	10	10
ES1327427	BW_SS10	6/12/2013	+C10 - C36 (Sum of total)	10	10



SDG	Sample_Type	Field_ID	ampled_Date-Tin	Compound	Recovery %	LCL	UCL	Comments
ES1324374	Normal	BK_MW04_0.1	6/11/2013	1,2-Dichloroethane-D4	133	72.8	133.2	Recovery greater than upper data quality objective
ES1324729	Normal	BH_SB06_0.25	7/11/2013	Toluene-D8	73.8	73.9	132.1	Recovery less than lower data quality objective
ES1325842	Trip_B	TRIP BLANK	25/11/2013	Toluene-D8	132	73.9	132.1	Recovery greater than upper data quality objective
ES1325879	Normal	BI_MW01_3.0	20/11/2013	1,2-Dichloroethane-D4	71.2	72.8	133.2	Recovery less than lower data quality objective
ES1326688	Normal	BR_MW11_9MBGS	26/11/2013	2,4,6-Tribromophenol	37.4	40	138	Recovery less than lower data quality objective
ES1326688	Normal	BR_MW11_9MBGS	26/11/2013	4-Terphenyl-d14	63.4	65	129	Recovery less than lower data quality objective
ES1326995	Normal	BX_MW03_2.0	4/12/2013	2-Chlorophenol-D4	58.6	66	122	Recovery less than lower data quality objective
ES1326999	Normal	BM_SB01_1.5	4/12/2013	Toluene-D8	72.6	73.9	132.1	Recovery less than lower data quality objective
ES1326999	Normal	BM_SB06_0.1	4/12/2013	2-Chlorophenol-D4	65.2	66	122	Recovery less than lower data quality objective
ES1326999	Normal	BM_SB07_0.5	4/12/2013	2-Chlorophenol-D4	60.8	66	122	Recovery less than lower data quality objective
ES1326999	Normal	BM_SB09_0.5	4/12/2013	2-Chlorophenol-D4	58	66	122	Recovery less than lower data quality objective
ES1327003	Normal	BF_SB03_0.4-0.5	3/12/2013	Phenol-d6	62	63	123	Recovery less than lower data quality objective
ES1327003	Normal	BF_SB03_0.4-0.5	41611.625	2-Chlorophenol-D4	61.5	66	122	Recovery less than lower data quality objective
ES1327003	Normal	BF_MW03_0.4-0.5	41611.625	2-Chlorophenol-D4	56.1	66	122	Recovery less than lower data quality objective
ES1327003	Normal	BF_SB01_0.4-0.5	41611.625	2-Chlorophenol-D4	52.5	66	122	Recovery less than lower data quality objective
ES1327521	Normal	BF_MW11_4.0	41621.625	2,4,6-Tribromophenol	38.5	40	138	Recovery less than lower data quality objective
ES1327803	Normal	BY_MW23_3.5	41619.625	2-Chlorophenol-D4	65.5	66	122	Recovery less than lower data quality objective



SDG	Sample_Type	Field_ID	Sampled_Date	Compound	Recovery %	LCL%	UCL%	Comments
ES1327963	Normal	BF_MW01	18/12/2013	2.4.6-Tribromophenol	13.3	17	125	Recovery less than lower data quality objective
ES1328108	Rinsate	R01_201213_JG	20/12/2013	2.4.6-Tribromophenol	13.3	17	125	Recovery less than lower data quality objective
ES1327963	Normal	BF_MW02	18/12/2013	2.4.6-Tribromophenol	14.1	17	125	Recovery less than lower data quality objective
ES1327963	MB	-	23/12/2013	2.4.6-Tribromophenol	15.1	22.1	122	Recovery less than lower control limit
ES1328108	MB	-	23/12/2013	2.4.6-Tribromophenol	15.1	22.1	122	Recovery less than lower control limit
ES1327890	Normal	BY_MW25	17/12/2013	Phenol-d6	45.4	10	44	Recovery greater than upper data quality objective
ES1327010	Normal	BB_MW02	5/12/2013	Phenol-d6	46.5	10	44	Recovery greater than upper data quality objective
ES1328110	Normal	BN_MW02	19/12/2013	Phenol-d6	51	10	44	Recovery greater than upper data quality objective
ES1326215	MS	-	28/11/2013	Phenol-d6	70.5	10	44	Recovery greater than upper data quality objective
ES1327010	Normal	BB_MW02	5/12/2013	1.2-Dichloroethane-D4	77.5	78.3	133.2	Recovery less than lower data quality objective
ES1327010	Normal	BB_MW02	5/12/2013	4-Bromofluorobenzene	80	80.8	123.7	Recovery less than lower data quality objective
ES1327444	LAB_D	-	16/12/2013	Toluene-D8	130	79.1	128.9	Recovery greater than upper data quality objective



SDG	Sample_Type	Field_ID	Sampled_Date-Time	Compound	Recovery %	LCL	UCL	Comments
ES1327427	MS		6/12/2013	Phenol-d6	44.5	10	44	Recovery greater than upper data quality objective



SDG	Sample_Type	Field_ID	Sampled_Date-T	Compound	Recovery %	LCL	UCL	Comments
ES1326082	Normal	BW_SS37	26/11/2013	2-Fluorobiphenyl	69.9	70	122	Recovery less than lower data quality objective
ES1326164	Normal	BW_SS01	28/11/2013	Anthracene-d10	64.1	66	128	Recovery less than lower data quality objective
ES1326164	Normal	BW_SS08	28/11/2013	Anthracene-d10	63.5	66	128	Recovery less than lower data quality objective
ES1326164	Normal	BW_SS09	28/11/2013	Anthracene-d10	62.4	66	128	Recovery less than lower data quality objective
ES1326164	Normal	BW_SS19	28/11/2013	Anthracene-d10	62.2	66	128	Recovery less than lower data quality objective
ES1326164	Normal	BW_SS19	28/11/2013	4-Bromofluorobenzene	72.9	73	137	Recovery less than lower data quality objective
ES1326164	Normal	BW_SS20	28/11/2013	Anthracene-d10	64.3	66	128	Recovery less than lower data quality objective
ES1326164	Normal	BW_SS21	28/11/2013	Anthracene-d10	61.5	66	128	Recovery less than lower data quality objective
ES1326164	Normal	BW_SS22	28/11/2013	Anthracene-d10	65.2	66	128	Recovery less than lower data quality objective
ES1326164	Normal	BW_SS23	28/11/2013	Anthracene-d10	60.6	66	128	Recovery less than lower data quality objective
ES1326164	Normal	BW_SS33	28/11/2013	Anthracene-d10	63.6	66	128	Recovery less than lower data quality objective
ES1326164	Field_D	D01_281113_TA/	28/11/2013	Anthracene-d10	65.6	66	128	Recovery less than lower data quality objective
ES1326691	Normal	BW_SS27	29/11/2013	4-Terphenyl-d14	60.2	65	129	Recovery less than lower data quality objective
ES1326691	Normal	BW_SS31	29/11/2013	Decachlorobiphenyl	108	2.22	106	Recovery greater than upper data quality objective



SDG	SampleCode	OriginalChemName	Recovery %	Unit	Comments
ES1323960	3753871-007_ES1323960	Pentachlorophenol	13.2	%	
ES1323960	3755845-007_ES1323960	Vinyl Acetate	56.9	%	
ES1323960	3755845-007_ES1323960	Carbon disulfide	67.5	%	
ES1323960	3755845-007_ES1323960	Dichlorodifluoromethane	61	%	
ES1323960	3755845-007_ES1323960	2-Butanone (MEK)	131	%	
ES1323960	3757233-007_ES1323960	Pentachlorophenol	35.4	%	
ES1324259	3760416-007_ES1324259	Pentachlorophenol	17.8	%	
ES1324374	3762555-007_ES1324374	Pentachlorophenol	47.9	%	
ES1324458	3765357-007_ES1324458	Pentachlorophenol	19.8	%	
ES1324459	3765519-002_ES1324459	>C34 - C40 Fraction	68.3	%	
ES1324459	3765519-007_ES1324459	Pentachlorophenol	30.2	%	
ES1324590	3768680-007_ES1324590	Pentachlorophenol	19.5	%	
ES1324729	3772806-015_ES1324729	Dichlorodifluoromethane	47.7	%	
ES1324726	3772831-015_ES1324726	Chloromethane	68.3	%	
ES1324726	3772831-015_ES1324726	Chloroethane	66	%	
ES1324726	3772831-015_ES1324726	Dichlorodifluoromethane	48.2	%	
ES1324726	3772888-007_ES1324726	Pentachlorophenol	10.8	%	
ES1324722	3776010-002_ES1324722	>C34 - C40 Fraction	68.6	%	
ES1324722	3776010-007_ES1324722	Pentachlorophenol	26.2	%	
ES1324838	3778201-002_ES1324838	>C34 - C40 Fraction	69.4	%	
ES1324838	3778201-007_ES1324838	Pentachlorophenol	25.1	%	
ES1324837	3778373-002_ES1324837	Ethylbenzene	62.9	%	
ES1324837	3778373-002_ES1324837	meta- & para-Xylene	67.2	%	
ES1324837	3778373-002_ES1324837	Benzene	69.3	%	
ES1324837	3778373-002_ES1324837	Naphthalene	67	%	
ES1324838	3778373-002_ES1324838	Ethylbenzene	62.9	%	
ES1324838	3778373-002_ES1324838	meta- & para-Xylene	67.2	%	
ES1324838	3778373-002_ES1324838	Benzene	69.3	%	
ES1324838	3778373-002_ES1324838	Naphthalene	67	%	
ES1324837	3778373-007_ES1324837	Vinyl Acetate	34.7	%	
ES1324837	3778373-007_ES1324837	trans-1,4-Dichloro-2-butene	67.5	%	
ES1324837	3778373-007_ES1324837	cis-1,4-Dichloro-2-butene	59	%	
ES1324837	3778373-007_ES1324837	Dichlorodifluoromethane	54.7	%	
ES1324838	3778373-007_ES1324838	Vinyl Acetate	34.7	%	
ES1324838	3778373-007_ES1324838	trans-1,4-Dichloro-2-butene	67.5	%	
ES1324838	3778373-007_ES1324838	cis-1,4-Dichloro-2-butene	59	%	
ES1324838	3778373-007_ES1324838	Dichlorodifluoromethane	54.7	%	
ES1324728	3778489-002_ES1324728	>C34 - C40 Fraction	67.3	%	
ES1324729	3778489-002_ES1324729	>C34 - C40 Fraction	67.3	%	
ES1324728	3778489-007_ES1324728	Pentachlorophenol	36	%	
ES1324729	3778489-007_ES1324729	Pentachlorophenol	36	%	
ES1325015	3779313-011_ES1325015	Dichlorodifluoromethane	59.2	%	
ES1325015	3779313-011_ES1325015	Hexachlorobutadiene	137	%	Recovery greater than upper control limit
ES1325018	3779313-011_ES1325018	Dichlorodifluoromethane	59.2	%	
ES1325018	3779313-011_ES1325018	Hexachlorobutadiene	137	%	Recovery greater than upper control limit
ES1325016	3779351-007_ES1325016	Pentachlorophenol	30.7	%	
ES1325015	3779363-007_ES1325015	Pentachlorophenol	9.4	%	
ES1325018	3779363-007_ES1325018	Pentachlorophenol	9.4	%	
ES1324839	3779380-007_ES1324839	Pentachlorophenol	22.9	%	
ES1324839	3780657-007_ES1324839	Pentachlorophenol	20	%	
ES1325018	3780657-007_ES1325018	Pentachlorophenol	20	%	
ES1324837	3782168-007_ES1324837	Pentachlorophenol	32.5	%	
ES1325580	3796430-011_ES1325580	Dichlorodifluoromethane	64.5	%	
ES1325580	3798878-007_ES1325580	Pentachlorophenol	43	%	
ES1325572	3798882-007_ES1325572	Pentachlorophenol	33.7	%	
ES1325882	3798891-007_ES1325882	Pentachlorophenol	16.8	%	
ES1325884	3798891-007_ES1325884	Pentachlorophenol	16.8	%	
ES1325880	3798907-007_ES1325880	Vinyl Acetate	40.4	%	
ES1325880	3798907-007_ES1325880	Chloromethane	61.9	%	
ES1325880	3798907-007_ES1325880	Carbon disulfide	62	%	
ES1325880	3798907-007_ES1325880	Dichlorodifluoromethane	46.3	%	
ES1325880	3798907-007_ES1325880	1,2-Dibromo-3-chloropropane	68.9	%	
ES1325881	3798907-007_ES1325881	Vinyl Acetate	40.4	%	
ES1325881	3798907-007_ES1325881	Chloromethane	61.9	%	
ES1325881	3798907-007_ES1325881	Carbon disulfide	62	%	
ES1325881	3798907-007_ES1325881	Dichlorodifluoromethane	46.3	%	
ES1325881	3798907-007_ES1325881	1,2-Dibromo-3-chloropropane	68.9	%	
ES1325883	3798907-007_ES1325883	Vinyl Acetate	40.4	%	
ES1325883	3798907-007_ES1325883	Chloromethane	61.9	%	
ES1325883	3798907-007_ES1325883	Carbon disulfide	62	%	
ES1325883	3798907-007_ES1325883	Dichlorodifluoromethane	46.3	%	
ES1325883	3798907-007_ES1325883	1,2-Dibromo-3-chloropropane	68.9	%	
ES1325880	3798908-007_ES1325880	Pentachlorophenol	46.9	%	
ES1325881	3798908-007_ES1325881	Pentachlorophenol	46.9	%	
ES1325883	3798908-007_ES1325883	Pentachlorophenol	46.9	%	
ES1325842	3803107-016_ES1325842	Bromomethane	64.9	%	
ES1325842	3803107-016_ES1325842	Chloromethane	67.5	%	
ES1325842	3803107-016_ES1325842	Carbon disulfide	62.6	%	
ES1325842	3803107-016_ES1325842	Dichlorodifluoromethane	51	%	
ES1325842	3803125-007_ES1325842	Pentachlorophenol	23.8	%	
ES1325842	3803869-007_ES1325842	Pentachlorophenol	27.3	%	
ES1325879	3803965-010_ES1325879	Pentachlorophenol	24	%	
ES1325842	3805302-002_ES1325842	Total Polychlorinated biphenyls	65	%	



SDG	SampleCode	OriginalChemName	Recovery %	Unit	Comments
ES1325842	3806259-007_ES1325842	Pentachlorophenol	25.9	%	
ES1325842	3806272-010_ES1325842	Vinyl Acetate	32	%	
ES1325842	3806272-010_ES1325842	1,2,4-Trichlorobenzene	63.6	%	
ES1325842	3806272-010_ES1325842	Bromomethane	67.7	%	
ES1325842	3806272-010_ES1325842	Chloromethane	49.2	%	
ES1325842	3806272-010_ES1325842	Vinyl chloride	68.1	%	
ES1325842	3806272-010_ES1325842	Dichlorodifluoromethane	38.7	%	
ES1325842	3806272-010_ES1325842	1,2,3-Trichlorobenzene	67.5	%	
ES1325842	3806272-010_ES1325842	1,2,3-Trichloropropane	67	%	
ES1325842	3806740-034_ES1325842	Mercury	69	%	
ES1326079	3808525-015_ES1326079	trans-1,3-Dichloropropylene	64.6	%	
ES1326079	3808525-015_ES1326079	Vinyl Acetate	43.1	%	
ES1326079	3808525-015_ES1326079	2,2-Dichloropropane	65.6	%	
ES1326079	3808525-015_ES1326079	Bromomethane	61.8	%	
ES1326079	3808525-015_ES1326079	Chloromethane	61.1	%	
ES1326079	3808525-015_ES1326079	Chloroethane	69.2	%	
ES1326079	3808525-015_ES1326079	Carbon disulfide	54	%	
ES1326079	3808525-015_ES1326079	1,1-Dichloroethene	68.2	%	
ES1326079	3808525-015_ES1326079	Dichlorodifluoromethane	41.4	%	
ES1326079	3808525-015_ES1326079	1,2-Dibromo-3-chloropropane	65.2	%	
ES1326079	3808567-007_ES1326079	Pentachlorophenol	21.1	%	
ES1326694	3817361-007_ES1326694	Pentachlorophenol	10.9	%	
ES1326688	3818729-007_ES1326688	Pentachlorophenol	33.8	%	
ES1326692	3819152-013_ES1326692	Bromomethane	63.9	%	
ES1326692	3819152-013_ES1326692	Chloroethane	63.5	%	
ES1326692	3819152-013_ES1326692	1,1-Dichloroethene	62.7	%	
ES1326692	3819152-013_ES1326692	Dichlorodifluoromethane	61.3	%	
ES1326692	3821378-015_ES1326692	Pentachlorophenol	26.1	%	
ES1326693	3821378-015_ES1326693	Pentachlorophenol	26.1	%	
ES1326695	3821841-002_ES1326695	>C34 - C40 Fraction	65.2	%	
ES1326695	3821841-007_ES1326695	Pentachlorophenol	20.1	%	
ES1326995	3826297-009_ES1326995	Vinyl Acetate	49.8	%	
ES1326995	3826297-009_ES1326995	Bromomethane	60.8	%	
ES1326995	3826297-009_ES1326995	Chloromethane	52.3	%	
ES1326995	3826297-009_ES1326995	Iodomethane	64.9	%	
ES1326995	3826297-009_ES1326995	Chloroethane	68.1	%	
ES1326995	3826297-009_ES1326995	Vinyl chloride	68.2	%	
ES1326995	3826297-009_ES1326995	Carbon disulfide	69.6	%	
ES1326995	3826297-009_ES1326995	1,1-Dichloroethene	68.8	%	
ES1326995	3826297-009_ES1326995	Dichlorodifluoromethane	37.5	%	
ES1326995	3826297-009_ES1326995	Pentachloroethane	29.9	%	
ES1326999	3826297-009_ES1326999	Vinyl Acetate	49.8	%	
ES1326999	3826297-009_ES1326999	Bromomethane	60.8	%	
ES1326999	3826297-009_ES1326999	Chloromethane	52.3	%	
ES1326999	3826297-009_ES1326999	Iodomethane	64.9	%	
ES1326999	3826297-009_ES1326999	Chloroethane	68.1	%	
ES1326999	3826297-009_ES1326999	Vinyl chloride	68.2	%	
ES1326999	3826297-009_ES1326999	Carbon disulfide	69.6	%	
ES1326999	3826297-009_ES1326999	1,1-Dichloroethene	68.8	%	
ES1326999	3826297-009_ES1326999	Dichlorodifluoromethane	37.5	%	
ES1326999	3826297-009_ES1326999	Pentachloroethane	29.9	%	
ES1326999	3826420-007_ES1326999	Pentachlorophenol	44.1	%	
ES1327003	3826420-007_ES1327003	Pentachlorophenol	44.1	%	
ES1326995	3826436-007_ES1326995	2,4,6-Trichlorophenol	65.1	%	
ES1327001	3826436-007_ES1327001	2,4,6-Trichlorophenol	65.1	%	
ES1326990	3829312-010_ES1326990	Pentachlorophenol	24.7	%	
ES1326978	3829376-008_ES1326978	Carbon Tetrachloride	66.8	%	
ES1326978	3829376-008_ES1326978	2-Hexanone (MBK)	132	%	
ES1326978	3829376-008_ES1326978	Bromomethane	56.2	%	
ES1326978	3829376-008_ES1326978	Chloromethane	67.1	%	
ES1326978	3829376-008_ES1326978	Vinyl chloride	66.9	%	
ES1326978	3829376-008_ES1326978	Carbon disulfide	64.2	%	
ES1326978	3829376-008_ES1326978	Dichlorodifluoromethane	49	%	
ES1326978	3829376-008_ES1326978	Hexachlorobutadiene	65.4	%	
ES1326978	3830083-007_ES1326978	Pentachlorophenol	54.6	%	
ES1327429	3836291-007_ES1327429	Pentachlorophenol	21	%	
ES1327432	3836790-012_ES1327432	Pentachlorophenol	38.4	%	
ES1327521	3839063-007_ES1327521	Pentachlorophenol	33.6	%	
ES1327521	3839068-007_ES1327521	Pentachlorophenol	43.2	%	
ES1327521	3839073-007_ES1327521	Vinyl Acetate	30.1	%	
ES1327521	3839073-007_ES1327521	Vinyl chloride	144	%	
ES1327521	3839073-007_ES1327521	Dichlorodifluoromethane	135	%	
ES1327432	3839078-002_ES1327432	C6 - C10 Fraction	69.2	%	
ES1327432	3839078-002_ES1327432	C6 - C9 Fraction	68.8	%	
ES1327521	3839158-034_ES1327521	Chromium	132	%	
ES1327803	3845298-002_ES1327803	>C34 - C40 Fraction	69.4	%	
ES1327803	3845298-007_ES1327803	Pentachlorophenol	37	%	
ES1327521	3845628-002_ES1327521	Vinyl chloride	66.6	%	
ES1327892	3848383-002_ES1327892	>C34 - C40 Fraction	66.8	%	
ES1327892	3848383-010_ES1327892	Pentachlorophenol	31.4	%	
ES1328111	3850143-007_ES1328111	Pentachlorophenol	35.6	%	

SDG	SampleCode	OriginalChemName	Recovery %	Unit	Comments
ES1326215	3811692-011_ES1326215	Phenol	50.6	%	
ES1326215	3811692-011_ES1326215	2,4-Dichlorophenol	67.1	%	
ES1326215	3811692-011_ES1326215	4-Chloro-3-methylphenol	64.9	%	
ES1326215	3811692-011_ES1326215	Pentachlorophenol	23.4	%	
ES1326215	3811692-011_ES1326215	2,4,6-Trichlorophenol	68.8	%	
ES1326215	3811692-011_ES1326215	2-Nitrophenol	69.9	%	
ES1326215	3820764-002_ES1326215	3- & 4-Methylphenol	61	%	
ES1326215	3820764-002_ES1326215	Phenol	39.5	%	
ES1326215	3820764-002_ES1326215	Pentachlorophenol	27.6	%	
ES1326215	3820764-002_ES1326215	2-Methylphenol	64.1	%	
ES1326215	3820764-002_ES1326215	2-Chlorophenol	69.5	%	
ES1326215	3811692-011_ES1326215	Indeno(1,2,3.cd)pyrene	67.3	%	
ES1326215	3811692-011_ES1326215	Benz(a)anthracene	68.8	%	
ES1326215	3820764-002_ES1326215	Anthracene	69.9	%	
ES1326215	3820764-002_ES1326215	Pyrene	67.6	%	
ES1326215	3820764-002_ES1326215	Benzo(g,h,i)perylene	65.6	%	
ES1326215	3820764-002_ES1326215	Fluoranthene	57.2	%	Recovery less than lower control limit
ES1326215	3820764-002_ES1326215	Acenaphthylene	69.4	%	
ES1326215	3820764-002_ES1326215	Acenaphthene	68.5	%	
ES1326215	3820764-002_ES1326215	Phenanthrene	65	%	
ES1326696	3821623-002_ES1326696	Dichlorodifluoromethane	63.8	%	
ES1326696	3818388-002_ES1326696	3- & 4-Methylphenol	69.6	%	
ES1326696	3818388-002_ES1326696	Phenol	66.2	%	Recovery greater than upper control limit
ES1326696	3818388-002_ES1326696	2,4-Dichlorophenol	69.5	%	
ES1326696	3818388-002_ES1326696	2,4,6-Trichlorophenol	69.8	%	
ES1326696	3818388-002_ES1326696	2-Nitrophenol	67	%	
ES1326696	3818388-002_ES1326696	2-Chlorophenol	63.5	%	Recovery less than lower control limit
ES1326696	3818388-002_ES1326696	Naphthalene	67.5	%	
ES1326993	3827908-007_ES1326993	Phenol	50.1	%	
ES1326994	3830872-002_ES1326994	4-Methyl-2-pentanone (MIBK)	136	%	
ES1326994	3830872-002_ES1326994	2-Hexanone (MBK)	136	%	
ES1326994	3830872-002_ES1326994	2-Butanone (MEK)	132	%	Recovery greater than upper control limit
ES1326994	3827936-011_ES1326994	3- & 4-Methylphenol	53.2	%	
ES1326994	3827936-011_ES1326994	Phenol	41.7	%	
ES1326994	3827936-011_ES1326994	2,4-Dichlorophenol	62.5	%	
ES1326994	3827936-011_ES1326994	2,6-Dichlorophenol	68.3	%	
ES1326994	3827936-011_ES1326994	2-Nitrophenol	65.5	%	
ES1326994	3827936-011_ES1326994	2-Methylphenol	60	%	
ES1326994	3827936-011_ES1326994	Anthracene	66.6	%	
ES1326994	3827936-011_ES1326994	Indeno(1,2,3.cd)pyrene	65.9	%	
ES1326994	3827936-011_ES1326994	Benzo(b)fluoranthene	68.3	%	
ES1326994	3827936-011_ES1326994	Benzo(k)fluoranthene	64	%	
ES1326994	3827936-011_ES1326994	Chrysene	66	%	
ES1326994	3827936-011_ES1326994	Dibenz(a,h)anthracene	69	%	
ES1326994	3827936-011_ES1326994	Benz(a)anthracene	67.7	%	
ES1326994	3827936-011_ES1326994	Acenaphthene	63.2	%	
ES1326994	3827936-011_ES1326994	Phenanthrene	64.2	%	
ES1326994	3827936-011_ES1326994	Fluorene	67.1	%	
ES1326996	3827936-011_ES1326996	3- & 4-Methylphenol	53.2	%	
ES1326996	3827936-011_ES1326996	Phenol	41.7	%	
ES1326996	3827936-011_ES1326996	2,4-Dichlorophenol	62.5	%	
ES1326996	3827936-011_ES1326996	2,6-Dichlorophenol	68.3	%	
ES1326996	3827936-011_ES1326996	2-Nitrophenol	65.5	%	
ES1326996	3827936-011_ES1326996	2-Methylphenol	60	%	
ES1326996	3827936-011_ES1326996	Anthracene	66.6	%	
ES1326996	3827936-011_ES1326996	Indeno(1,2,3.cd)pyrene	65.9	%	
ES1326996	3827936-011_ES1326996	Benzo(b)fluoranthene	68.3	%	
ES1326996	3827936-011_ES1326996	Benzo(k)fluoranthene	64	%	
ES1326996	3827936-011_ES1326996	Chrysene	66	%	
ES1326996	3827936-011_ES1326996	Dibenz(a,h)anthracene	69	%	
ES1326996	3827936-011_ES1326996	Benz(a)anthracene	67.7	%	
ES1326996	3827936-011_ES1326996	Acenaphthene	63.2	%	
ES1326996	3827936-011_ES1326996	Phenanthrene	64.2	%	
ES1326996	3827936-011_ES1326996	Fluorene	67.1	%	
ES1327009	3830872-002_ES1327009	4-Methyl-2-pentanone (MIBK)	136	%	
ES1327009	3830872-002_ES1327009	2-Hexanone (MBK)	136	%	
ES1327009	3830872-002_ES1327009	2-Butanone (MEK)	132	%	Recovery greater than upper control limit
ES1327009	3829434-007_ES1327009	3- & 4-Methylphenol	68.1	%	
ES1327009	3829434-007_ES1327009	Phenol	35.4	%	
ES1327009	3829434-007_ES1327009	2,4,6-Trichlorophenol	68.3	%	
ES1327009	3829434-007_ES1327009	2-Methylphenol	66.8	%	
ES1327009	3829434-007_ES1327009	2-Chlorophenol	63.9	%	
ES1327009	3829434-007_ES1327009	Benzo(b)fluoranthene	63.6	%	
ES1327009	3829434-007_ES1327009	Naphthalene	62.3	%	
ES1327010	3830879-002_ES1327010	4-Methyl-2-pentanone (MIBK)	131	%	
ES1327010	3830879-002_ES1327010	2-Hexanone (MBK)	132	%	
ES1327010	3830879-002_ES1327010	Dichlorodifluoromethane	63.4	%	
ES1327010	3829434-007_ES1327010	3- & 4-Methylphenol	68.1	%	
ES1327010	3829434-007_ES1327010	Phenol	35.4	%	



Table F11b. Laboratory Control Sample Recovery Exceedances - Groundwater
 Bayswater Power Station - Stage 2 ESA
 Project Symphony - 0224193

SDG	SampleCode	OriginalChemName	Recovery %	Unit	Comments
ES1327010	3829434-007_ES1327010	2,4,6-Trichlorophenol	68.3	%	
ES1327010	3829434-007_ES1327010	2-Methylphenol	66.8	%	
ES1327010	3829434-007_ES1327010	2-Chlorophenol	63.9	%	
ES1327010	3829434-007_ES1327010	Benzo(b)fluoranthene	63.6	%	
ES1327010	3829434-007_ES1327010	Naphthalene	62.3	%	
ES1327011	3830879-002_ES1327011	4-Methyl-2-pentanone (MIBK)	131	%	
ES1327011	3830879-002_ES1327011	2-Hexanone (MBK)	132	%	
ES1327011	3830879-002_ES1327011	Dichlorodifluoromethane	63.4	%	
ES1327011	3832841-002_ES1327011	3- & 4-Methylphenol	56.9	%	
ES1327011	3832841-002_ES1327011	Phenol	62.3	%	Recovery greater than upper control limit
ES1327011	3832841-002_ES1327011	2-Methylphenol	44.8	%	Recovery less than lower control limit
ES1327011	3832841-002_ES1327011	2-Chlorophenol	69.2	%	
ES1327011	3837213-012_ES1327011	2,4-Dimethylphenol	69.6	%	
ES1327011	3837213-012_ES1327011	3- & 4-Methylphenol	64.4	%	
ES1327011	3837213-012_ES1327011	Phenol	37.8	%	
ES1327011	3837213-012_ES1327011	2,4-Dichlorophenol	67.5	%	
ES1327011	3837213-012_ES1327011	2-Chlorophenol	64.1	%	
ES1327011	3832841-002_ES1327011	Acenaphthene	64	%	
ES1327011	3837213-012_ES1327011	Naphthalene	62.6	%	
ES1327421	3836181-002_ES1327421	Dichlorodifluoromethane	65.8	%	
ES1327421	3836464-007_ES1327421	3- & 4-Methylphenol	59.7	%	
ES1327421	3836464-007_ES1327421	Phenol	39.8	%	
ES1327421	3836464-007_ES1327421	2-Chlorophenol	66.4	%	
ES1327434	3839761-013_ES1327434	Phenol	50.3	%	
ES1327434	3839761-013_ES1327434	2,4-Dichlorophenol	66.6	%	
ES1327434	3839761-013_ES1327434	Pentachlorophenol	57.8	%	
ES1327435	3836464-007_ES1327435	3- & 4-Methylphenol	59.7	%	
ES1327435	3836464-007_ES1327435	Phenol	39.8	%	
ES1327435	3836464-007_ES1327435	2-Chlorophenol	66.4	%	
ES1327436	3836449-007_ES1327436	3- & 4-Methylphenol	69.3	%	
ES1327436	3836449-007_ES1327436	Phenol	36.9	%	
ES1327436	3836449-007_ES1327436	4-Chloro-3-methylphenol	69.1	%	
ES1327436	3836449-007_ES1327436	2-Methylphenol	66.2	%	
ES1327436	3836449-007_ES1327436	Acenaphthene	65.1	%	
ES1327436	3836449-007_ES1327436	Naphthalene	66	%	
ES1327444	3847801-007_ES1327444	trans-1,3-Dichloropropylene	69.7	%	
ES1327444	3847801-007_ES1327444	Dichlorodifluoromethane	69.4	%	
ES1327444	3838961-007_ES1327444	2,4-Dimethylphenol	69.7	%	
ES1327444	3838961-007_ES1327444	Phenol	53.1	%	
ES1327444	3838961-007_ES1327444	4-Chloro-3-methylphenol	67.6	%	
ES1327444	3838961-007_ES1327444	2,4,6-Trichlorophenol	69.7	%	
ES1327444	3838961-007_ES1327444	2-Nitrophenol	69.6	%	
ES1327444	3848114-007_ES1327444	Pentachlorophenol	68.4	%	
ES1327444	3848114-007_ES1327444	2-Nitrophenol	67.4	%	
ES1327444	3838961-007_ES1327444	Acenaphthene	66.9	%	
ES1327444	3848114-007_ES1327444	Naphthalene	67.7	%	
ES1327890	3848114-007_ES1327890	Pentachlorophenol	68.4	%	
ES1327890	3848114-007_ES1327890	2-Nitrophenol	67.4	%	
ES1327890	3848114-007_ES1327890	Naphthalene	67.7	%	
ES1327963	3851058-002_ES1327963	Bromomethane	139	%	
ES1327963	3851877-007_ES1327963	3- & 4-Methylphenol	59.3	%	
ES1327963	3851877-007_ES1327963	Phenol	41	%	
ES1327963	3851877-007_ES1327963	2-Methylphenol	65.6	%	
ES1327963	3851877-007_ES1327963	2-Chlorophenol	65.4	%	
ES1327963	3851877-007_ES1327963	Naphthalene	67.6	%	
ES1328108	3851058-002_ES1328108	Bromomethane	139	%	
ES1328108	3851877-007_ES1328108	3- & 4-Methylphenol	59.3	%	
ES1328108	3851877-007_ES1328108	Phenol	41	%	
ES1328108	3851877-007_ES1328108	2-Methylphenol	65.6	%	
ES1328108	3851877-007_ES1328108	2-Chlorophenol	65.4	%	
ES1328108	3851877-007_ES1328108	Naphthalene	67.6	%	
ES1328110	3851061-007_ES1328110	Dichlorodifluoromethane	69	%	
ES1328110	3851465-011_ES1328110	Phenol	46.1	%	
ES1328110	3852420-008_ES1328110	3- & 4-Methylphenol	63.3	%	
ES1328110	3852420-008_ES1328110	Phenol	36.7	%	
ES1328110	3852420-008_ES1328110	2,4-Dichlorophenol	67.6	%	
ES1328110	3852420-008_ES1328110	Acenaphthene	63.4	%	
ES1328110	3852420-008_ES1328110	Naphthalene	64.7	%	
ES1328113	3852161-002_ES1328113	Bromomethane	140	%	
ES1328113	3852351-007_ES1328113	3- & 4-Methylphenol	66.1	%	
ES1328113	3852351-007_ES1328113	Phenol	35.6	%	
ES1328113	3852351-007_ES1328113	Pentachlorophenol	50.1	%	
ES1328113	3852351-007_ES1328113	Benzo(g,h,i)perylene	69.8	%	



Table F11c. Laboratory Control Sample Recovery Exceedances - Surface Water
Bayswater Power Station - Stage 2 ESA
Project Symphony - 0224193

SDG	SampleCode	OriginalChemName	Recovery %	Unit	Comments
ES1326081	3809180-007_ES1326081	3- & 4-Methylphenol	66.1	%	
ES1326081	3809180-007_ES1326081	Phenol	39.9	%	
ES1326081	3809180-007_ES1326081	Pentachlorophenol	48.4	%	
ES1326081	3812129-007_ES1326081	Phenol	46.4	%	
ES1326081	3812129-007_ES1326081	Pentachlorophenol	44.8	%	
ES1326163	3812129-007_ES1326163	Phenol	46.4	%	
ES1326163	3812129-007_ES1326163	Pentachlorophenol	44.8	%	
ES1326639	3818304-007_ES1326639	3- & 4-Methylphenol	65.2	%	
ES1326639	3818304-007_ES1326639	Phenol	35.4	%	
ES1326639	3818304-007_ES1326639	Pentachlorophenol	61.6	%	
ES1327427	3836548-007_ES1327427	Phenol	37.4	%	
ES1327427	3836548-007_ES1327427	Pentachlorophenol	40.3	%	



Table F11d. Laboratory Control Sample Recovery Exceedances - Sediment
Bayswater Power Station - Stage 2 ESA
Project Symphony - 0224193

SDG	SampleCode	OriginalChemName	Recovery %	Unit
ES1326083	3809614-002_ES1326083	Pentachlorophenol	16.3	%
ES1326082	3811100-002_ES1326082	Pentachlorophenol	17.2	%
ES1326083	3811100-002_ES1326083	Pentachlorophenol	17.2	%
ES1326164	3812086-002_ES1326164	Pentachlorophenol	41	%
ES1326164	3812092-002_ES1326164	meta- & para-Xylene	68.6	%
ES1326691	3821505-002_ES1326691	Pentachlorophenol	44	%
ES1326691	3823526-002_ES1326691	Benzene	69.6	%
ES1326691	3827732-002_ES1326691	Zinc	132	%
ES1327428	3836399-007_ES1327428	Pentachlorophenol	23.9	%



SDG	SampleCode	Sampled_Date-Time	Compound	Recovery %	Comments
ES1324838	3788151-005_ES1325454001_ES1324838	22/11/2013	Nickel	273	Recovery greater than upper data quality objective
ES1324838	3788151-005_ES1325454001_ES1324838	22/11/2013	Copper	319	Recovery greater than upper data quality objective
ES1324838	3788151-005_ES1325454001_ES1324838	22/11/2013	Zinc	69.8	Recovery less than lower data quality objective
ES1325880	3805204-042_ES1325846023_ES1325880	20/11/2013	Nickel	151	Recovery greater than upper data quality objective
ES1325880	3805204-042_ES1325846023_ES1325880	20/11/2013	Chromium	960	Recovery greater than upper data quality objective
ES1326978	3832460-036_ES1326949008_ES1326978	10/12/2013	Lead	53.5	Recovery less than lower data quality objective
ES1326978	3832460-036_ES1326949008_ES1326978	10/12/2013	Copper	63.3	Recovery less than lower data quality objective
ES1327429	3836291-009_ES1327422001_ES1327429	12/12/2013	Pentachlorophenol	21.4	
ES1327803	3845358-004_ES1327787006_ES1327803	16/12/2013	Phenol	28.8	
ES1327803	3845358-004_ES1327787006_ES1327803	16/12/2013	>C34 - C40 Fraction	133	



Table F12b. Laboratory Matrix Spiked Sample Recovery Exceedances - Groundwater
Bayswater Power Station - Stage 2 ESA
Project Symphony - 0224193

SDG	SampleCode	Sampled_Date	Compound	Recovery %	Comments
ES1326215	3811488-027_ES1326215001_ES1326215	28/11/2013	Mercury	24.4	Recovery less than lower data quality objective
ES1326696	3819837-006_ES1326680004_ES1326696	29/11/2013	Mercury	10.8	Recovery less than lower data quality objective
ES1327009	3832256-041_ES1327009005_ES1327009	4/12/2013	Mercury	20.7	Recovery less than lower data quality objective
ES1327010	3832256-041_ES1327009005_ES1327010	4/12/2013	Mercury	20.7	Recovery less than lower data quality objective
ES1327435	3836577-033_ES1327215004_ES1327435	12/12/2013	Mercury	14.2	Recovery less than lower data quality objective



SDG	SampleCode	Sampled_Date-Time	Compound	Recovery %	Comments
ES1326164	3812095-005_ES1326164001_ES1326164	28/11/2013	Phenanthrene	53.1	Recovery less than lower control limit



Table F13. Laboratory Duplicate Sample Relative Percentage Difference Exceedances - Groundwater
 Bayswater Power Station - Stage 2 ESA
 Project Symphony - 0224193

SDG	Lab Duplicate	Field ID	Sampled Date	Compound	Parent Result	Dupe Result	Result Unit	EQL	RPD
ES1326990	3830135-011 EM1312869002 ES1326990		2/12/2013	Barium	20	10	mg/kg	10 mg/kg	67
ES1326990	3830135-011 EM1312869002 ES1326990		2/12/2013	Cadmium	4	2	mg/kg	1 mg/kg	67
ES1324722	3777896-022 ES1324715002 ES1324722		11/11/2013	Zinc	16	38	mg/kg	5 mg/kg	81
ES1325015	3781130-022 ES1325015017 ES1325015	BG_MW06_3.0	13/11/2013	Arsenic	<5	9	mg/kg	5 mg/kg	57
ES1325016	3781130-022 ES1325015017 ES1325016		13/11/2013	Arsenic	<5	9	mg/kg	5 mg/kg	57
ES1325018	3781130-022 ES1325015017 ES1325018		13/11/2013	Arsenic	<5	9	mg/kg	5 mg/kg	57
ES1325572	3799023-004 ES1325303001 ES1325572		20/11/2013	Manganese	0.0225	236	%	5 %	200
ES1325572	3799023-004 ES1325303001 ES1325572		20/11/2013	Nickel	5	9	mg/kg	2 mg/kg	57
ES1325572	3799023-004 ES1325303001 ES1325572		20/11/2013	Cobalt	2	5	mg/kg	2 mg/kg	86
ES1324838	3788151-004 ES1325454001 ES1324838		22/11/2013	Nickel	146	32	mg/kg	2 mg/kg	128
ES1324838	3788151-004 ES1325454001 ES1324838		22/11/2013	Arsenic	16	9	mg/kg	5 mg/kg	56
ES1324838	3788151-004 ES1325454001 ES1324838		22/11/2013	Chromium	216	437	mg/kg	2 mg/kg	68
ES1325572	3799023-022 ES1325523001 ES1325572		22/11/2013	Nickel	4	17	mg/kg	2 mg/kg	124
ES1325572	3799023-022 ES1325523001 ES1325572		22/11/2013	Cobalt	2	5	mg/kg	2 mg/kg	86
ES1325572	3799023-022 ES1325523001 ES1325572		22/11/2013	Copper	17	31	mg/kg	5 mg/kg	58
ES1325884	3802667-004 ES1325762001 ES1325884		25/11/2013	Mercury	0.1	0.2	mg/kg	0.1 mg/kg	67
ES1325884	3802667-022 ES1325780006 ES1325884		25/11/2013	Arsenic	16	8	mg/kg	5 mg/kg	67
ES1325879	3806087-038 ES1326040008 ES1325879		27/11/2013	Moisture Content (dried @ 103°C)	<1	1.9	%	1 %	62
ES1326079	3811920-004 ES1326079001 ES1326079	BB_MW02_0.1	27/11/2013	Zinc	40	15	mg/kg	5 mg/kg	91
ES1326999	3826812-022 ES1326642001 ES1326999		3/12/2013	Lead	12	7	mg/kg	5 mg/kg	53
ES1326688	3821194-022 ES1326688009 ES1326688	BR_MW06_18MBGS	26/11/2013	Boron	<50	100	mg/kg	50 mg/kg	67
ES1326692	3820272-004 ES1326692001 ES1326692	BB_MW04_9.5	28/11/2013	Exchangeable Sodium	0.1	0.2	meq/100g	0.1 meq/100g	67
ES1326693	3820272-004 ES1326692001 ES1326693		28/11/2013	Exchangeable Sodium	0.1	0.2	meq/100g	0.1 meq/100g	67
ES1326693	3824784-016 ES1326693002 ES1326693	BA_MW01_1.75	28/11/2013	Lead	13	36	mg/kg	5 mg/kg	94
ES1326693	3824784-016 ES1326693002 ES1326693	BA_MW01_1.75	28/11/2013	Barium	40	90	mg/kg	10 mg/kg	77
ES1326692	3824784-016 ES1326693002 ES1326692		28/11/2013	Lead	13	36	mg/kg	5 mg/kg	94
ES1326692	3824784-016 ES1326693002 ES1326692		28/11/2013	Barium	40	90	mg/kg	10 mg/kg	77
ES1326692	3824784-004 ES1326693003 ES1326692		28/11/2013	Cobalt	13	7	mg/kg	2 mg/kg	60
ES1326990	3830135-042 ES1326773012 ES1326990		5/12/2013	Arsenic	9	<5	mg/kg	5 mg/kg	57
ES1326990	3830135-042 ES1326773012 ES1326990		5/12/2013	Vanadium	22	10	mg/kg	5 mg/kg	75
ES1326990	3830135-062 ES1326990007 ES1326990	BA_MW02_2.1	10/12/2013	Beryllium	<1	4	mg/kg	1 mg/kg	120
ES1326990	3830135-062 ES1326990007 ES1326990	BA_MW02_2.1	10/12/2013	Chromium	9	17	mg/kg	2 mg/kg	62
ES1326990	3830135-062 ES1326990007 ES1326990	BA_MW02_2.1	10/12/2013	Copper	12	21	mg/kg	5 mg/kg	55
ES1326995	3830135-062 ES1326990007 ES1326995		10/12/2013	Beryllium	<1	4	mg/kg	1 mg/kg	120
ES1326995	3830135-062 ES1326990007 ES1326995		10/12/2013	Chromium	9	17	mg/kg	2 mg/kg	62
ES1326995	3830135-062 ES1326990007 ES1326995		10/12/2013	Copper	12	21	mg/kg	5 mg/kg	55
ES1327001	3830135-062 ES1326990007 ES1327001		10/12/2013	Chromium	9	17	mg/kg	2 mg/kg	62
ES1327001	3830135-062 ES1326990007 ES1327001		10/12/2013	Copper	12	21	mg/kg	5 mg/kg	55
ES1327003	3830135-062 ES1326990007 ES1327003		10/12/2013	Chromium	9	17	mg/kg	2 mg/kg	62
ES1327003	3830135-062 ES1326990007 ES1327003		10/12/2013	Copper	12	21	mg/kg	5 mg/kg	55
ES1326995	3830135-074 ES1327003002 ES1326995		3/12/2013	Barium	50	120	mg/kg	10 mg/kg	82
ES1326999	3826812-054 ES1327032001 ES1326999		10/12/2013	Lead	1420	1990	mg/kg	5 mg/kg	33
ES1326999	3826812-054 ES1327032001 ES1326999		10/12/2013	Mercury	0.1	0.2	mg/kg	0.1 mg/kg	67
ES1326999	3826812-054 ES1327032001 ES1326999		10/12/2013	Cadmium	4	2	mg/kg	1 mg/kg	67
ES1327429	3839153-036 ES1327422032 ES1327429		9/12/2013	Arsenic	20	9	mg/kg	5 mg/kg	76
ES1327432	3842808-036 ES1327423005 ES1327432		13/12/2013	Nickel	2	4	mg/kg	2 mg/kg	67
ES1327521	3839158-004 ES1327433013 ES1327521		9/12/2013	Nickel	14	8	mg/kg	2 mg/kg	55
ES1327521	3839158-004 ES1327433013 ES1327521		9/12/2013	Arsenic	14	34	mg/kg	5 mg/kg	83
ES1327892	3848794-036 ES1327894001 ES1327892		16/12/2013	Chromium	2	4	mg/kg	2 mg/kg	67
ES1327892	3848794-054 ES1327894010 ES1327892		16/12/2013	Arsenic	42	12	mg/kg	5 mg/kg	111
ES1326693	3824784-035 EW1303532001 ES1326693		5/12/2013	Mercury	0.2	0.1	mg/kg	0.1 mg/kg	67

Annex G

Photolog



Photograph 1

Vacuum excavation being completed prior to mechanical drilling (AEC BI)



Photograph 2

Drilling with a Geoprobe



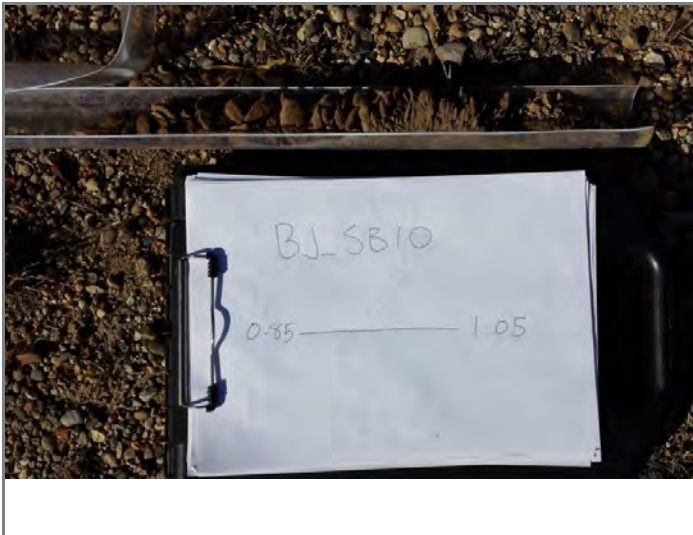
Photograph 3

Typical shallow clays encountered during drilling near Pikes Gully Ash Dam (AEC BQ), 1.5 to 2.0 m below ground surface



Photograph 4

Typical shallow clays encountered at the Bayswater Landfill (AEC BM), 1.5 to 4.7 m below ground surface



Photograph 5

Typical weathered shale encountered at the former Contractor Staging Area (AEC BJ), 0.85 to 1.05 m below ground surface



Photograph 6

Wall showing geologic profile near the former Large Items Assembly Area (AEC BK)



Photograph 7

Vacuum excavation at Ravensworth rehabilitation area



Photograph 8

Mine spoil encountered at Ravensworth rehabilitation area, following drilling with rotary air hammer



Photograph 9

Typical flush-mounted steel monitoring well cover



Photograph 10

Typical monitoring well installed with a steel monument cover



Photograph 11

ACM pipelines to Pikes Gully Ash Dam (foreground), ash dam in background



Photograph 12

ACM pipelines to Pikes Gully Ash Dam



Photograph 13

ACM pipelines to Pikes Gully ash dam, showing bitumen sealing beneath



Photograph 14

ACM pipelines to Pikes Gully Ash Dam, showing areas of bitumen sealing beneath and adjacent to roadway



Photograph 15

ACM pipelines to Pikes Gully Ash Dam, showing areas of unsealed ground beneath

Annex H

Laboratory Reports



CHAIN OF CUSTODY

ALS Laboratory
please tick →

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CLIENT: **ERM** TURNAROUND REQUIREMENTS: Standard TAT (List due date):
 OFFICE: **Sydney** (Standard TAT may be longer for some tests e.g. Blue Trace Organics) Non Standard or urgent TAT (List due date):
 PROJECT: **Project Symphony** ALS QUOTE NO.: **BY704/13** COC SEQUENCE NUMBER (Circle)
 ORDER NUMBER: **0203879** SITE: **BAYSWATER / LINDSEY** COC: 1 2 3 4 5 6 7
 PROJECT MANAGER: **JOSEPH FERRING** CONTACT PH: DF: 1 2 3 4 5 6 7
 SAMPLER: **TOM CALTHORPE** SAMPLER MOBILE: RELINQUISHED BY: **Tom Calthorpe** RECEIVED BY: **Ken**
 COC emailed to ALS? (YES / NO) EDD FORMAT (or default): DATE/TIME: **5/11/13** DATE/TIME: **6/11/13 0840**
 Email Reports to (will default to PM if no other addresses are listed): **John.Ewing@erm.com** DATE/TIME: **6/11/13 1700**
 Email Invoice to (will default to PM if no other addresses are listed): DATE/TIME: **6/11/13 1900**

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: **Asbestos @ EN** **TNT 980064974362-2**

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below)	(refer to)	TOTAL CONTAINERS	ANALYSIS REQUIRED including BUTES (NB. Suite Codes must be listed to strict suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).													Additional Information
							S2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	17 Metals (As, Ba, Bi, Ca, Co, Cr, Cu, Fe, Mn, Ni, Pb, V, Zn, Bi, Mo, Ti, Se)	S24 TRINOC-CADYBENK, PAH, Phenols	VOC Target Scan	PCB	pH (115)	Exchangeable Cations (ED007)	PFOS/PFOA	Asbestos (absence/presence)	Particle Sizing to 75um (Stew)	Organic Matter plus Total Organic Carbon (E2004)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.		
1	BJ-SB12-0.2	4/11/13	SOIL	1x Jar + Bag		2	X		X	X				X						
2	BJ-SB14-0.2					2	X		X	X				X						
3	BJ-SB15-0.2					2	X		X	X				X						
4	BJ-SB08-0.2					2	X		X	X				X						
5	BJ-SB06-2.0			1x Jar		1												HOLD		
6	BJ-SB06-3.0					1	X		X	X										
7	BJ-SB13-3.0					1	X		X	X										
8	BJ-SB17-1.8					1	X		X	X										
9	BJ-SB18-3.0					1	X		X	X										
10	BJ-SB19-3.0					1	X		X	X										
11	ROL-311013-TZ		W			3	X		X	X										
12	ROL-011113-TZ		W			3	X		X	X										

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Oil Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airflight Unpreserved; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airflight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Specimen bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved bag.

Environmental Division
Sydney
Work Order
ES1323960

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
1 504 16

Envirolab
Job No.
Date Received: **07/11**
Time Received: **14:30**
Received by: **[Signature]**
Temp: **Cool/Ambient**
Cooling: **Freeze/pepack**
Security: **Intact/Unbroken/None**

Telephone : + 61-2-8784 8555



CHAIN OF CUSTODY

ALS Laboratory
Please tick →

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DMACKAY 7A Harbour Road, Mackay QLD 4740
Ph: 07 4644 0177 E: rickney@alsglobal.com

CLIMELDUNNE 2-4 Westall Road, Springfield VIC 3171
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CMUJOCCE 27 Sydney Road, Mudgee NSW 2850
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Ph: 02 8704 6565 E: samples.smeeth@alsglobal.com

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Ph: 07 4709 0900 E: berrig@alsglobal.com

OWOLLONGONG 90 Kenny Street, Wollongong NSW 2500
Ph: 02 4223 3125 E: portbellam@alsglobal.com

CLIENT:	TURNAROUND REQUIREMENTS : <input type="checkbox"/> Standard TAT (List due date);		LABORATORY RECEIVED BY (GRN)		
OFFICE:	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) <input type="checkbox"/> Non Standard or urgent TAT (List due date):				
PROJECT: Project Symphony	ALS QUOTE NO.: SY794/13	COC SEQUENCE NUMBER (Circle)			
ORDER NUMBER:	SITE: BAYSWATER / 1200000	COC: 1 2 3 4 5 6 7	DATE/TIME: 01/11/13 17:00		
PROJECT MANAGER:	CONTACT PH:	PH: 1 2 3 4 5 6 7			
SAMPLER:	SAMPLER MOBILE:	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME:	DATE/TIME: 01/11/13 05:40	DATE/TIME:	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed):					
Email Invoice to (will default to PM if no other addresses are listed):					

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below (refer to)	TOTAL CONTAINERS	ANALYSIS REQUIRED including SM/TES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (hold filtered bottle required).													Additional Information
						S-2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Ag)	S-17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Hg, Ni, Pb, V, Zn, B, Mo, Ti, Sn)	S-24 TRACE-COMPONENTS PAH, Phenols	VOC Target Scan	PCB	pH (1:5)	Sulfonamide carbons (ED007)	PFOS/PFOA	Asbestos (absent/presence)	Particle Blowing to 75µm (Sieve)	Organic Matter plus Total Organic Carbon (E0004)			
13	BJ-SB16-0.2	31/10	soil		2	X	X	X	X	X	X	X	X	X	X				
14	BJ-SB16-1.4				1	X	X	X	X	X	X	X	X	X	X				
14	BJ-SB17-0.2				2	X	X	X	X	X	X	X	X	X	X				
15	BJ-SB17-1.4				1	X	X	X	X	X	X	X	X	X	X		Hold		
16	BJ-SB13-0.2				2	X	X	X	X	X	X	X	X	X	X				
17	BJ-SB13-1.4				1	X	X	X	X	X	X	X	X	X	X		Hold		
18	BJ-MW05-0.2				2	X	X	X	X	X	X	X	X	X	X				
19	BJ-SB06-0.2				2	X	X	X	X	X	X	X	X	X	X				
20	BJ-SB06-1.4				1	X	X	X	X	X	X	X	X	X	X		Hold		
21	BJ-SB07-0.2				2	X	X	X	X	X	X	X	X	X	X				
22	BJ-SB07-1.4				1	X	X	X	X	X	X	X	X	X	X		Hold		
23	BJ-SB11-0.2				2	X	X	X	X	X	X	X	X	X	X				

Water Container Codes: P = Unpreserved Plastic; N = Nitro Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Oil Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airflight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airflight Unpreserved Vial SO₂ = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Stable Bottle; ASB = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag



CHAIN OF CUSTODY

ALS Laboratory
Please tick ->

DADELADE 21 Bulma Road Povea SA 5005
Ph: 08 9369 0850 E: adeelaide@alsglobal.com

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TOOWOOMBA 14-15 Drama Court Bohna QLD 4818
Ph: 07 4191 3500 E: toowoomba@alsglobal.com

PORTLAND 60 Kinross Street Winton NSW 2360
Ph: 02 4224 5125 E: portland@alsglobal.com

CLIENT:	TURNAROUND REQUIREMENTS: <input type="checkbox"/> Standard TAT (List due date): (Standard TAT may be longer for some tests e.g. Ultra Trace Criminia) <input type="checkbox"/> Non Standard or urgent TAT (List due date):		FOR LABORATORY ONLY (YES)
OFFICE:	ALS QUOTE NO.: SY7794/13		
PROJECT: Project Symphony	SITE: BAYSWATER /	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER:		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER:	CONTACT PH:	OF: 1 2 3 4 5 6 7	
SAMPLER:	SAMPLER MOBILE:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME:	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed):			
Email Invoice to (will default to PM if no other addresses are listed):			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below (refer to)	TOTAL CONTAINERS	ANALYSIS REQUIRED including BUTES (NB. Buta Codes must be listed to attract a/c price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required).												Additional Information
						B-2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Hg, Ni, Pb, V, Zn, Bi, Mo, Ti, Se)	B-24 TRACE ORGANICS (Chlorinated, PAH, Phenols)	VOC Target Scan	PCB	pH (1-15) / CEL	Exchangeable Cations (EDM07)	PFOS/PFOA	Asbestos (Absence/Presence)	Particulate Slaking to 75µm (Slur)	Organic Matter plus Total Organic Carbon (EPR04)		
24	BJ-SB10-0-2	31/10	SOIL		2	X	X											
25	BJ-MW03-0-2				2	X	X											
26	BJ-MW03-1-4				1												Hold	
27	BJ-MW04-0-2	1/11			3	X	X			X								
28	BJ-SB18-0-2				2													
29	BJ-SB18-1-4				1												Hold	
30	BJ-SB19-0-2				2													
31	BJ-SB19-1-4				1												Hold	
32	DO1-311013-TC	31/10			1	X	X											
33	BS-MW01-0-2	1/11			3					X	X							
34	BS-SB01-0-2				2													
35	DO2-041113-TC	4/11			1	X	X										Forward to Enviro labs	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulphuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulphuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulphuric Preserved Plastic; F = Formaldehyde Preserved Glass
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ABS = Plastic Bag for Acid Sulphate Galls; B = Unpreserved Bag



CHAIN OF CUSTODY

ALS Laboratory
please tick →

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DWOLLONGONG 88 Kelvin Street Wollongong NSW 2500
Ph: 02 4225 3125 E: perth@alsglobal.com

CLIENT:	TURNAROUND REQUIREMENTS: <input type="checkbox"/> Standard TAT (List due date); <input type="checkbox"/> Non Standard or urgent TAT (List due date):	
OFFICE:	Standard TAT may be longer for some tests e.g. Ultra Trace Organics	
PROJECT: Project Symphony	ALS QUOTE NO.: SY794/13	CDC SEQUENCE NUMBER (Circle) CDC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7
ORDER NUMBER:	SITE: BAYSWATER / XXXX	
PROJECT MANAGER:	CONTACT PH:	
SAMPLER:	SAMPLER MOBILE:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	RECEIVED BY:
Email Reports to (will default to PM if no other addresses are listed):		DATE/TIME: 6/11/13 0940
Email Invoice to (will default to PM if no other addresses are listed):		RELINQUISHED BY:
		DATE/TIME: 6/11/13 1700
		RECEIVED BY:
		DATE/TIME:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	ANALYSIS REQUIRED including BUTES (NB, Suite Codes must be listed to attract suite price) Where Matrix is required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).												Additional Information
						S-2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	17 Metals (As, Bi, Ba, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Tl, Se)	S-24 TRHICs-CADIBTEXN, PAH, Phenols	VOC Target Scan	PCB	pH (1:5)	Exchangeable cations (ED007)	PFOS/PFOA	Asbestos (absence/presence)	Particle Sizing to 75µm (Sieve)	Organic Matter plus Total Organic Carbon (EP1004)		
36	DOL_041113_TC		soil			X		X										
37	Trip spike																spike suite	
38	Trip blank																blank suite	
39	DOL_41113_TC					X		X										
40	BS-MW02-0.2					X		X						X				
41	BS-SB02-0.2					X		X						X				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORG = Nitric Preserved GRC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VS = VOA Vial Sodium Bisulfate Preserved; VSA = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial SC = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulfate Reils; U = Unpreserved Bag



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

SAMPLE RECEIPT ADVICE

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

ph: 02 8584 8888
Fax: 02 8584 8800

Attention: Chuck Terhune, Jonathon Lekawski

Sample log in details:

Your reference:	0207423, Symphony
Envirolab Reference:	100416
Date received:	07/11/13
Date results expected to be reported:	14/11/13

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	Standard
Temperature on receipt (°C)	3.8
Cooling Method:	Ice
Sampling Date Provided:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst
ph: 02 9910 6200 fax: 02 9910 6201
email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

100416

Client:

Environmental Resources Management Australia

Locked Bag 24

Broadway

NSW 2007

Attention: Chuck Terhune, Jonathon Lekawski

Sample log in details:

Your Reference:

0207423, Symphony

No. of samples:

1 Soil

Date samples received / completed instructions received

07/11/13

/ 07/11/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:

14/11/13

/

13/11/13

Date of Preliminary Report:

Not issued

NATA accreditation number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	100416-1
Your Reference	-----	D02-041113-TC
Date Sampled	-----	04/11/2013
Type of sample		Soil
Date extracted	-	08/11/2013
Date analysed	-	11/11/2013
TRHC ₆ - C ₉	mg/kg	<25
TRHC ₆ - C ₁₀	mg/kg	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	100

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	100416-1
Your Reference	-----	D02-041113-TC
Date Sampled	-----	04/11/2013
Type of sample		Soil
Date extracted	-	08/11/2013
Date analysed	-	11/11/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	81

PAHs in Soil		
Our Reference:	UNITS	100416-1
Your Reference	-----	D02-041113-TC
Date Sampled	-----	04/11/2013
Type of sample		Soil
Date extracted	-	08/11/2013
Date analysed	-	09/11/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQNEPMB1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	99

Total Phenolics in Soil		
Our Reference:	UNITS	100416-1
Your Reference	-----	D02-041113-TC
Date Sampled	-----	04/11/2013
Type of sample		Soil
Date extracted	-	12/11/2013
Date analysed	-	12/11/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil		
Our Reference:	UNITS	100416-1
Your Reference	-----	D02-041113-TC
Date Sampled	-----	04/11/2013
Type of sample		Soil
Date digested	-	08/11/2013
Date analysed	-	08/11/2013
Arsenic	mg/kg	7
Cadmium	mg/kg	<0.4
Chromium	mg/kg	17
Copper	mg/kg	7
Lead	mg/kg	9
Mercury	mg/kg	<0.1
Nickel	mg/kg	11
Zinc	mg/kg	33

Moisture		
Our Reference:	UNITS	100416-1
Your Reference	-----	D02-041113- TC
Date Sampled	-----	04/11/2013
Type of sample		Soil
Date prepared	-	08/11/2013
Date analysed	-	11/11/2013
Moisture	%	5.1

MethodID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

Client Reference: 0207423, Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			08/11/2013	[NT]	[NT]	LCS-5	08/11/2013
Date analysed	-			11/11/2013	[NT]	[NT]	LCS-5	11/11/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-5	103%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-5	103%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-5	114%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-5	104%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-5	98%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-5	100%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-5	99%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	99	[NT]	[NT]	LCS-5	101%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			08/11/2013	[NT]	[NT]	LCS-5	08/11/2013
Date analysed	-			11/11/2013	[NT]	[NT]	LCS-5	11/11/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-5	91%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-5	101%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-5	100%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-5	91%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-5	101%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-5	100%
Surrogate o-Terphenyl	%		Org-003	83	[NT]	[NT]	LCS-5	93%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			08/11/2013	[NT]	[NT]	LCS-5	08/11/2013
Date analysed	-			09/11/2013	[NT]	[NT]	LCS-5	08/11/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-5	111%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-5	114%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-5	97%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-5	93%

Client Reference: 0207423, Symphony

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-5	118%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-5	96%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-5	92%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	98	[NT]	[NT]	LCS-5	96%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			12/11/2013	[NT]	[NT]	LCS-1	12/11/2013
Date analysed	-			12/11/2013	[NT]	[NT]	LCS-1	12/11/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	101%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			08/11/2013	[NT]	[NT]	LCS-7	08/11/2013
Date analysed	-			08/11/2013	[NT]	[NT]	LCS-7	08/11/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-7	94%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-7	100%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-7	96%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-7	96%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-7	93%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-7	97%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-7	95%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-7	96%

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

Report Comments:

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

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NA: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

EDM 2

6/12/13 17:00



CHAIN OF CUSTODY

ALS Laboratory
please tick →

PLEASE PRINT OR TYPE CLEARLY
IN ALL CAPS. Do not use abbreviations.
Do not use initials. Do not use handwritten notes.
Do not use a pen or ballpoint pen.
Do not use a pencil.
Do not use a marker.
Do not use a highlighter.
Do not use a correction fluid.
Do not use a white-out.
Do not use a glue stick.
Do not use a stapler.
Do not use a hole punch.
Do not use a paperclip.
Do not use a binder.
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Do not use a binder.
Do not use a folder.
Do not use a bag.
Do not use a box.
Do not use a container.

CLIENT:	TURNAROUND REQUIREMENTS : <input type="checkbox"/> Standard TAT (List due date):	FOR LABORATORY USE ONLY (C/O)	
OFFICE:	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) <input type="checkbox"/> Non Standard or urgent TAT (List due date):	COC SEQUENCE NUMBER (Circle)	COC: 1 2 3 4 5 6 7
PROJECT: Project Symphony	ALS QUOTE NO.: SY179413	RF: 1 2 3 4 5 6 7	Other comments:
ORDER NUMBER:	SITE: BAYSWATER / MOBELL	RECEIVED BY:	RECEIVED BY:
PROJECT MANAGER: Joe Farring	CONTACT PH:	RELINQUISHED BY:	RECEIVED BY:
SAMPLER: Tom Cuthbert	SAMPLER MOBILE:	DATE/TIME: 8/11/13 17:00	DATE/TIME: 11/11/13 17:00
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 8/11/13 17:00	DATE/TIME: 11/11/13 17:00
Email Reports to (will default to PM if no other addresses are listed):	John.cwing@cm.com	DATE/TIME: 8/11/13 17:00	DATE/TIME: 11/11/13 17:00
Email Invoice to (will default to PM if no other addresses are listed):		DATE/TIME: 8/11/13 17:00	DATE/TIME: 11/11/13 17:00

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below	TOTAL CONTAINERS	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).										Additional Information
						W-2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Ti)	Selenium (Freshwater ORC)	VOC Target Scan	PCB	PFOA/PFOA	W-24 TRH(C6-C40)/BTEX, PAH, Phenols				
1	BJ-MW03-1.7		Soil			X										Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc. EnviroLab Service: 12 Ashley St. Chatswood NSW 2067 Ph: (02) 9970 6200 Job No: 100769 Date Received: 13/11 Time Received: 13:00 Received by: <i>SS</i> Temp: Cool/Ambient Cooling: Ice/Icepack Security: Intact/Broken/None Forward to EnviroLab
2	BJ-MW04-1.1															
3	BS-SB01-2.6															
4	BS-SB02-2.8															
5	BS-MW01-2.7															
6	D01-081113-TC															
1	D02-081113-TC															

Environmental Division
Sydney
Work Order
ES1324459



Telephone : +61-2-8754 5555

Subcon / Forward Lab / Split WO
Lab / Analysis: *EnviroLab*
Organised by / Date: _____
Relinquished By / Date: _____
Connote / Courier: _____

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; S = V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sul

Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic; F = Formaldehyde Preserved Glass; Class: H = HCl preserved Plastic; HS = HCl preserved Plastic; SP = Sulfuric Preserved Plastic; P = Formaldehyde Preserved Glass;

Attach By PO / Internal Sheet



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

SAMPLE RECEIPT ADVICE

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

ph: 02 8584 8888

Fax: 02 8584 8800

Attention: Joe Ferring

Sample log in details:

Your reference:

0207423, Symphony

Envirolab Reference:

100769

Date received:

13/11/13

Date results expected to be reported:

20/11/13

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	Standard
Temperature on receipt (°C)	3.3
Cooling Method:	Ice
Sampling Date Provided:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

100769

Client:

Environmental Resources Management Australia

Locked Bag 24

Broadway

NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference:

0207423, Symphony

No. of samples:

1 Soil

Date samples received / completed instructions received

13/11/13

/ 13/11/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:

20/11/13

/

19/11/13

Date of Preliminary Report:

Not issued

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Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	100769-1
Your Reference	-----	D02_081113_
		T2
Date Sampled	-----	08/11/2013
Type of sample		Soil
Date extracted	-	14/11/2013
Date analysed	-	15/11/2013
TRHC ₆ - C ₉	mg/kg	<25
TRHC ₆ - C ₁₀	mg/kg	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	87

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	100769-1
Your Reference	-----	D02_081113_ T2
Date Sampled	-----	08/11/2013
Type of sample		Soil
Date extracted	-	14/11/2013
Date analysed	-	15/11/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	84

PAHs in Soil		
Our Reference:	UNITS	100769-1
Your Reference	-----	D02_081113_ T2
Date Sampled	-----	08/11/2013
Type of sample		Soil
Date extracted	-	14/11/2013
Date analysed	-	15/11/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQNEPMB1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	97

Total Phenolics in Soil		
Our Reference:	UNITS	100769-1
Your Reference	-----	D02_081113_ T2
Date Sampled	-----	08/11/2013
Type of sample		Soil
Date extracted	-	14/11/2013
Date analysed	-	14/11/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil		
Our Reference:	UNITS	100769-1
Your Reference	-----	D02_081113_ T2
Date Sampled	-----	08/11/2013
Type of sample		Soil
Date digested	-	14/11/2013
Date analysed	-	15/11/2013
Arsenic	mg/kg	13
Cadmium	mg/kg	<0.4
Chromium	mg/kg	11
Copper	mg/kg	26
Lead	mg/kg	24
Mercury	mg/kg	<0.1
Nickel	mg/kg	35
Zinc	mg/kg	91

Moisture		
Our Reference:	UNITS	100769-1
Your Reference	-----	D02_081113_ T2
Date Sampled	-----	08/11/2013
Type of sample		Soil
Date prepared	-	14/11/2013
Date analysed	-	15/11/2013
Moisture	%	11

MethodID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

Client Reference: 0207423, Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			14/11/2013	[NT]	[NT]	LCS-2	14/11/2013
Date analysed	-			15/11/2013	[NT]	[NT]	LCS-2	15/11/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	114%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	114%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-2	105%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-2	117%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	112%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-2	118%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	117%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	94	[NT]	[NT]	LCS-2	97%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			14/11/2013	[NT]	[NT]	LCS-2	14/11/2013
Date analysed	-			15/11/2013	[NT]	[NT]	LCS-2	15/11/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	110%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	111%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	92%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	110%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	111%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	92%
Surrogate o-Terphenyl	%		Org-003	85	[NT]	[NT]	LCS-2	96%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			14/11/2013	[NT]	[NT]	LCS-2	14/11/2013
Date analysed	-			15/11/2013	[NT]	[NT]	LCS-2	15/11/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	107%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	105%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	104%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	102%

Client Reference: 0207423, Symphony

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	106%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	99%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-2	106%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	95	[NT]	[NT]	LCS-2	100%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			14/11/2013	[NT]	[NT]	LCS-1	14/11/2013
Date analysed	-			14/11/2013	[NT]	[NT]	LCS-1	14/11/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	96%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			14/11/2013	[NT]	[NT]	LCS-4	14/11/2013
Date analysed	-			15/11/2013	[NT]	[NT]	LCS-4	15/11/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-4	107%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-4	115%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	113%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	110%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	110%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-4	93%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	113%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	110%

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

Report Comments:

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

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NA: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Environmental Division
Sydney
Work Order
ES1324722

Sum

TRIP 2013/11/11



CHAIN OF CUSTODY

ALS Laboratory
Please tick →

Standard TAT (List due date): Standard TAT (List due date):
Non Standard or urgent TAT (List Ultra Trace Quantities): Non Standard or urgent TAT (List Ultra Trace Quantities)



Telephone : + 61-2-8784 8555

CLIENT: **EQM**
OFFICE: **Sydney**
PROJECT: **Profit Symptom**
ORDER NUMBER: **0224193**
PROJECT MANAGER: **Joe Perryng**
SAMPLER: **A. Marcus**
COC emailed to ALS? (YES/NO): **(NO)**
Email Reports to (will default to PM if no other addresses are listed): **John Emry**
Email Invoice to (will default to PM if no other addresses are listed):

TURNAROUND REQUIREMENTS:
SITE: **BAYSWATER / DUBOCC**
CONTACT PH:
SAMPLER MOBILE: **0434181414**
RELIQUISHED BY:
DATE/TIME

CDC SEQUENCE NUMBER (Circle)
COC: ① 2 3 4 5 6 7
OF: ② 3 4 5 6 7
RECEIVED BY: **FCI**
DATE/TIME: **14/11/13 1055**

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? **Yes**
Free Ice / frozen ice packs present upon receipt? **Yes**
Random Sample Temperature on Receipt:
Other comment:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

Asbestos @ EN

TNT 9800 6497 4406

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <i>(notes below)</i>	TOTAL CONTAINERS	ANALYSIS REQUIRED including SUITES (NO Suite Codes must be tested in all test suits price) <i>(Where Metals are required, specify Total (unfiltered bottle removed) or Dissolved field (filtered bottle required))</i>													Comments on the container, dilutions, or state of COC analysis etc.
						S 2 Metals (As, Ba, Pb, Zn, Hg)	17 Metals (As, Ba, Be, Cd, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Ti, Se)	S24 TRHCS-CADIBTEXH, PAH, Phenols	PCB	Exchangeable cations (ED007)	PFOA/PFOA	Asbestos (absence/presence)	Particle Sizing to 75µm (Sieve)	Organic Matter plus Total Organic Carbon (EP004)					
1	BV-MW09-0.5	11-11-13	SOIL	1x Jar + 1x Bag	2	X	X	X	X	X	X	X	X	X	X	X			
2	BV-MW02-0.1			1x Jar + 1x Bag	2	X	X	X	X	X	X	X	X	X	X	X			
13	BV-MW02-0.5			1x Jar	1	X	X	X	X	X	X	X	X	X	X	X	HOLD		
3	BV-SB04-0.1			1x Jar 1x Bag	2	X	X	X	X	X	X	X	X	X	X	X			
4	BV-MW03-0.3			1x Jar 1x Bag	2	X	X	X	X	X	X	X	X	X	X	X			
14	BV-MW03-1.0			1x Jar	1	X	X	X	X	X	X	X	X	X	X	X	HOLD		
5	BV-MW05-0.2			1x Jar + 1x Bag	2	X	X	X	X	X	X	X	X	X	X	X			
15	BV-MW06-0.1			1x Jar	1	X	X	X	X	X	X	X	X	X	X	X	HOLD		
6	BV-MW06-0.5			1x Jar + 1x Bag	2	X	X	X	X	X	X	X	X	X	X	X			
7	BV-MW04-0.5			1x Jar + 1x Bag	2	X	X	X	X	X	X	X	X	X	X	X			
8	DUP 2013/11/11-AM01			1x Jar	1	X	X	X	X	X	X	X	X	X	X	X			
1)	TRIP 2013/11/11-AM01			1x Jar	1	X	X	X	X	X	X	X	X	X	X	X			
					19	21	810 0												

Subject / Forward Lab / Split WO
Lab / Analysis
Organised By / Date:
Relinquished By / Date:
Comnote / Courier
WO No:
Attach By PO / Internal Sheet

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: **100898**
Date Received: **15/11/13**
Time Received: **15:15**
Received by: **PT**
Temp: Ambient
Cooling: Icepack
Security: Intact / Broken / None

Water Container Codes: P = Unpreserved Plastic, N = Nitric Preserved Plastic, ORC = Nitric Preserved ORC, SH = Sodium Hydroxide/Cd Preserved, S = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved, AP = Air-tight Unpreserved Plastic
V = VOA Vial HCl Preserved, VB = VOA Vial Sodium Bisulphate Preserved, VS = VOA Vial Sulfuric Preserved, AV = Air-tight Unpreserved Vial SG = Sulfuric Preserved Amber Glass, H = HCl Preserved Plastic, HS = HCl Preserved Special Bottle
7 = Zinc Acetate Preserved Bottle, L = L-DIA Preserved Bottle, S1 = Sterile Bottle, ABS = Plastic Bag for Acid Sulphate Gases, B = Unpreserved Bag

Subject / Forward Lab / Split WO
Lab / Analysis
Organised By / Date:
Relinquished By / Date:
Comnote / Courier
WO No:



CHAIN OF CUSTODY

ALS Laboratory
please tick →

CLIENT: ERM	TURNAROUND REQUIREMENTS: <input type="checkbox"/> Standard TAT (List due date): <small>(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)</small>	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Sydney	<input type="checkbox"/> Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
PROJECT: Project Symphony	ALS QUOTE NO.: SY794/13	Free ice / frozen ice bricks present upon receipt? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
ORDER NUMBER: 0224193	SITE: BAYSWATER / IRIDELL	Random Sample Temperature on Receipt: _____ °C	
PROJECT MANAGER: Joe Ferring	CONTACT PH: _____	Other comment:	
SAMPLER: A. Morris / H. Campbell	SAMPLER MOBILE: _____	RECEIVED BY: CC	RECEIVED BY: _____
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default): _____	DATE/TIME: 14/11/13 10:55	DATE/TIME: 14/11/13 17:00
Email Reports to (will default to PM if no other addresses are listed):	RELINQUISHED BY: _____	DATE/TIME: _____	DATE/TIME: _____
Email Invoice to (will default to PM if no other addresses are listed):			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED INCLUDING SUITES (NO. Suite Codes must be listed to attract suite price) <small>Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)</small>										Additional Information
	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <small>codes below</small>	OTHER TO	TOTAL CONTAINERS	Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Tl, Se)	S-24 TRHCGs CADMATEX: PAH Phenols	VOC Target Scan	pH (1:5)	Exchangeable cations (ED007)	PFOS/PFOA	Asbestos (absence/presence)	Particle Sizing to 75µm (Sliver)	
9	R20131111-AM	11/11/13	W				X		X							
10	Trip Spibz (TSG)		S							X						
11	Trip Blank									X						
16	BV-SB01-0.05						X		X							HOLD
12	BV-SB01-0.5						X		X				X			HOLD
17	BV-SB01-1.0						X		X				X			HOLD
19	BV-SB01-1.5						X		X				X			HOLD
14	TSL															

Suit: **TRIP**

Lab / Analysis: **ERM / ERM Lab**

Organised By / Date: **ERM / 11/11/13**

Relinquished By / Date: _____

Connote / Courier: _____

Water Container Codes: P = Unpreserved Plastic, N = Nitric Preserved Plastic, ORC = Nitric Preserved ORC, SH = Sodium Hydroxide/Cu Preserved, S = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved, AP = Airtight Unpreserved Plastic
 V = VOA Vial HCl Preserved, VB = VOA Vial Sodium Bisulfate Preserved, VS = VOA Vial Sulfuric Preserved, AV = Acid Washed Vial SG = Sulfuric Preserved Amber Glass, H = HCl Preserved Plastic, HS = HCl Preserved Specialization bottle, SP = Sulfuric Preserved Plastic, F = Formaldehyde Preserved Glass
 Z = Zinc Acetate Preserved Bottle, F = EDTA Preserved Bottles, SF = Sterile Bottle, ABS = Plastic Bag for Acid Sulphate Solution Preserved Bag

Attach By PG / Internal Sheet:



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

SAMPLE RECEIPT ADVICE

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

ph: 02 8584 8888
Fax: 02 8584 8800

Attention: Joe Ferring

Sample log in details:

Your reference:
Envirolab Reference:
Date received:
Date results expected to be reported:

Bayswater
100898
15/11/13
22/11/13

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	Standard
Temperature on receipt (°C)	2.1
Cooling Method:	Ice
Sampling Date Provided:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst
ph: 02 9910 6200 fax: 02 9910 6201
email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

100898

Client:

Environmental Resources Management Australia

Locked Bag 24

Broadway

NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference:

Bayswater

No. of samples:

1 Soil

Date samples received / completed instructions received

15/11/13

/ 15/11/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:

22/11/13

/ 21/11/13

Date of Preliminary Report:

Not issued

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Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil Our Reference: Your Reference	UNITS -----	100898-1 Trip 20131111_AM 01
Date Sampled Type of sample	-----	11/11/2013 Soil
Date extracted	-	18/11/2013
Date analysed	-	19/11/2013
TRHC ₆ - C ₉	mg/kg	<25
TRHC ₆ - C ₁₀	mg/kg	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	84

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	100898-1
Your Reference	-----	Trip
		20131111_AM
		01
Date Sampled	-----	11/11/2013
Type of sample		Soil
Date extracted	-	18/11/2013
Date analysed	-	19/11/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	87

PAHs in Soil Our Reference: Your Reference	UNITS -----	100898-1 Trip 20131111_AM 01
Date Sampled Type of sample	-----	11/11/2013 Soil
Date extracted	-	18/11/2013
Date analysed	-	19/11/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	0.06
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQNEPMB1	mg/kg	<0.5
Total +ve PAH's	mg/kg	0.060
Surrogate <i>p</i> -Terphenyl-d14	%	107

Client Reference: Bayswater

Total Phenolics in Soil		
Our Reference:	UNITS	100898-1
Your Reference	-----	Trip
		20131111_AM
		01
Date Sampled	-----	11/11/2013
Type of sample		Soil
Date extracted	-	18/11/2013
Date analysed	-	18/11/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil		
Our Reference:	UNITS	100898-1
Your Reference	-----	Trip
		20131111_AM
		01
Date Sampled	-----	11/11/2013
Type of sample		Soil
Date digested	-	18/11/2013
Date analysed	-	18/11/2013
Arsenic	mg/kg	5
Cadmium	mg/kg	<0.4
Chromium	mg/kg	12
Copper	mg/kg	22
Lead	mg/kg	14
Mercury	mg/kg	<0.1
Nickel	mg/kg	22
Zinc	mg/kg	65

Client Reference: Bayswater

Moisture Our Reference: Your Reference	UNITS -----	100898-1 Trip 20131111_AM 01
Date Sampled Type of sample	-----	11/11/2013 Soil
Date prepared	-	18/11/2013
Date analysed	-	19/11/2013
Moisture	%	14

MethodID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

Client Reference: Bayswater

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			18/11/2013	[NT]	[NT]	LCS-2	18/11/2013
Date analysed	-			19/11/2013	[NT]	[NT]	LCS-2	19/11/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	100%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	100%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-2	96%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-2	97%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	96%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-2	105%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	103%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	82	[NT]	[NT]	LCS-2	87%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			18/11/2013	[NT]	[NT]	LCS-2	18/11/2013
Date analysed	-			19/11/2013	[NT]	[NT]	LCS-2	19/11/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	107%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	105%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	95%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	107%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	105%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	95%
Surrogate o-Terphenyl	%		Org-003	90	[NT]	[NT]	LCS-2	77%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			18/11/2013	[NT]	[NT]	LCS-2	18/11/2013
Date analysed	-			19/11/2013	[NT]	[NT]	LCS-2	19/11/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	86%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	87%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	94%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	94%

Client Reference: Bayswater

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	80%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	90%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-2	100%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	103	[NT]	[NT]	LCS-2	106%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			18/11/2013	[NT]	[NT]	LCS-1	18/11/2013
Date analysed	-			18/11/2013	[NT]	[NT]	LCS-1	18/11/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	96%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			18/11/2013	[NT]	[NT]	LCS-5	18/11/2013
Date analysed	-			18/11/2013	[NT]	[NT]	LCS-5	18/11/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-5	112%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-5	119%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	120%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	118%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	114%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-5	91%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	117%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	118%

Client Reference: Bayswater

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

Report Comments:

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

INS: Insufficient sample for this test PQL: Practical Quantitation Limit NT: Not tested
 NA: Test not required RPD: Relative Percent Difference NA: Test not required
 <: Less than >: Greater than LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Envirolab



CHAIN OF CUSTODY

ALS Laboratory
please tick →

CLIENT:	TURNAROUND REQUIREMENTS: <input checked="" type="checkbox"/> Standard TAT (List due date): (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) <input type="checkbox"/> Non Standard or urgent TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE:	ALS QUOTE NO.: SY794713	COC SEQUENCE NUMBER (Circle)	Custody Seal Intact? Yes No N/A
PROJECT: Project Symphony	SITE: BAYSWATER	COG: 1 2 3 4 5 6 7	Frozen ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: <i>ea</i>	CONTACT PH: _____	OR: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: _____ °C
PROJECT MANAGER: <i>Joseph Farring</i>	SAMPLER: <i>Tom Calthorpe</i>	RELINQUISHED BY: <i>Tom Calthorpe</i>	RECEIVED BY: <i>smc</i>
SAMPLER: <i>Tom Calthorpe</i>	SAMPLER MODULE: _____	DATE/TIME: <i>18/11/13 10:30</i>	DATE/TIME: <i>18/11/13 12:00</i>
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default): _____	DATE/TIME: _____	DATE/TIME: _____
Email Reports to (will default to PM if no other addresses are listed): <i>John.ewing@erm.com</i>	EDD FORMATTED (or default): _____	DATE/TIME: _____	DATE/TIME: _____
Email Invoice to (will default to PM if no other addresses are listed): _____	EDD FORMATTED (or default): _____	DATE/TIME: _____	DATE/TIME: _____

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)				CONTAINER INFORMATION		ANALYSIS REQUIRED including SURTES (NB: Surte Codes must be ticked to attract surte price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required)											
	LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below	(refer to)	TOTAL CONTAINERS	S-2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	17 Metals (As, Ba, Be, Co, Cr, Cu, Gd, Mn, Ni, Pb, V, Zn, Bi, Mo, Tl, Se)	S-24 TRH/OC (CADIBTEXAN, PAH, Phenols)	VOC Target Scan	PCB	pH (1:5)	Exchangeable cations (ED007)	PPOS/PFOA	Asbestos (absence/presence)	Particle Sizing to 75µm (Sieve)	Organic Matter plus Total Organic Carbon (EP004)
	1	BQ_MW12_0.2						X	X	X	X	X	X	X	X	X	X	X
	2	BQ_MW07_0.2						X	X	X	X	X	X	X	X	X	X	X
	3	BQ_MW06_0.2						X	X	X	X	X	X	X	X	X	X	X
	4	BQ_MW05_0.2						X	X	X	X	X	X	X	X	X	X	X
	5	BQ_MW04_0.2						X	X	X	X	X	X	X	X	X	X	X
	6	BQ_MW03_0.2						X	X	X	X	X	X	X	X	X	X	X
	7	BQ_MW02_0.2						X	X	X	X	X	X	X	X	X	X	X
	8	BQ_MW03_0.2						X	X	X	X	X	X	X	X	X	X	X
	9	BY_MW20_0.2						X	X	X	X	X	X	X	X	X	X	X
	10	BY_MW21_0.2						X	X	X	X	X	X	X	X	X	X	X
	11	BQ_MW14_0.2						X	X	X	X	X	X	X	X	X	X	X
	12	DOL14113-TZ						X	X	X	X	X	X	X	X	X	X	X
	*	TO1-14113-TZ						X	X	X	X	X	X	X	X	X	X	X

Job No: *151075*
Additional Information
Date Received: *20/11/13*
Time Received: *12:00pm*
Received by: *Kevin*
Comments on receipt: *Temperature Ambient*
Cooling: *ice/icepack*
Security: *Intact/Broken/None*

Environmental Division
Sydney
Work Order
ES1325018



Telephone: +61-2-8784 8555

Forward to
Envirolab

Water Container Contact: P - Unpreserved Plastic; N - Nitric Preserved Plastic; ORC - Nitric Preserved ORC; BH - Sodium Hydroxide Preserved Plastic; AG - Amber Glass Unpreserved; AP - Airtight Unpreserved Plastic
V - VOA Vial HCl Preserved; V3 - VOA Vial Sodium Dichromate Preserved; V5 - VOA Vial Sulfuric Preserved; AVF - Airtight Unpreserved Vial SG - Sulfuric Preserved Amber Glass; H - HCl Preserved Plastic; H5 - HCl Preserved Speciation bottle; SP - Sulfuric Preserved Plastic; F - Formaldehyde Preserved Glass
Z - Zinc Aspartate Preserved Bottle; F - EDTA Preserved Bottle; ST - Sieve Bottle; ASD - Plastic Bag for Acid Sulphate Solids; D - Unpreserved Bag

ASBESTOS + PSD KORT EN



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

SAMPLE RECEIPT ADVICE

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

ph: 02 8584 8888

Fax: 02 8584 8800

Attention: Chuck Terhune, Jonathon Lekawski

Sample log in details:

Your reference:

Envirolab Reference:

Date received:

Date results expected to be reported:

Project Symphony

101075

20/11/2013

27/11/13

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 soil
Turnaround time requested:	Standard
Temperature on receipt (°C)	9.1
Cooling Method:	Ice
Sampling Date Provided:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

101075

Client:

Environmental Resources Management Australia

Locked Bag 24

Broadway

NSW 2007

Attention: Chuck Terhune, Jonathon Lekawski

Sample log in details:

Your Reference:

Project Symphony

No. of samples:

1 soil

Date samples received / completed instructions received

20/11/2013 / 20/11/2013

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:

27/11/13 / 27/11/13

Date of Preliminary Report:

Not issued

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Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	101075-1
Your Reference	-----	T01_141113_
		TC
Date Sampled	-----	14/11/2013
Type of sample		Soil
Date extracted	-	21/11/2013
Date analysed	-	24/11/2013
TRHC ₆ - C ₉	mg/kg	<25
TRHC ₆ - C ₁₀	mg/kg	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	77

svTRH(C10-C40) in Soil		
Our Reference:	UNITS	101075-1
Your Reference	-----	T01_141113_ TC
Date Sampled	-----	14/11/2013
Type of sample		Soil
Date extracted	-	21/11/2013
Date analysed	-	21/11/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	98

PAHs in Soil Our Reference: Your Reference	UNITS -----	101075-1 T01_141113_ TC
Date Sampled Type of sample	-----	14/11/2013 Soil
Date extracted	-	21/11/2013
Date analysed	-	22/11/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQNEPMB1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	114

Client Reference: Project Symphony

Total Phenolics in Soil		
Our Reference:	UNITS	101075-1
Your Reference	-----	T01_141113_ TC
Date Sampled	-----	14/11/2013
Type of sample		Soil
Date extracted	-	21/11/2013
Date analysed	-	21/11/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil		
Our Reference:	UNITS	101075-1
Your Reference	-----	T01_141113_ TC
Date Sampled	-----	14/11/2013
Type of sample		Soil
Date digested	-	21/11/2013
Date analysed	-	21/11/2013
Arsenic	mg/kg	9
Cadmium	mg/kg	<0.4
Chromium	mg/kg	11
Copper	mg/kg	18
Lead	mg/kg	14
Mercury	mg/kg	<0.1
Nickel	mg/kg	18
Zinc	mg/kg	120
Selenium	mg/kg	<2

Client Reference: Project Symphony

Miscellaneous Inorg - soil		
Our Reference:	UNITS	101075-1
Your Reference	-----	T01_141113_ TC
Date Sampled	-----	14/11/2013
Type of sample		Soil
Date prepared	-	22/11/2013
Date analysed	-	22/11/2013
pH 1:5 soil:water	pHUnits	6.6
Electrical Conductivity 1:5 soil:water	µS/cm	50

ESP/CEC		
Our Reference:	UNITS	101075-1
Your Reference	-----	T01_141113_ TC
Date Sampled	-----	14/11/2013
Type of sample		Soil
Exchangeable Ca	meq/100g	11
Exchangeable K	meq/100g	0.4
Exchangeable Mg	meq/100g	2.6
Exchangeable Na	meq/100g	<0.1
Cation Exchange Capacity	meq/100g	14

Client Reference: Project Symphony

Moisture		
Our Reference:	UNITS	101075-1
Your Reference	-----	T01_141113_
		TC
Date Sampled	-----	14/11/2013
Type of sample		Soil
Date prepared	-	21/11/2013
Date analysed	-	22/11/2013
Moisture	%	19

MethodID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA 22nd ED, 4500-H+.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell and dedicated meter, in accordance with APHA 22nd ED 2510 and Rayment & Lyons.
Metals-009	Determination of exchangeable cations and cation exchange capacity in soil based on Rayment and Lyons 2011.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

Client Reference: Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			21/11/2013	[NT]	[NT]	LCS-2	21/11/2013
Date analysed	-			24/11/2013	[NT]	[NT]	LCS-2	24/11/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	85%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	85%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-2	75%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-2	79%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	89%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-2	90%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	90%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	99	[NT]	[NT]	LCS-2	91%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			21/11/2013	[NT]	[NT]	LCS-2	21/11/2013
Date analysed	-			21/11/2013	[NT]	[NT]	LCS-2	21/11/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	107%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	110%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	96%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	107%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	110%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	96%
Surrogate o-Terphenyl	%		Org-003	98	[NT]	[NT]	LCS-2	98%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			21/11/2013	[NT]	[NT]	LCS-2	21/11/2013
Date analysed	-			22/11/2013	[NT]	[NT]	LCS-2	22/11/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	94%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	96%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	92%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	93%

Client Reference: Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	98%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	86%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-2	95%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	114	[NT]	[NT]	LCS-2	111%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			21/11/2013	[NT]	[NT]	LCS-1	21/11/2013
Date analysed	-			21/11/2013	[NT]	[NT]	LCS-1	21/11/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	93%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			21/11/2013	[NT]	[NT]	LCS-3	21/11/2013
Date analysed	-			21/11/2013	[NT]	[NT]	LCS-3	21/11/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-3	99%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-3	107%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	103%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	100%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	100%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-3	93%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	102%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	102%

Client Reference: Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Selenium	mg/kg	2	Metals-020 ICP-AES	<2	[NT]	[NT]	LCS-3	102%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Miscellaneous Inorg - soil						Base II Duplicate II %RPD		
Date prepared	-			22/11/2013	[NT]	[NT]	LCS-1	22/11/2013
Date analysed	-			22/11/2013	[NT]	[NT]	LCS-1	22/11/2013
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	LCS-1	101%
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	<1	[NT]	[NT]	LCS-1	102%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
ESP/CEC						Base II Duplicate II %RPD		
Exchangeable Ca	meq/100 g	0.1	Metals-009	<0.1	[NT]	[NT]	LCS-1	97%
Exchangeable K	meq/100 g	0.1	Metals-009	<0.1	[NT]	[NT]	LCS-1	91%
Exchangeable Mg	meq/100 g	0.1	Metals-009	<0.1	[NT]	[NT]	LCS-1	96%
Exchangeable Na	meq/100 g	0.1	Metals-009	<0.1	[NT]	[NT]	LCS-1	99%
Cation Exchange Capacity	meq/100 g	1	Metals-009	<1.0	[NT]	[NT]	[NR]	[NR]
QUALITYCONTROL	UNITS	PQL	METHOD	Blank				
Moisture								
Date prepared	-			[NT]				
Date analysed	-			[NT]				
Moisture	%	0.1	Inorg-008	[NT]				

Report Comments:

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

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NA: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.



CHAIN OF CUSTODY

ALS Laboratory
please tick →

REPORT TO: [blank]
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REPORT TO: [blank]
REPORT TO: [blank]

CLIENT: ERM	TURNAROUND REQUIREMENTS: <input checked="" type="checkbox"/> Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Sydney	<input type="checkbox"/> Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A	
PROJECT: Project Symphony	ALS QUOTE NO.: SY179413	Free ice / frozen ice bricks present upon receipt? Yes No N/A	
ORDER NUMBER: 0224193	SITE: GAYSWATER RIDGELL	Random Sample Temperature on Receipt: °C	
PROJECT MANAGER: A. Morris	CONTACT PH: [blank]	RECEIVED BY: ELS	
SAMPLER: PM Joe Ferring	SAMPLER MOBILE: 0434181919	RELINQUISHED BY: [blank]	
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	RECEIVED BY: ELS	
Email Reports to (will default to PM if no other addresses are listed):	DATE/TIME:	DATE/TIME: 25-11-13 17:00	
Email Invoice to (will default to PM if no other addresses are listed): John.ewing@symphony.com.au	DATE/TIME:	DATE/TIME: 27/11/13 12:04	
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:			

ALS USE	SAMPLE DETAILS			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NI). Suite Codes must be listed to attract suite price)										Additional Information					
	LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (codes below)	TOTAL CONTAINERS	S-2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)		17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, S, Mo, Ti, Se)		S-24 TRHCs: C40/BTEXN, PAH, Phenols	VOC Target Scan	PCB	pH (1:5)	Exchangeable cations (EP007)		PFOA/PFOA	Asbestos (absence/presence)	Particle Sizing to 75µm (Sieve)	Organic Matter plus Total Organic Carbon (EP 804)	
		101423																			
	10	BI_MW02-3.0	21/11/13	SOIL	1 Glass Jar	1	X	X	X	X	X			X	X						Electrical Conductivity
	11	BT_MW3-2.0				1	X	X	X	X				X	X						HOLD
	11	BT_MW3-3.8				1	X	X	X	X				X	X						HOLD
	12	BV_MW08-2.0				1	X	X	X	X				X	X						
	13	BV_MW08-5.0				1	X	X	X	X				X	X						
	14	Trip spike																			
	15	Trip blank																			
	16	TSC																			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cl Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic; V = VOA Vial HCl Preserved; VD = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; BT = Burette Bottle; ABS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.



CHAIN OF CUSTODY

ALS Laboratory
please tick →

1. This form is to be used for all samples submitted to ALS for analysis. It is to be completed by the client and the ALS Laboratory. It is to be used to track the sample from the client to the ALS Laboratory and back to the client. It is to be used to ensure that the sample is handled correctly and that the results are accurate.

2. This form is to be used for all samples submitted to ALS for analysis. It is to be completed by the client and the ALS Laboratory. It is to be used to track the sample from the client to the ALS Laboratory and back to the client. It is to be used to ensure that the sample is handled correctly and that the results are accurate.

3. This form is to be used for all samples submitted to ALS for analysis. It is to be completed by the client and the ALS Laboratory. It is to be used to track the sample from the client to the ALS Laboratory and back to the client. It is to be used to ensure that the sample is handled correctly and that the results are accurate.

4. This form is to be used for all samples submitted to ALS for analysis. It is to be completed by the client and the ALS Laboratory. It is to be used to track the sample from the client to the ALS Laboratory and back to the client. It is to be used to ensure that the sample is handled correctly and that the results are accurate.

CLIENT: ERM	TURNAROUND REQUIREMENTS: <input type="checkbox"/> Standard TAT (List due date): <small>(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)</small>	<input type="checkbox"/> Non Standard or urgent TAT (List due date):		FOR LABORATORY USE ONLY (Circle)			
OFFICE: Sydney	ALS QUOTE NO.: SY779413	COC SEQUENCE NUMBER (Circle)		Custody Seal Intact?	Yes	No	N/A
PROJECT: Project Symphony	SITE: BAYSWATER / LIDDELL	COC: 1 2 3 4 5 6 7		Frag Ice / frozen ice bricks present upon receipt?	Yes	No	N/A
ORDER NUMBER: 0224193	CONTACT PH: 557 5 Fering	OF: 1 2 3 4 5 6 7		Random Sample Temperature on Receipt:	°C		
PROJECT MANAGER: A. Morris	SAMPLER MOBILE: 0437181417	RELINQUISHED BY: <i>[Signature]</i>	RECEIVED BY: bn	Other comment:			
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: <i>[Signature]</i>	DATE/TIME: 25-11-13 (10)	RECEIVED BY: bn	DATE/TIME: 27/11/13 12:04		
Email Reports to (will default to PM if no other addresses are listed): John.ewing@erm.com	Email Invoice to (will default to PM if no other addresses are listed): Symphony.morgan@erm.com						

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED INCLUDING SUITES (N). Suite Codes must be listed to attract auto price Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required).										Additional Information		
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <small>codes below</small>	(refer to)	TOTAL CONTAINERS	S-2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	S-7 Metals (As, Ba, Bi, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Ti, Se)	S-24 TRACE-C (C40)BTEXH, PAH, Phenols	VOC Target Scan	PCB	pH (1:5)	Exchangeable cations (ED007)	PFS/PFDA	Absorbance (absent/presence)	Particle Sizing to 75µm (Stevr)	Organic Matter plus Total Organic Carbon (EP004)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
2 -	101423 TO1-21113-AM	21/11/13	SOIL	1 glass jar		1	X		X	X	X							Please forward to EnviroLab

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; OHC = Nitric Preserved OHC; SH = Sodium Hydroxide Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic
V = VOA Vial HCl Preserved; VO = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial; SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Tray for Acid Sulphate Soils; B = Unpreserved Bar.



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

SAMPLE RECEIPT ADVICE

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

ph: 02 8584 8888

Fax: 02 8584 8800

Attention: Joseph Ferring

Sample log in details:

Your reference:

0224193, Project Symphony

Envirolab Reference:

101423

Date received:

27/11/2013

Date results expected to be reported:

6/12/13

Samples received in appropriate condition for analysis:	YES
No. of samples provided	2 Soils
Turnaround time requested:	Standard
Temperature on receipt (°C)	7.6
Cooling Method:	Ice
Sampling Date Provided:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

PFOS results ready approx 10-15 working days

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

101423

Client:

Environmental Resources Management Australia

Locked Bag 24

Broadway

NSW 2007

Attention: Joseph Ferring

Sample log in details:

Your Reference:

0224193, Project Symphony

No. of samples:

2 Soils

Date samples received / completed instructions received

27/11/2013 / 27/11/2013

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:

6/12/13 / 19/12/13

Date of Preliminary Report:

Not issued

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Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:



Jacinta Hurst
Laboratory Manager

VOCs in soil		
Our Reference:	UNITS	101423-2
Your Reference	-----	T01_211113 -AM
Date Sampled	-----	21/11/2013
Type of sample		Soil
Date extracted	-	29/11/2013
Date analysed	-	30/11/2013
Dichlorodifluoromethane	mg/kg	<1
Chloromethane	mg/kg	<1
Vinyl Chloride	mg/kg	<1
Bromomethane	mg/kg	<1
Chloroethane	mg/kg	<1
Trichlorofluoromethane	mg/kg	<1
1,1-Dichloroethene	mg/kg	<1
trans-1,2-dichloroethene	mg/kg	<1
1,1-dichloroethane	mg/kg	<1
cis-1,2-dichloroethene	mg/kg	<1
bromochloromethane	mg/kg	<1
chloroform	mg/kg	<1
2,2-dichloropropane	mg/kg	<1
1,2-dichloroethane	mg/kg	<1
1,1,1-trichloroethane	mg/kg	<1
1,1-dichloropropene	mg/kg	<1
Cyclohexane	mg/kg	<1
carbon tetrachloride	mg/kg	<1
Benzene	mg/kg	<0.2
dibromomethane	mg/kg	<1
1,2-dichloropropane	mg/kg	<1
trichloroethene	mg/kg	<1
bromodichloromethane	mg/kg	<1
trans-1,3-dichloropropene	mg/kg	<1
cis-1,3-dichloropropene	mg/kg	<1
1,1,2-trichloroethane	mg/kg	<1
Toluene	mg/kg	<0.5
1,3-dichloropropane	mg/kg	<1
dibromochloromethane	mg/kg	<1
1,2-dibromoethane	mg/kg	<1
tetrachloroethene	mg/kg	<1
1,1,1,2-tetrachloroethane	mg/kg	<1
chlorobenzene	mg/kg	<1
Ethylbenzene	mg/kg	<1
bromoform	mg/kg	<1
m+p-xylene	mg/kg	<2
styrene	mg/kg	<1
1,1,2,2-tetrachloroethane	mg/kg	<1
o-Xylene	mg/kg	<1

VOCs in soil Our Reference: Your Reference	UNITS -----	101423-2 T01_211113 -AM
Date Sampled Type of sample	-----	21/11/2013 Soil
1,2,3-trichloropropane	mg/kg	<1
isopropylbenzene	mg/kg	<1
bromobenzene	mg/kg	<1
n-propyl benzene	mg/kg	<1
2-chlorotoluene	mg/kg	<1
4-chlorotoluene	mg/kg	<1
1,3,5-trimethyl benzene	mg/kg	<1
tert-butyl benzene	mg/kg	<1
1,2,4-trimethyl benzene	mg/kg	<1
1,3-dichlorobenzene	mg/kg	<1
sec-butyl benzene	mg/kg	<1
1,4-dichlorobenzene	mg/kg	<1
4-isopropyl toluene	mg/kg	<1
1,2-dichlorobenzene	mg/kg	<1
n-butyl benzene	mg/kg	<1
1,2-dibromo-3-chloropropane	mg/kg	<1
1,2,4-trichlorobenzene	mg/kg	<1
hexachlorobutadiene	mg/kg	<1
1,2,3-trichlorobenzene	mg/kg	<1
<i>Surrogate</i> Dibromofluorometha	%	96
<i>Surrogate</i> aaa-Trifluorotoluene	%	82
<i>Surrogate</i> Toluene-d8	%	97
<i>Surrogate</i> 4-Bromofluorobenzene	%	88

vTRH(C6-C10)/BTEXN in Soil			
Our Reference:	UNITS	101423-1	101423-2
Your Reference	-----	D02_211113_	T01_211113
		TC	-AM
Date Sampled	-----	21/11/2013	21/11/2013
Type of sample		Soil	Soil
Date extracted	-	29/11/2013	29/11/2013
Date analysed	-	30/11/2013	30/11/2013
TRHC ₆ - C ₉	mg/kg	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
naphthalene	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	95	82

svTRH(C10-C40) in Soil			
Our Reference:	UNITS	101423-1	101423-2
Your Reference	-----	D02_211113_	T01_211113
		TC	-AM
Date Sampled	-----	21/11/2013	21/11/2013
Type of sample		Soil	Soil
Date extracted	-	29/11/2013	29/11/2013
Date analysed	-	30/11/2013	30/11/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100
Surrogate o-Terphenyl	%	74	72

PAHs in Soil Our Reference: Your Reference	UNITS -----	101423-1 D02_211113_ TC	101423-2 T01_211113 -AM
Date Sampled Type of sample	-----	21/11/2013 Soil	21/11/2013 Soil
Date extracted	-	29/11/2013	29/11/2013
Date analysed	-	30/11/2013	30/11/2013
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1
Pyrene	mg/kg	<0.1	<0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1
Benzo(a)pyrene TEQNEPMB1	mg/kg	<0.5	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE	NIL (+)VE
Surrogate p-Terphenyl-d14	%	102	102

PCBs in Soil Our Reference: Your Reference	UNITS -----	101423-1 D02_211113_ TC	101423-2 T01_211113 -AM
Date Sampled	-----	21/11/2013	21/11/2013
Type of sample		Soil	Soil
Date extracted	-	29/11/2013	29/11/2013
Date analysed	-	30/11/2013	30/11/2013
Arochlor 1016	mg/kg	<0.1	<0.1
Arochlor 1221	mg/kg	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1
Surrogate TCLMX	%	93	85

Total Phenolics in Soil			
Our Reference:	UNITS	101423-1	101423-2
Your Reference	-----	D02_211113_	T01_211113
		TC	-AM
Date Sampled	-----	21/11/2013	21/11/2013
Type of sample		Soil	Soil
Date extracted	-	03/12/2013	03/12/2013
Date analysed	-	03/12/2013	03/12/2013
Total Phenolics (as Phenol)	mg/kg	<5	<5

Acid Extractable metals in soil			
Our Reference:	UNITS	101423-1	101423-2
Your Reference	-----	D02_211113_	T01_211113
		TC	-AM
Date Sampled	-----	21/11/2013	21/11/2013
Type of sample		Soil	Soil
Date digested	-	29/11/2013	29/11/2013
Date analysed	-	29/11/2013	29/11/2013
Arsenic	mg/kg	9	9
Cadmium	mg/kg	<0.4	<0.4
Chromium	mg/kg	10	12
Copper	mg/kg	17	16
Lead	mg/kg	17	14
Mercury	mg/kg	<0.1	<0.1
Nickel	mg/kg	12	18
Zinc	mg/kg	59	84

Moisture			
Our Reference:	UNITS	101423-1	101423-2
Your Reference	-----	D02_211113_	T01_211113
		TC	-AM
Date Sampled	-----	21/11/2013	21/11/2013
Type of sample		Soil	Soil
Date prepared	-	29/11/2013	29/11/2013
Date analysed	-	02/12/2013	02/12/2013
Moisture	%	18	13

Perfluorochemicals in Soil		
Our Reference:	UNITS	101423-1
Your Reference	-----	D02_211113_
		TC
Date Sampled	-----	21/11/2013
Type of sample		Soil
PFOS (Branched and Linear)	µg/kg	<1.0
Perfluorooctanoate PFOA	µg/kg	<0.50
Surrogate 1 Recovery	%	133
Date Analysed	-	17/12/2013
Date Extracted	-	18/12/2013

MethodID	Methodology Summary
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Inorg-030	Total Phenolics - determined colorimetrically following distillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.
Ext-038	Analysed by Advanced Analytical Australia Pty Ltd. NATA accreditation 15109.

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
VOCs in soil						Base II Duplicate II %RPD		
Date extracted	-			29/11/2013	[NT]	[NT]	LCS-4	29/11/2013
Date analysed	-			30/11/2013	[NT]	[NT]	LCS-4	30/11/2013
Dichlorodifluoromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Chloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Vinyl Chloride	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Bromomethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Chloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
trans-1,2-dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1-dichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	114%
cis-1,2-dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromochloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
chloroform	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	104%
2,2-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	103%
1,1,1-trichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	117%
1,1-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Cyclohexane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
carbon tetrachloride	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	0.2	Org-014	<0.2	[NT]	[NT]	[NR]	[NR]
dibromomethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
trichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	94%
bromodichloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	100%
trans-1,3-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
cis-1,3-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1,2-trichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Toluene	mg/kg	0.5	Org-014	<0.5	[NT]	[NT]	[NR]	[NR]
1,3-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
dibromochloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	87%
1,2-dibromoethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
tetrachloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-4	113%
1,1,1,2-tetrachloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
chlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Ethylbenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromoform	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
m+p-xylene	mg/kg	2	Org-014	<2	[NT]	[NT]	[NR]	[NR]
styrene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
o-Xylene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,3-trichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
VOCs in soil						Base II Duplicate II %RPD		
isopropylbenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
n-propyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
2-chlorotoluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
4-chlorotoluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,3,5-trimethyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
tert-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trimethyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,3-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
sec-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,4-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
4-isopropyl toluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
n-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
hexachlorobutadiene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,3-trichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluorometha	%		Org-014	94	[NT]	[NT]	LCS-4	101%
Surrogate aaa-Trifluorotoluene	%		Org-014	84	[NT]	[NT]	LCS-4	88%
Surrogate Toluene-d8	%		Org-014	97	[NT]	[NT]	LCS-4	97%
Surrogate 4-Bromofluorobenzene	%		Org-014	90	[NT]	[NT]	LCS-4	91%

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			29/11/2013	[NT]	[NT]	LCS-4	29/11/2013
Date analysed	-			30/11/2013	[NT]	[NT]	LCS-4	30/11/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-4	114%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-4	114%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-4	97%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-4	107%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-4	117%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-4	121%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-4	123%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	84	[NT]	[NT]	LCS-4	96%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			29/11/2013	[NT]	[NT]	LCS-4	29/11/2013
Date analysed	-			30/11/2013	[NT]	[NT]	LCS-4	30/11/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-4	97%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-4	91%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-4	75%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-4	97%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-4	91%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-4	75%
Surrogate o-Terphenyl	%		Org-003	72	[NT]	[NT]	LCS-4	93%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			29/11/2013	[NT]	[NT]	LCS-4	29/11/2013
Date analysed	-			30/11/2013	[NT]	[NT]	LCS-4	30/11/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	96%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	101%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	96%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	96%

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil								
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	98%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	91%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-4	105%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	87	[NT]	[NT]	LCS-4	100%
PCBs in Soil								
Date extracted	-			29/11/2013	[NT]	[NT]	LCS-6	29/11/2013
Date analysed	-			29/11/2013	[NT]	[NT]	LCS-6	29/11/2013
Arochlor 1016	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1221	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	LCS-6	103%
Arochlor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		Org-006	96	[NT]	[NT]	LCS-6	98%
Total Phenolics in Soil								
Date extracted	-			03/12/2013	[NT]	[NT]	LCS-1	03/12/2013
Date analysed	-			03/12/2013	[NT]	[NT]	LCS-1	03/12/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	82%

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			29/11/2013	[NT]	[NT]	LCS-7	29/11/2013
Date analysed	-			29/11/2013	[NT]	[NT]	LCS-7	29/11/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-7	100%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-7	112%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-7	102%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-7	103%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-7	101%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-7	92%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-7	102%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-7	102%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank				
Moisture								
Date prepared	-			[NT]				
Date analysed	-			[NT]				
Moisture	%	0.1	Inorg-008	[NT]				
QUALITYCONTROL	UNITS	PQL	METHOD	Blank				
Perfluorochemicals in Soil								
PFOS (Branched and Linear)	µg/kg	1	Ext-038	[NT]				
Perfluorooctanoate PFOA	µg/kg	0.5	Ext-038	[NT]				
Surrogate 1 Recovery	%		Ext-038	[NT]				
Date Analysed	-		Ext-038	[NT]				
Date Extracted	-		Ext-038	[NT]				

Report Comments:

PFCS analysed by Advanced Analytical Australia. Report No.A13/6077.

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

INS: Insufficient sample for this test PQL: Practical Quantitation Limit NT: Not tested
NA: Test not required RPD: Relative Percent Difference NA: Test not required
<: Less than >: Greater than LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.



Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

★ PLEASE FORWARD DOI-19113_SM TO ENVIROLAB FOR ANALYSIS.

 CHAIN OF CUSTODY ALS Laboratory please tick ✓		<small>ALSO USE THIS FORM FOR ALL SAMPLES TO BE ANALYSED BY ALS LABORATORY</small> <small>ALSO USE THIS FORM FOR ALL SAMPLES TO BE ANALYSED BY ALS LABORATORY</small> <small>ALSO USE THIS FORM FOR ALL SAMPLES TO BE ANALYSED BY ALS LABORATORY</small> <small>ALSO USE THIS FORM FOR ALL SAMPLES TO BE ANALYSED BY ALS LABORATORY</small>		<small>ALSO USE THIS FORM FOR ALL SAMPLES TO BE ANALYSED BY ALS LABORATORY</small> <small>ALSO USE THIS FORM FOR ALL SAMPLES TO BE ANALYSED BY ALS LABORATORY</small> <small>ALSO USE THIS FORM FOR ALL SAMPLES TO BE ANALYSED BY ALS LABORATORY</small> <small>ALSO USE THIS FORM FOR ALL SAMPLES TO BE ANALYSED BY ALS LABORATORY</small>		<small>ALSO USE THIS FORM FOR ALL SAMPLES TO BE ANALYSED BY ALS LABORATORY</small> <small>ALSO USE THIS FORM FOR ALL SAMPLES TO BE ANALYSED BY ALS LABORATORY</small> <small>ALSO USE THIS FORM FOR ALL SAMPLES TO BE ANALYSED BY ALS LABORATORY</small> <small>ALSO USE THIS FORM FOR ALL SAMPLES TO BE ANALYSED BY ALS LABORATORY</small>												
CLIENT: ERM		TURNAROUND REQUIREMENTS: <input checked="" type="checkbox"/> Standard TAT (List due date): <small>(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)</small>		FOR LABORATORY USE ONLY (Circle)		Custody Seal Intact? Yes No N/A												
OFFICE: Sydney		<input type="checkbox"/> Non Standard or urgent TAT (List due date):		Free Ice / Frozen Ice bricks present upon receipt? Yes No N/A		Random Sample Temperature on Receipt: °C												
PROJECT: Project Symphony		ALS QUOTE NO.: SY734/13		COC SEQUENCE NUMBER (Circle)		Other comment:												
ORDER NUMBER: 0224193		SITE: BAYSWATER / LIDDELL		COC: 1 2 3 4 5 6 7		OF: 1 2 3 4 5 6 7												
PROJECT MANAGER: JOSEPH FERRING		CONTACT PH:		RECEIVED BY: Frank ALS		RECEIVED BY: A-Weir												
SAMPLER: Stephen Mulligan		SAMPLER MOBILE:		RELINQUISHED BY: Stephen Mulligan		RELINQUISHED BY:												
COC emailed to ALS? (YES / NO)		EDD FORMAT (or default):		DATE/TIME: 19/1/13		DATE/TIME: 28-11-13 1900												
Email Reports to (will default to PM if no other addresses are listed): john.ewing@erm.com		Email Invoice to (will default to PM if no other addresses are listed): symphony.malgren@erm.com		DATE/TIME:		DATE/TIME: 28/11/13 12:00												
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:																		
ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)		CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).						Additional Information							
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <small>codes below</small>	<small>refer to</small> TOTAL CONTAINERS	S-2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Ti, Se)	S-24 TRACE-CAO/BTEX/N, PAH, Phenols	VOC Target Scan	PCB	pH (1:5)	Exchangeable cations (ED007)	PFOS/PFOA	Asbestos (absence/presence)	Particle Sizing to 75µm (Sieve)	Organic Matter plus Total Organic Carbon (EP004)	Comments on likely contaminant levels, highlighting samples requiring specific attention, etc.	
Q1	DOI-19113_SM	19/11/13	SOIL	1 Jar	1	X	X	X			X	X					X	Am + Cat
<div style="text-align: right;">  Envirolab Services 12 Ashley St Chatswood NSW 2067 Ph: (02) 9910 6200 Job No: 101496 Date Received: 28/11/13 Time Received: 12:00 Received by: AW Temp: Cool/Ambient 10-7°C Cooling: Icepack Security: Intact/Broken / None </div>																		
<small>Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; GRC = Nitric Preserved GRC; SH = Sodium Hydroxide/GI Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SO = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HG = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Burette; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Spills; B = Unpreserved Gas.</small>																		



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SAMPLE RECEIPT ADVICE

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

ph: 02 8584 8888

Fax: 02 8584 8800

Attention: Joseph Ferring

Sample log in details:

Your reference:

0224193, Project Symphony

Envirolab Reference:

101496

Date received:

28/11/2013

Date results expected to be reported:

5/12/13

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	Standard
Temperature on receipt (°C)	10.7
Cooling Method:	Ice
Sampling Date Provided:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

101496

Client:

Environmental Resources Management Australia

Locked Bag 24

Broadway

NSW 2007

Attention: Joseph Ferring

Sample log in details:

Your Reference:

0224193, Project Symphony

No. of samples:

1 Soil

Date samples received / completed instructions received

28/11/2013 / 28/11/2013

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:

5/12/13 / 5/12/13

Date of Preliminary Report:

Not issued

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Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	101496-1
Your Reference	-----	D01_191113_
		SM
Date Sampled	-----	19/11/2013
Type of sample		Soil
Date extracted	-	29/11/2013
Date analysed	-	01/12/2013
TRHC ₆ - C ₉	mg/kg	<25
TRHC ₆ - C ₁₀	mg/kg	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	96

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	101496-1
Your Reference	-----	D01_191113_
		SM
Date Sampled	-----	19/11/2013
Type of sample		Soil
Date extracted	-	29/11/2013
Date analysed	-	02/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	93

PAHs in Soil		
Our Reference:	UNITS	101496-1
Your Reference	-----	D01_191113_
		SM
Date Sampled	-----	19/11/2013
Type of sample		Soil
Date extracted	-	29/11/2013
Date analysed	-	30/11/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQNEPMB1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	102

Total Phenolics in Soil		
Our Reference:	UNITS	101496-1
Your Reference	-----	D01_191113_
		SM
Date Sampled	-----	19/11/2013
Type of sample		Soil
Date extracted	-	03/12/2013
Date analysed	-	03/12/2013
Total Phenolics (as Phenol)	mg/kg	<5

Miscellaneous Inorg - soil		
Our Reference:	UNITS	101496-1
Your Reference	-----	D01_191113_
		SM
Date Sampled	-----	19/11/2013
Type of sample		Soil
Date prepared	-	29/11/2013
Date analysed	-	29/11/2013
pH 1:5 soil:water	pH Units	6.7
Soluble Alkalinity as CaCO ₃ *	mg/kg	120
Chloride, Cl 1:5 soil:water	mg/kg	20
Sulphate, SO ₄ 1:5 soil:water	mg/kg	140

Cations in soil		
Our Reference:	UNITS	101496-1
Your Reference	-----	D01_191113_
		SM
Date Sampled	-----	19/11/2013
Type of sample		Soil
Date digested	-	29/11/2013
Date analysed	-	29/11/2013
Calcium	mg/kg	990
Potassium	mg/kg	1,600
Magnesium	mg/kg	4,400
Sodium	mg/kg	900

ESP/CEC		
Our Reference:	UNITS	101496-1
Your Reference	-----	D01_191113_
		SM
Date Sampled	-----	19/11/2013
Type of sample		Soil
Exchangeable Ca	meq/100g	4.7
Exchangeable K	meq/100g	0.3
Exchangeable Mg	meq/100g	12
Exchangeable Na	meq/100g	3.1
Cation Exchange Capacity	meq/100g	20

Acid Extractable metals in soil		
Our Reference:	UNITS	101496-1
Your Reference	-----	D01_191113_
		SM
Date Sampled	-----	19/11/2013
Type of sample		Soil
Date digested	-	29/11/2013
Date analysed	-	29/11/2013
Arsenic	mg/kg	11
Cadmium	mg/kg	<0.4
Chromium	mg/kg	23
Copper	mg/kg	26
Lead	mg/kg	14
Mercury	mg/kg	<0.1
Nickel	mg/kg	13
Zinc	mg/kg	56

Moisture		
Our Reference:	UNITS	101496-1
Your Reference	-----	D01_191113_
		SM
Date Sampled	-----	19/11/2013
Type of sample		Soil
Date prepared	-	29/11/2013
Date analysed	-	2/12/2013
Moisture	%	23

MethodID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA 22nd ED, 4500-H+.
Inorg-006	Alkalinity - determined titrimetrically in accordance with APHA 22nd ED, 2320-B.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA 22nd ED, 4110-B.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-009	Determination of exchangeable cations and cation exchange capacity in soil based on Rayment and Lyons 2011.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			29/11/2013	[NT]	[NT]	LCS-7	29/11/2013
Date analysed	-			01/12/2013	[NT]	[NT]	LCS-7	01/12/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-7	117%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-7	117%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-7	103%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-7	109%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-7	123%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-7	125%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-7	125%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	103	[NT]	[NT]	LCS-7	101%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			29/11/2013	[NT]	[NT]	LCS-7	29/11/2013
Date analysed	-			02/12/2013	[NT]	[NT]	LCS-7	02/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-7	109%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	110%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	89%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-7	109%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	110%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	89%
Surrogate o-Terphenyl	%		Org-003	88	[NT]	[NT]	LCS-7	90%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			29/11/2013	[NT]	[NT]	LCS-7	29/11/2013
Date analysed	-			30/11/2013	[NT]	[NT]	LCS-7	30/11/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-7	96%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-7	100%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-7	95%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-7	95%

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-7	97%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-7	89%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-7	104%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	101	[NT]	[NT]	LCS-7	100%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			03/12/2013	[NT]	[NT]	LCS-1	03/12/2013
Date analysed	-			03/12/2013	[NT]	[NT]	LCS-1	03/12/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	82%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Miscellaneous Inorg - soil						Base II Duplicate II %RPD		
Date prepared	-			29/11/2013	[NT]	[NT]	LCS-1	29/11/2013
Date analysed	-			29/11/2013	[NT]	[NT]	LCS-1	29/11/2013
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	LCS-1	101%
Soluble Alkalinity as CaCO ₃ *	mg/kg	0.5	Inorg-006	<0.5	[NT]	[NT]	LCS-1	105%
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	<10	[NT]	[NT]	LCS-1	103%
Sulphate, SO ₄ 1:5 soil:water	mg/kg	10	Inorg-081	<10	[NT]	[NT]	LCS-1	116%

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Cations in soil						Base II Duplicate II %RPD		
Date digested	-			29/11/2013	[NT]	[NT]	LCS-5	29/11/2013
Date analysed	-			29/11/2013	[NT]	[NT]	LCS-5	29/11/2013
Calcium	mg/kg	5	Metals-020 ICP-AES	<5	[NT]	[NT]	LCS-5	101%
Potassium	mg/kg	10	Metals-020 ICP-AES	<10	[NT]	[NT]	LCS-5	104%
Magnesium	mg/kg	5	Metals-020 ICP-AES	<5	[NT]	[NT]	LCS-5	98%
Sodium	mg/kg	10	Metals-020 ICP-AES	<10	[NT]	[NT]	LCS-5	96%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
ESP/CEC						Base II Duplicate II %RPD		
Exchangeable Ca	meq/100 g	0.1	Metals-009	<0.1	101496-1	4.7 4.5 RPD: 4	LCS-1	98%
Exchangeable K	meq/100 g	0.1	Metals-009	<0.1	101496-1	0.3 0.3 RPD: 0	LCS-1	101%
Exchangeable Mg	meq/100 g	0.1	Metals-009	<0.1	101496-1	12 12 RPD: 0	LCS-1	96%
Exchangeable Na	meq/100 g	0.1	Metals-009	<0.1	101496-1	3.1 3.0 RPD: 3	LCS-1	90%
Cation Exchange Capacity	meq/100 g	1	Metals-009	<1.0	101496-1	20 20 RPD: 0	[NR]	[NR]
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			29/11/2013	[NT]	[NT]	LCS-5	29/11/2013
Date analysed	-			29/11/2013	[NT]	[NT]	LCS-5	29/11/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-5	94%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-5	100%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	100%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	98%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	97%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-5	93%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	99%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	98%

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

Report Comments:

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

INS: Insufficient sample for this test PQL: Practical Quantitation Limit NT: Not tested
 NA: Test not required RPD: Relative Percent Difference NA: Test not required
 <: Less than >: Greater than LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.



**CLIENT OF
CUSTODY**

Laboratory
Barcode →

ALS is an ISO 9001 certified company...
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Our services are provided...
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CLIENT: ERM	TURNAROUND REQUIREMENTS: <input checked="" type="checkbox"/> Standard TAT (List due date): <small>(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)</small>	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Sydney	<input type="checkbox"/> Non Standard or urgent TAT (List due date):	Custody Seal intact? Yes No N/A	Free ice / frozen ice packs present upon receipt? Yes No N/A
PROJECT: Project Symphony	ALS QUOTE NO.: SY794113	Random Sample Temperature on Receipt: °C	
ORDER NUMBER: 0224193	SITE: SAYSWATER LIDDELL	Other comment:	
PROJECT MANAGER: JOSEPH FE RINA	CONTACT PH:	RECEIVED BY: SMC	RELINQUISHED BY: [Signature]
SAMPLER: STEPHEN MULIGAN	SAMPLER MOBILE:	DATE/TIME: 28/11/13 0:30	DATE/TIME: 28/11/13 17:00
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME:	
Email Reports to (will default to PM if no other addresses are listed): Symphony.macgen@erm.com	or addresses are listed):	DATE/TIME:	
Email Invoice to (will default to PM if no other addresses are listed):	or addresses are listed):	DATE/TIME:	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	MATRIX	SAMPLE DETAILS SOLID (S) WATER (W)	CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottles required) or Dissolved (filtered bottles required).	Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX TYPE & PRESERVATIVE <small>codes below</small> (refer to)	TOTAL CONTAINERS S-2 Metals (As, Cd, Cr, Cu, Hg, Pb, Zn, Ni) S-17 Metals (As, Ba, Be, Bi, B, Br, Ca, Co, Cr, Cu, Fe, Hg, Mn, Ni, Pb, V, Zn, Bi, Mo, Tl, Se) S-24 TRACE ORGANICS (COAST EXM, PAH, Phenols) VOC Target Scan PCB PH (1:1) Exchangeable Cations (EP007) PFOS/PFOA Asbestos (absence/presence) Particulate Size 10 to 75um (SI-6) Organic Matter plus Total Organic Carbon (EP004)	Electrical Conductivity
13	BH-SB07-0.2	26/11/13	SOIL 1x Jar, 1x Bag	X	X
14	BL-MW03-0.25	26/11/13	Soil 1x Jar, 1x Bag	X	X
15	BP-MW01-0.5	26/11/13	1x Jar, 1x bag	X	X
16	BP-MW03-0.5	26/11/13		X	X
17	BU-MW01-0.5	26/11/13		X	X
18	BU-MW02-0.5	26/11/13		X	X
19	BU-SB01-0.5	26/11/13		X	X
20	BU-SB02-0.5	26/11/13		X	X
21	BU-MW03-0.5	26/11/13		X	X
22	DOI-26/11/13-M	26/11/13	1x Jar	X	X
23	BX-MW01-0.5	26/11/13	1x Jar, 1x Bag	X	X
24	BX-MW02-0.5	26/11/13		X	X
25	BX-MW04-0.15	26/11/13		X	X

Water Container Codes: P = Unpreserved Plastic; R = Nitric Preserved Plastic; ORC = Nitric Preserved Glass; SH = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic; V = VOA Vial HCl Preserved; VS = VOA Vial Sealing Preserved; AV = Airtight Unpreserved Vial SG = Sealing Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Specimen bottle; SP = Culture Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; S1 = Sterile Bottle; ABS = Plastic Bag for Acid Sulphate Solids; U = Unpreserved Urine



CHAIN OF CLUSTODY

5 Laboratory please tick →

CLIENT:	TURNAROUND REQUIREMENTS : <input checked="" type="checkbox"/> Standard TAT (List due date): <small>(Standard TAT may be longer for some tests or Ultra Trace Organics)</small>	FOR LABORATORY USE ONLY (Circle)	
OFFICE:	<input type="checkbox"/> Non Standard or urgent TAT (List due date):	Custody Seal intact? Yes No N/A	Freeze / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: Project Symphony	ALS QUOTE NO.: SY1784M3	Random Sample Temperature on receipt: °C	
ORDER NUMBER: 0224	SITE: BAYSWATER / 10000	Other comment:	
PROJECT MANAGER: Joe Perry	CONTACT PH:	RELINQUISHED BY: Tom Cull/Nope	RECEIVED BY: Sme
SAMPLER: Tom Cull/Nope	SAMPLER MOBILE:	DATE/TIME: 25/11/13	DATE/TIME: 28/11/13 17:00
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	RELINQUISHED BY: [Signature]	RECEIVED BY: [Signature]
Email Reports to (will default to PM if no)	her addresses are listed:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no)	her addresses are listed:		
COMMENTS/SPECIAL HANDLING/STC	AGE OR DISPOSAL:		

ALS USE	MATR	SAMPLE DETAILS : SOLID (S) WATER (W)		CONTAINER INFORMATION		ANALYSIS REQUIRED (including SUITES (N). Suite Codes must be listed to attract suite price) <small>Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required).</small>										Additional Information			
LAD ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <small>codes below</small>	(refer to)	TOTAL CONTAINERS	S2 Metals (As, Cd, Cr, Cu, Hg, Pb, Zn, Fe)	17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Ti, Se)	S-24 TRACE-CAD/IBTEX/PAH-Phenols	VOC Target Scan	FCB	pH (1:1) / C. EC	Exchangeable Cations (ED07)	PFOS/PFOA	Asbestos (absence/presence)	Particulate Sliding to 75µm (Sieve)	Organic Matter plus Total Organic Carbon (EPO04)	Comments on sticky contaminant levels, dilutions, or samples requiring specific QC analysis etc.	
26	BQ-MWO	-1.5	22/11	SOL			X	X	X	X	X	X	X	X					
27	BE-MWO	2.6.0					X	X	X	X	X	X	X	X					
28	BL-MWO	2.6.0					X	X	X	X	X	X	X	X					
29	BL-MWO	2.3.0	25/11				X	X	X	X	X	X	X	X					
30	BL-SB01	2.9					X	X	X	X	X	X	X	X					
31	BU-SB05	2.9					X	X	X	X	X	X	X	X					
32	BU-SB06	2.9					X	X	X	X	X	X	X	X					
33	DOL-25111	2.72					X	X	X	X	X	X	X	X					
34	BL-SB07	2.9					X	X	X	X	X	X	X	X					
35	BL-SB07	2.9					X	X	X	X	X	X	X	X					
36	RO1-251113	SM	25/11/13			4	X	X	X	X	X	X	X	X					
37	RO1-261113	SM	26/11/13			4	X	X	X	X	X	X	X	X					

BROKEN ON REC

34
35
36

Water Container Codes: P = Unpreserved; N = Nitric Preserved Plastic; GRC = Nitric Preserved GRC; SH = Sodium Hydroxide/Gel Preserved; B = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic; V = VOA, Vial HCl Preserved; VV = VOA Vial; Sodium Borohydride Preserved; VS = VOA Vial Sulfide Preserved; AV = Airtight Unpreserved Vial SG = Sulfide Preserved; Amber Glass; H = HCl preserved Plastic; H5 = HCl preserved Specimen bottle; SP = Sulfide Preserved Plastic; P = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; C = EDT



CHAIN OF STUDY

5 Laboratory please tick ->

CLIENT: ERM	TURNAROUND REQUIREMENTS: <input checked="" type="checkbox"/> Standard TAT (List due date): <small>(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)</small>	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Sydney	<input type="checkbox"/> Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A	Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: Project Symphony	ALS QUOTE NO.: SY70413	Random Sample Temperature on Receipt: C	Other comment:
ORDER NUMBER:	SITE: BAYSWATER	COC SEQUENCE NUMBER (Circle)	
PROJECT MANAGER:	CONTACT PH:	NO: 1 2 3 4 5 6 7	OF: 1 2 3 4 5 6 7
SAMPLER:	SAMPLER MOBILE:	RECEIVED BY: SM	RELINQUISHED BY: D. F. ...
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 28/11/13 10:38	DATE/TIME: 28/11/13 17:00
Email Reports to (will default to PM if no address is listed):	her addresses are listed: Symphony.molgen@erm.com	DATE/TIME: 26/11/13	DATE/TIME:
Email Invoice to (will default to PM if no address is listed):	her addresses are listed:		
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:			

ALS USE	MATRIX	SAMPLE DETAILS		MATRIX	CONTAINER INFORMATION		ANALYSIS REQUIRED (including SUITE (N1). Suite Codes must be listed to attract suite price) <small>Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (acid filtered bottle required).</small>										Additional Information				
		SOLID (S)	WATER (W)		TYPE & PRESERVATIVE	refer to	TOTAL CONTAINERS	S7 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	S7 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, Bi, Mo, Tl, Se)	S24 TRACE: CATIONIC PAH, Phenols	VOC Target Scan	PCB	pH (1-6)	Exchangeable cations (ED027)	PFOS/PFOA	Asbestos (absence/presence)		Particle Sizing to 75um (Sieve)	Organic Matter plus Total Organic Carbon (EPO04)		
LAD ID	SAMPLE ID	DATE / TIME																			
37	BV-MW13-2.0			SOIL																	
-	BV-SB07-0.9																				
38	BL-MW03-3.4																				
39	BL-SB01-2.9																				
40	BV-MW01-5.0																				
41	BP-MW01-3.5																				
42	BP-MW03-3.5																				
43	BP-MW01-4.0																				
-	DD2_261113-TC																				
44	Trip spike	5																			
45	Top blank																				
46	Trip spike	6																			

SAMPLE NOT RECEIVED

forwarded to Enviro lab

Water Container Codes: P = Unpreserved; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; H = Sodium Hydroxide/Cit Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic; B = Borosilicate Preserved; VS = VOA Vial Rinsing Preserved; AV = Airtight Unpreserved Vial; SG = Gassing Preserved Amber Glass; H = HCl preserved and Plastic; HS = HCl preserved Specimen bottle; CP = Culture Preserved Plastic; P = Permalloy Preserved Glass; V = VOA Vial HCl Preserved; VB = VOA Vial Z = Zinc Acetate Preserved Bottle; E = EDTA preserved Bottle; SF = Sterile Bottle; ASB = Plastic Tray for Acid Sulphate Soils; U = Unpreserved Glass



CHAIN OF CUSTODY

Laboratory: Please tick ->

CLIENT: ERM
OFFICE: SYDNEY
PROJECT: Project Symphony
ORDER NUMBER: 0224193
PROJECT MANAGER: JOSEPH FERRINI
SAMPLER: HC
COC emailed to ALS? (YES/NO)
Email Reports to (will default to PM if no)
Email Invoice to (will default to PM if no)

TURNAROUND REQUIREMENTS: Standard TAT (List due date)
ALS QUOTE NO.: SY794113
SITE: BAYSWATER / LIODELL
CONTACT PI:
SAMPLER MOBILE:
EDD FORMAT (or default):
RELINQUISHED BY: HC
DATE/TIME: 26-11-17

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt:
Other comment:

COMMENT/SPECIAL HANDLING/STORAGE OR DISPOSAL:

Table with columns: LAB ID, SAMPLE ID, DATE / TIME, MATRIX, TYPE & PRESERVATIVE, CONTAINER INFORMATION, ANALYSIS REQUIRED, Additional Information. Includes handwritten entries for samples 47, 48, 49, 50, 51, 52.

Extra received

Water Container Codes: P = Unpreserved, N = Nitric Preserved Plastic, GRC = Nitric Preserved Glass, SH = Sodium Hydroxide Preserved, S = Sodium Hydroxide Preserved Plastic, AG = Amber Glass Unpreserved, AP = Amber Plastic Unpreserved Plastic, B = Borosilicate Preserved, VS = VOA Vial Sulfuric Preserved, AV = Airtight Unpreserved Vial, SG = Sulfuric Preserved Amber Glass, H = HCl Preserved Plastic, HS = HCl Preserved Specimen Bottle, SP = Sulfuric Preserved Plastic, F = Formaldehyde Preserved Glass



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

SAMPLE RECEIPT ADVICE

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

ph: 02 8584 8888
Fax: 02 8584 8800

Attention: Joe Ferring

Sample log in details:

Your reference:	0224193, Symphony
Envirolab Reference:	101603
Date received:	29/11/13
Date results expected to be reported:	6/12/13

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	Standard
Temperature on receipt (°C)	12
Cooling Method:	Ice
Sampling Date Provided:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst
ph: 02 9910 6200 fax: 02 9910 6201
email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

101603

Client:

Environmental Resources Management Australia

Locked Bag 24

Broadway

NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference:

0224193, Symphony

No. of samples:

1 Soil

Date samples received / completed instructions received

29/11/13

/ 29/11/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:

6/12/13

/ 4/12/13

Date of Preliminary Report:

Not issued

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Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:



Jacinta Hurst
Laboratory Manager

VOCs in soil Our Reference: Your Reference	UNITS -----	101603-1 D02_261113_ TC
Date Sampled Type of sample	-----	26/11/2013 Soil
Date extracted	-	02/12/2013
Date analysed	-	03/12/2013
Dichlorodifluoromethane	mg/kg	<1
Chloromethane	mg/kg	<1
Vinyl Chloride	mg/kg	<1
Bromomethane	mg/kg	<1
Chloroethane	mg/kg	<1
Trichlorofluoromethane	mg/kg	<1
1,1-Dichloroethene	mg/kg	<1
trans-1,2-dichloroethene	mg/kg	<1
1,1-dichloroethane	mg/kg	<1
cis-1,2-dichloroethene	mg/kg	<1
bromochloromethane	mg/kg	<1
chloroform	mg/kg	<1
2,2-dichloropropane	mg/kg	<1
1,2-dichloroethane	mg/kg	<1
1,1,1-trichloroethane	mg/kg	<1
1,1-dichloropropene	mg/kg	<1
Cyclohexane	mg/kg	<1
carbon tetrachloride	mg/kg	<1
Benzene	mg/kg	<0.2
dibromomethane	mg/kg	<1
1,2-dichloropropane	mg/kg	<1
trichloroethene	mg/kg	<1
bromodichloromethane	mg/kg	<1
trans-1,3-dichloropropene	mg/kg	<1
cis-1,3-dichloropropene	mg/kg	<1
1,1,2-trichloroethane	mg/kg	<1
Toluene	mg/kg	<0.5
1,3-dichloropropane	mg/kg	<1
dibromochloromethane	mg/kg	<1
1,2-dibromoethane	mg/kg	<1
tetrachloroethene	mg/kg	<1
1,1,1,2-tetrachloroethane	mg/kg	<1
chlorobenzene	mg/kg	<1
Ethylbenzene	mg/kg	<1
bromoform	mg/kg	<1
m+p-xylene	mg/kg	<2
styrene	mg/kg	<1
1,1,2,2-tetrachloroethane	mg/kg	<1
o-Xylene	mg/kg	<1

VOCs in soil Our Reference: Your Reference	UNITS -----	101603-1 D02_261113_ TC
Date Sampled Type of sample	-----	26/11/2013 Soil
1,2,3-trichloropropane	mg/kg	<1
isopropylbenzene	mg/kg	<1
bromobenzene	mg/kg	<1
n-propyl benzene	mg/kg	<1
2-chlorotoluene	mg/kg	<1
4-chlorotoluene	mg/kg	<1
1,3,5-trimethyl benzene	mg/kg	<1
tert-butyl benzene	mg/kg	<1
1,2,4-trimethyl benzene	mg/kg	<1
1,3-dichlorobenzene	mg/kg	<1
sec-butyl benzene	mg/kg	<1
1,4-dichlorobenzene	mg/kg	<1
4-isopropyl toluene	mg/kg	<1
1,2-dichlorobenzene	mg/kg	<1
n-butyl benzene	mg/kg	<1
1,2-dibromo-3-chloropropane	mg/kg	<1
1,2,4-trichlorobenzene	mg/kg	<1
hexachlorobutadiene	mg/kg	<1
1,2,3-trichlorobenzene	mg/kg	<1
Surrogate Dibromofluorometha	%	98
Surrogate aaa-Trifluorotoluene	%	92
Surrogate Toluene-d8	%	99
Surrogate 4-Bromofluorobenzene	%	85

vTRH(C6-C10)/BTEX in Soil		
Our Reference:	UNITS	101603-1
Your Reference	-----	D02_261113_
		TC
Date Sampled	-----	26/11/2013
Type of sample		Soil
Date extracted	-	02/12/2013
Date analysed	-	03/12/2013
TRHC ₆ - C ₉	mg/kg	<25
TRHC ₆ - C ₁₀	mg/kg	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	92

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	101603-1
Your Reference	-----	D02_261113_
		TC
Date Sampled	-----	26/11/2013
Type of sample		Soil
Date extracted	-	02/12/2013
Date analysed	-	03/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	96

PAHs in Soil Our Reference: Your Reference	UNITS -----	101603-1 D02_261113_ TC
Date Sampled Type of sample	-----	26/11/2013 Soil
Date extracted	-	02/12/2013
Date analysed	-	02/12/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQNEPMB1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	99

Total Phenolics in Soil		
Our Reference:	UNITS	101603-1
Your Reference	-----	D02_261113_ TC
Date Sampled	-----	26/11/2013
Type of sample		Soil
Date extracted	-	03/12/2013
Date analysed	-	03/12/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil		
Our Reference:	UNITS	101603-1
Your Reference	-----	D02_261113_
		TC
Date Sampled	-----	26/11/2013
Type of sample		Soil
Date digested	-	02/12/2013
Date analysed	-	02/12/2013
Arsenic	mg/kg	7
Cadmium	mg/kg	<0.4
Chromium	mg/kg	24
Copper	mg/kg	19
Lead	mg/kg	13
Mercury	mg/kg	<0.1
Nickel	mg/kg	7
Zinc	mg/kg	37

Moisture		
Our Reference:	UNITS	101603-1
Your Reference	-----	D02_261113_
		TC
Date Sampled	-----	26/11/2013
Type of sample		Soil
Date prepared	-	2/12/2013
Date analysed	-	3/12/2013
Moisture	%	19

MethodID	Methodology Summary
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

Client Reference: 0224193, Symphony

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
VOCs in soil						Base II Duplicate II %RPD		
Date extracted	-			02/12/2013	[NT]	[NT]	LCS-3	02/12/2013
Date analysed	-			03/12/2013	[NT]	[NT]	LCS-3	03/12/2013
Dichlorodifluoromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Chloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Vinyl Chloride	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Bromomethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Chloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
trans-1,2-dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1-dichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-3	107%
cis-1,2-dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromochloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
chloroform	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-3	96%
2,2-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-3	95%
1,1,1-trichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-3	106%
1,1-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Cyclohexane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
carbon tetrachloride	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	0.2	Org-014	<0.2	[NT]	[NT]	[NR]	[NR]
dibromomethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
trichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-3	92%
bromodichloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-3	88%
trans-1,3-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
cis-1,3-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1,2-trichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Toluene	mg/kg	0.5	Org-014	<0.5	[NT]	[NT]	[NR]	[NR]
1,3-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
dibromochloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-3	82%
1,2-dibromoethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
tetrachloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-3	98%
1,1,1,2-tetrachloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
chlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Ethylbenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromoform	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
m+p-xylene	mg/kg	2	Org-014	<2	[NT]	[NT]	[NR]	[NR]
styrene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
o-Xylene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,3-trichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]

Client Reference: 0224193, Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
VOCs in soil						Base II Duplicate II %RPD		
isopropylbenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
n-propyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
2-chlorotoluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
4-chlorotoluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,3,5-trimethyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
tert-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trimethyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,3-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
sec-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,4-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
4-isopropyl toluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
n-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
hexachlorobutadiene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,3-trichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluorometha	%		Org-014	94	[NT]	[NT]	LCS-3	101%
Surrogate aaa-Trifluorotoluene	%		Org-014	96	[NT]	[NT]	LCS-3	94%
Surrogate Toluene-d8	%		Org-014	98	[NT]	[NT]	LCS-3	100%
Surrogate 4-Bromofluorobenzene	%		Org-014	87	[NT]	[NT]	LCS-3	88%

Client Reference: 0224193, Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			02/12/2013	[NT]	[NT]	LCS-3	02/12/2013
Date analysed	-			03/12/2013	[NT]	[NT]	LCS-3	03/12/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-3	100%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-3	100%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-3	91%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-3	100%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-3	101%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-3	105%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-3	108%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	96	[NT]	[NT]	LCS-3	113%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			02/12/2013	[NT]	[NT]	LCS-3	02/12/2013
Date analysed	-			03/12/2013	[NT]	[NT]	LCS-3	03/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-3	87%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	98%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	98%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-3	87%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	98%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-3	98%
Surrogate o-Terphenyl	%		Org-003	88	[NT]	[NT]	LCS-3	83%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			02/12/2013	[NT]	[NT]	LCS-3	02/12/2013
Date analysed	-			02/12/2013	[NT]	[NT]	LCS-3	02/12/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	99%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	95%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	95%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	92%

Client Reference: 0224193, Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	97%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-3	89%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-3	99%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	94	[NT]	[NT]	LCS-3	101%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			03/12/2013	[NT]	[NT]	LCS-3	03/12/2013
Date analysed	-			03/12/2013	[NT]	[NT]	LCS-3	03/12/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-3	82%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			02/12/2013	[NT]	[NT]	LCS-3	02/12/2013
Date analysed	-			02/12/2013	[NT]	[NT]	LCS-3	02/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-3	107%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-3	114%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	107%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	104%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	110%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-3	91%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	108%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	112%

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

Report Comments:

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

INS: Insufficient sample for this test PQL: Practical Quantitation Limit NT: Not tested
 NA: Test not required RPD: Relative Percent Difference NA: Test not required
 <: Less than >: Greater than LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.



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www.envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

ph: 02 8584 8888
Fax: 02 8584 8800

Attention: Joe Ferring

Sample log in details:

Your reference:

0224193, Project Symphony

Envirolab Reference:

101673

Date received:

02/12/13

Date results expected to be reported:

9/12/13

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	Standard
Temperature on receipt (°C)	4.2
Cooling Method:	Ice Pack
Sampling Date Provided:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

101673

Client:

Environmental Resources Management Australia

Locked Bag 24

Broadway

NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference: **0224193, Project Symphony**
No. of samples: 1 Soil
Date samples received / completed instructions received 02/12/13 / 02/12/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date: 9/12/13 / 5/12/13

Date of Preliminary Report: Not issued

NATA accreditation number 2901. This document shall not be reproduced except in full.

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

Results Approved By:



Jacinta Hurst
Laboratory Manager

VOCs in soil Our Reference: Your Reference	UNITS -----	101673-1 T01_271113_ HC
Date Sampled Type of sample	-----	27/11/2013 Soil
Date extracted	-	03/12/2013
Date analysed	-	04/12/2013
Dichlorodifluoromethane	mg/kg	<1
Chloromethane	mg/kg	<1
Vinyl Chloride	mg/kg	<1
Bromomethane	mg/kg	<1
Chloroethane	mg/kg	<1
Trichlorofluoromethane	mg/kg	<1
1,1-Dichloroethene	mg/kg	<1
trans-1,2-dichloroethene	mg/kg	<1
1,1-dichloroethane	mg/kg	<1
cis-1,2-dichloroethene	mg/kg	<1
bromochloromethane	mg/kg	<1
chloroform	mg/kg	<1
2,2-dichloropropane	mg/kg	<1
1,2-dichloroethane	mg/kg	<1
1,1,1-trichloroethane	mg/kg	<1
1,1-dichloropropene	mg/kg	<1
Cyclohexane	mg/kg	<1
carbon tetrachloride	mg/kg	<1
Benzene	mg/kg	<0.2
dibromomethane	mg/kg	<1
1,2-dichloropropane	mg/kg	<1
trichloroethene	mg/kg	<1
bromodichloromethane	mg/kg	<1
trans-1,3-dichloropropene	mg/kg	<1
cis-1,3-dichloropropene	mg/kg	<1
1,1,2-trichloroethane	mg/kg	<1
Toluene	mg/kg	<0.5
1,3-dichloropropane	mg/kg	<1
dibromochloromethane	mg/kg	<1
1,2-dibromoethane	mg/kg	<1
tetrachloroethene	mg/kg	<1
1,1,1,2-tetrachloroethane	mg/kg	<1
chlorobenzene	mg/kg	<1
Ethylbenzene	mg/kg	<1
bromoform	mg/kg	<1
m+p-xylene	mg/kg	<2
styrene	mg/kg	<1
1,1,2,2-tetrachloroethane	mg/kg	<1
o-Xylene	mg/kg	<1

VOCs in soil Our Reference: Your Reference	UNITS -----	101673-1 T01_271113_ HC
Date Sampled Type of sample	-----	27/11/2013 Soil
1,2,3-trichloropropane	mg/kg	<1
isopropylbenzene	mg/kg	<1
bromobenzene	mg/kg	<1
n-propyl benzene	mg/kg	<1
2-chlorotoluene	mg/kg	<1
4-chlorotoluene	mg/kg	<1
1,3,5-trimethyl benzene	mg/kg	<1
tert-butyl benzene	mg/kg	<1
1,2,4-trimethyl benzene	mg/kg	<1
1,3-dichlorobenzene	mg/kg	<1
sec-butyl benzene	mg/kg	<1
1,4-dichlorobenzene	mg/kg	<1
4-isopropyl toluene	mg/kg	<1
1,2-dichlorobenzene	mg/kg	<1
n-butyl benzene	mg/kg	<1
1,2-dibromo-3-chloropropane	mg/kg	<1
1,2,4-trichlorobenzene	mg/kg	<1
hexachlorobutadiene	mg/kg	<1
1,2,3-trichlorobenzene	mg/kg	<1
<i>Surrogate</i> Dibromofluorometha	%	99
<i>Surrogate</i> aaa-Trifluorotoluene	%	100
<i>Surrogate</i> Toluene-d8	%	99
<i>Surrogate</i> 4-Bromofluorobenzene	%	89

vTRH(C6-C10)/BTEXn in Soil		
Our Reference:	UNITS	101673-1
Your Reference	-----	T01_271113_
		HC
Date Sampled	-----	27/11/2013
Type of sample		Soil
Date extracted	-	03/12/2013
Date analysed	-	04/12/2013
TRHC ₆ - C ₉	mg/kg	<25
TRHC ₆ - C ₁₀	mg/kg	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	100

svTRH(C10-C40) in Soil		
Our Reference:	UNITS	101673-1
Your Reference	-----	T01_271113_ HC
Date Sampled	-----	27/11/2013
Type of sample		Soil
Date extracted	-	03/12/2013
Date analysed	-	03/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	95

PAHs in Soil		
Our Reference:	UNITS	101673-1
Your Reference	-----	T01_271113_
		HC
Date Sampled	-----	27/11/2013
Type of sample		Soil
Date extracted	-	03/12/2013
Date analysed	-	04/12/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQNEPMB1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	115

Total Phenolics in Soil		
Our Reference:	UNITS	101673-1
Your Reference	-----	T01_271113_ HC
Date Sampled	-----	27/11/2013
Type of sample		Soil
Date extracted	-	03/12/2013
Date analysed	-	03/12/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil		
Our Reference:	UNITS	101673-1
Your Reference	-----	T01_271113_
		HC
Date Sampled	-----	27/11/2013
Type of sample		Soil
Date digested	-	03/12/2013
Date analysed	-	03/12/2013
Arsenic	mg/kg	6
Cadmium	mg/kg	<0.4
Chromium	mg/kg	11
Copper	mg/kg	18
Lead	mg/kg	15
Mercury	mg/kg	<0.1
Nickel	mg/kg	19
Zinc	mg/kg	58

Moisture		
Our Reference:	UNITS	101673-1
Your Reference	-----	T01_271113_
		HC
Date Sampled	-----	27/11/2013
Type of sample		Soil
Date prepared	-	3/12/2013
Date analysed	-	4/12/2013
Moisture	%	11

MethodID	Methodology Summary
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

Client Reference: 0224193, Project Symphony

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
VOCs in soil						Base II Duplicate II %RPD		
Date extracted	-			03/12/2013	[NT]	[NT]	LCS-6	03/12/2013
Date analysed	-			04/12/2013	[NT]	[NT]	LCS-6	04/12/2013
Dichlorodifluoromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Chloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Vinyl Chloride	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Bromomethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Chloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Trichlorofluoromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1-Dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
trans-1,2-dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1-dichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	108%
cis-1,2-dichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromochloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
chloroform	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	101%
2,2-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	100%
1,1,1-trichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	113%
1,1-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Cyclohexane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
carbon tetrachloride	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Benzene	mg/kg	0.2	Org-014	<0.2	[NT]	[NT]	[NR]	[NR]
dibromomethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
trichloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	98%
bromodichloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	96%
trans-1,3-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
cis-1,3-dichloropropene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1,2-trichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Toluene	mg/kg	0.5	Org-014	<0.5	[NT]	[NT]	[NR]	[NR]
1,3-dichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
dibromochloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	96%
1,2-dibromoethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
tetrachloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-6	104%
1,1,1,2-tetrachloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
chlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Ethylbenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromoform	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
m+p-xylene	mg/kg	2	Org-014	<2	[NT]	[NT]	[NR]	[NR]
styrene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
o-Xylene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,3-trichloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
VOCs in soil						Base II Duplicate II %RPD		
isopropylbenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
bromobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
n-propyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
2-chlorotoluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
4-chlorotoluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,3,5-trimethyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
tert-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trimethyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,3-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
sec-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,4-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
4-isopropyl toluene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
n-butyl benzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,4-trichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
hexachlorobutadiene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
1,2,3-trichlorobenzene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate Dibromofluorometha	%		Org-014	101	[NT]	[NT]	LCS-6	104%
Surrogate aaa-Trifluorotoluene	%		Org-014	109	[NT]	[NT]	LCS-6	98%
Surrogate Toluene-d8	%		Org-014	101	[NT]	[NT]	LCS-6	100%
Surrogate 4-Bromofluorobenzene	%		Org-014	86	[NT]	[NT]	LCS-6	87%

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			03/12/2013	[NT]	[NT]	LCS-6	03/12/2013
Date analysed	-			04/12/2013	[NT]	[NT]	LCS-6	04/12/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-6	104%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-6	104%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-6	96%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-6	107%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-6	103%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-6	107%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-6	109%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	109	[NT]	[NT]	LCS-6	117%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			03/12/2013	[NT]	[NT]	LCS-6	03/12/2013
Date analysed	-			03/12/2013	[NT]	[NT]	LCS-6	03/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-6	102%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-6	109%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-6	112%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-6	102%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-6	109%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-6	112%
Surrogate o-Terphenyl	%		Org-003	97	[NT]	[NT]	LCS-6	96%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			03/12/2013	[NT]	[NT]	LCS-6	03/12/2013
Date analysed	-			04/12/2013	[NT]	[NT]	LCS-6	04/12/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-6	97%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-6	97%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-6	94%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-6	95%

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-6	100%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-6	86%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-6	104%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	113	[NT]	[NT]	LCS-6	109%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			03/12/2013	[NT]	[NT]	LCS-1	03/12/2013
Date analysed	-			03/12/2013	[NT]	[NT]	LCS-1	03/12/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	82%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			03/12/2013	[NT]	[NT]	LCS-15	03/12/2013
Date analysed	-			03/12/2013	[NT]	[NT]	LCS-15	03/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-15	97%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-15	99%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-15	99%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-15	100%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-15	98%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-15	83%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-15	101%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-15	100%

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

Report Comments:

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

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NA: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Geoff Weir

From: Tamatoa Armiani [Tamatoa.Armiani@erm.com]
Sent: Tuesday, 3 December 2013 8:30 PM
To: Geoff Weir
Cc: Joseph Ferring; Hamish Campbell; Joshua Kowald
Subject: Missing COC

Hi Geoff,

I am replying to you concerning the coc missing for the following samples:

- 1-T01-281113-TA/S
- 2-T02-281113-TA/S
- 3-T03-281113-TA/S

Not too sure what happened but ALS should have forwarded a copy of the COC to you.

All three samples are to be analysed for the following:

- Trace metals (As, Cd, Cr, Cu, Ni, Pb, Zn)
- BTEX
- TRH
- PAH
- Phenols
- PCBs


I am assuming that you received the COC for the three water samples labelled:

- T01-281113-TA/W
- T02-281113-TA/W
- T03-281113-TA/W

Thanks, Tama

Best Regards,

Tamatoa Armiani | Environmental Scientist – CSM
Environmental Resources Management Australia Pty Ltd
53 Bonville Avenue | Thornton NSW 2322
P: (02) 4964 2150 | F: (02) 4964 2151 | M: 04 0840 6395 | W: www.erm.com

 **EnviroLab Service**
12 Ashley St
Chatswood NSW 2057
Ph: (02) 9976 5266

Job No: 101761
Date Received: 3/12/13.
Time Received: 20:30
Received by: JWH
Temp: Cool/Ambient 9.7°C
Cooling: cool/cepack
Security: Intact/Broken/None

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enquiries@envirolabservices.com.au
www.envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

ph: 02 8584 8888

Fax: 02 8584 8800

Attention: Joe Ferring

Sample log in details:

Your reference:

Envirolab Reference:

Date received:

Date results expected to be reported:

Symphony

101761

03/12/13

11/12/13

Samples received in appropriate condition for analysis:	YES
No. of samples provided	3 soils
Turnaround time requested:	Standard
Temperature on receipt (°C)	9.7
Cooling Method:	Ice Pack
Sampling Date Provided:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

101761

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway
NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference:	<u>Symphony</u>
No. of samples:	3 soils
Date samples received / completed instructions received	03/12/13 / 04/12/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data. Samples were analysed as received from the client. Results relate specifically to the samples as received. Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:	11/12/13 / 10/12/13
Date of Preliminary Report:	Not issued

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

Results Approved By:



Jacinta Hurst
Laboratory Manager

Client Reference: **Symphony**

vTRH(C6-C10)/BTEXN in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	101761-1 T01-281113- TA/S 28/11/2013 Soil	101761-2 T02-281113- TA/S 28/11/2013 Soil	101761-3 T03-281113- TA/S 28/11/2013 Soil
Date extracted	-	05/12/2013	05/12/2013	05/12/2013
Date analysed	-	06/12/2013	06/12/2013	06/12/2013
TRHC ₆ - C ₉	mg/kg	<25	<25	<25
TRHC ₆ - C ₁₀	mg/kg	<25	<25	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25	<25	<25
Benzene	mg/kg	<0.2	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1	<1
m+p-xylene	mg/kg	<2	<2	<2
o-Xylene	mg/kg	<1	<1	<1
naphthalene	mg/kg	<1	<1	<1
Surrogate aaa-Trifluorotoluene	%	104	132	72

Client Reference: **Symphony**

svTRH (C10-C40) in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	101761-1 T01-281113- TA/S 28/11/2013 Soil	101761-2 T02-281113- TA/S 28/11/2013 Soil	101761-3 T03-281113- TA/S 28/11/2013 Soil
Date extracted	-	05/12/2013	05/12/2013	05/12/2013
Date analysed	-	05/12/2013	05/12/2013	05/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50	<50	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100	<100	120
TRHC ₂₉ - C ₃₆	mg/kg	<100	<100	150
TRH>C ₁₀ -C ₁₆	mg/kg	<50	<50	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50	<50	<50
TRH>C ₁₆ -C ₃₄	mg/kg	140	<100	240
TRH>C ₃₄ -C ₄₀	mg/kg	<100	<100	<100
Surrogate o-Terphenyl	%	114	94	99

Client Reference: **Symphony**

PAHs in Soil Our Reference: Your Reference	UNITS -----	101761-1 T01-281113- TA/S	101761-2 T02-281113- TA/S	101761-3 T03-281113- TA/S
Date Sampled	-----	28/11/2013	28/11/2013	28/11/2013
Type of sample		Soil	Soil	Soil
Date extracted	-	05/12/2013	05/12/2013	05/12/2013
Date analysed	-	05/12/2013	05/12/2013	05/12/2013
Naphthalene	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1	0.1
Anthracene	mg/kg	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1	0.2
Pyrene	mg/kg	<0.1	<0.1	0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	<0.05	0.06
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1
Benzo(a)pyrene TEQNEPMB1	mg/kg	<0.5	<0.5	<0.5
Total +ve PAH's	mg/kg	0.10	NIL(+)/VE	0.46
Surrogate p-Terphenyl-d14	%	97	93	103

Client Reference: **Symphony**

Total Phenolics in Soil				
Our Reference:	UNITS	101761-1	101761-2	101761-3
Your Reference	-----	T01-281113- TA/S	T02-281113- TA/S	T03-281113- TA/S
Date Sampled	-----	28/11/2013	28/11/2013	28/11/2013
Type of sample		Soil	Soil	Soil
Date extracted	-	06/12/2013	06/12/2013	06/12/2013
Date analysed	-	06/12/2013	06/12/2013	06/12/2013
Total Phenolics (as Phenol)	mg/kg	<5	<5	<5

Client Reference: **Symphony**

PCBs in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	101761-1 T01-281113- TA/S 28/11/2013 Soil	101761-2 T02-281113- TA/S 28/11/2013 Soil	101761-3 T03-281113- TA/S 28/11/2013 Soil
Date extracted	-	05/12/2013	05/12/2013	05/12/2013
Date analysed	-	07/12/2013	07/12/2013	07/12/2013
Arochlor 1016	mg/kg	<0.1	<0.1	<0.1
Arochlor 1221	mg/kg	<0.1	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1	<0.1
Surrogate TCLMX	%	91	101	91

Client Reference: **Symphony**

Acid Extractable metals in soil				
Our Reference:	UNITS	101761-1	101761-2	101761-3
Your Reference	-----	T01-281113- TA/S	T02-281113- TA/S	T03-281113- TA/S
Date Sampled	-----	28/11/2013	28/11/2013	28/11/2013
Type of sample		Soil	Soil	Soil
Date digested	-	05/12/2013	05/12/2013	05/12/2013
Date analysed	-	05/12/2013	05/12/2013	05/12/2013
Arsenic	mg/kg	19	14	24
Cadmium	mg/kg	<0.4	<0.4	<0.4
Chromium	mg/kg	10	14	23
Copper	mg/kg	18	39	190
Lead	mg/kg	13	12	16
Nickel	mg/kg	15	15	29
Zinc	mg/kg	86	47	84

Client Reference: **Symphony**

Moisture				
Our Reference:	UNITS	101761-1	101761-2	101761-3
Your Reference	-----	T01-281113- TA/S	T02-281113- TA/S	T03-281113- TA/S
Date Sampled	-----	28/11/2013	28/11/2013	28/11/2013
Type of sample		Soil	Soil	Soil
Date prepared	-	05/12/2013	05/12/2013	05/12/2013
Date analysed	-	06/12/2013	06/12/2013	06/12/2013
Moisture	%	18	31	70

MethodID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Org-006	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

Client Reference: Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			05/12/2013	101761-1	05/12/2013 05/12/2013	LCS-2	05/12/2013
Date analysed	-			06/12/2013	101761-1	06/12/2013 06/12/2013	LCS-2	06/12/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	101761-1	<25 <25	LCS-2	98%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	101761-1	<25 <25	LCS-2	98%
Benzene	mg/kg	0.2	Org-016	<0.2	101761-1	<0.2 <0.2	LCS-2	96%
Toluene	mg/kg	0.5	Org-016	<0.5	101761-1	<0.5 <0.5	LCS-2	96%
Ethylbenzene	mg/kg	1	Org-016	<1	101761-1	<1 <1	LCS-2	97%
m+p-xylene	mg/kg	2	Org-016	<2	101761-1	<2 <2	LCS-2	101%
o-Xylene	mg/kg	1	Org-016	<1	101761-1	<1 <1	LCS-2	102%
naphthalene	mg/kg	1	Org-014	<1	101761-1	<1 <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	118	101761-1	104 111 RPD: 7	LCS-2	116%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			05/12/2013	101761-1	05/12/2013 05/12/2013	LCS-2	05/12/2013
Date analysed	-			05/12/2013	101761-1	05/12/2013 05/12/2013	LCS-2	05/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	101761-1	<50 <50	LCS-2	113%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	101761-1	<100 110	LCS-2	104%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	101761-1	<100 <100	LCS-2	105%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	101761-1	<50 <50	LCS-2	113%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	101761-1	140 180 RPD: 25	LCS-2	104%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	101761-1	<100 <100	LCS-2	105%
Surrogate o-Terphenyl	%		Org-003	96	101761-1	114 113 RPD: 1	LCS-2	87%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			05/12/2013	101761-1	05/12/2013 05/12/2013	LCS-2	05/12/2013
Date analysed	-			05/12/2013	101761-1	05/12/2013 05/12/2013	LCS-2	05/12/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	101761-1	<0.1 <0.1	LCS-2	94%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	101761-1	<0.1 <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	101761-1	<0.1 <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	101761-1	<0.1 <0.1	LCS-2	98%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	101761-1	<0.1 <0.1	LCS-2	97%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	101761-1	<0.1 <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	101761-1	0.1 0.1 RPD: 0	LCS-2	95%

Client Reference: Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	101761-1	<0.1 0.2	LCS-2	97%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	101761-1	<0.1 0.2	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	101761-1	<0.1 0.2	LCS-2	89%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	101761-1	<0.2 0.3	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	101761-1	<0.05 0.19	LCS-2	100%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	101761-1	<0.1 0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	101761-1	<0.1 <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	101761-1	<0.1 0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	102	101761-1	97 95 RPD: 2	LCS-2	96%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			06/12/2013	[NT]	[NT]	LCS-1	06/12/2013
Date analysed	-			06/12/2013	[NT]	[NT]	LCS-1	06/12/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	85%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCBs in Soil						Base II Duplicate II %RPD		
Date extracted	-			05/12/2013	101761-1	05/12/2013 05/12/2013	LCS-2	05/12/2013
Date analysed	-			07/12/2013	101761-1	07/12/2013 07/12/2013	LCS-2	07/12/2013
Arochlor 1016	mg/kg	0.1	Org-006	<0.1	101761-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1221	mg/kg	0.1	Org-006	<0.1	101761-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	Org-006	<0.1	101761-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	Org-006	<0.1	101761-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	Org-006	<0.1	101761-1	<0.1 <0.1	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	Org-006	<0.1	101761-1	<0.1 <0.1	LCS-2	101%
Arochlor 1260	mg/kg	0.1	Org-006	<0.1	101761-1	<0.1 <0.1	[NR]	[NR]
Surrogate TCLMX	%		Org-006	103	101761-1	91 91 RPD: 0	LCS-2	97%

Client Reference: Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base Duplicate %RPD		
Date digested	-			05/12/2013	101761-1	05/12/2013 05/12/2013	LCS-8	05/12/2013
Date analysed	-			05/12/2013	101761-1	05/12/2013 05/12/2013	LCS-8	05/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	101761-1	19 19 RPD: 0	LCS-8	97%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	101761-1	<0.4 <0.4	LCS-8	103%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	101761-1	10 9 RPD: 11	LCS-8	101%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	101761-1	18 20 RPD: 11	LCS-8	99%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	101761-1	13 13 RPD: 0	LCS-8	100%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	101761-1	15 20 RPD: 29	LCS-8	100%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	101761-1	86 70 RPD: 21	LCS-8	101%

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

QUALITYCONTROL	UNITS	Dup. Sm#	Duplicate	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil			Base + Duplicate + %RPD		
Date extracted	-	[NT]	[NT]	101761-2	05/12/2013
Date analysed	-	[NT]	[NT]	101761-2	06/12/2013
TRHC ₆ - C ₉	mg/kg	[NT]	[NT]	101761-2	85%
TRHC ₆ - C ₁₀	mg/kg	[NT]	[NT]	101761-2	85%
Benzene	mg/kg	[NT]	[NT]	101761-2	80%
Toluene	mg/kg	[NT]	[NT]	101761-2	86%
Ethylbenzene	mg/kg	[NT]	[NT]	101761-2	85%
m+p-xylene	mg/kg	[NT]	[NT]	101761-2	88%
o-Xylene	mg/kg	[NT]	[NT]	101761-2	89%
naphthalene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%	[NT]	[NT]	101761-2	99%

Client Reference: Symphony

QUALITYCONTROL svTRH (C10-C40) in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	101761-2	05/12/2013
Date analysed	-	[NT]	[NT]	101761-2	05/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	[NT]	[NT]	101761-2	118%
TRHC ₁₅ - C ₂₈	mg/kg	[NT]	[NT]	101761-2	119%
TRHC ₂₉ - C ₃₆	mg/kg	[NT]	[NT]	101761-2	#
TRH>C ₁₀ -C ₁₆	mg/kg	[NT]	[NT]	101761-2	118%
TRH>C ₁₆ -C ₃₄	mg/kg	[NT]	[NT]	101761-2	119%
TRH>C ₃₄ -C ₄₀	mg/kg	[NT]	[NT]	101761-2	#
Surrogate o-Terphenyl	%	[NT]	[NT]	101761-2	91%
QUALITYCONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	101761-2	05/12/2013
Date analysed	-	[NT]	[NT]	101761-2	05/12/2013
Naphthalene	mg/kg	[NT]	[NT]	101761-2	96%
Acenaphthylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	[NT]	[NT]	101761-2	101%
Phenanthrene	mg/kg	[NT]	[NT]	101761-2	98%
Anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	[NT]	[NT]	101761-2	97%
Pyrene	mg/kg	[NT]	[NT]	101761-2	99%
Benzo(a)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	[NT]	[NT]	101761-2	88%
Benzo(b+k)fluoranthene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	[NT]	[NT]	101761-2	91%
Indeno(1,2,3-c,d)pyrene	mg/kg	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%	[NT]	[NT]	101761-2	98%

Client Reference: Symphony

QUALITYCONTROL PCBs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	-	[NT]	[NT]	101761-2	05/12/2013
Date analysed	-	[NT]	[NT]	101761-2	07/12/2013
Arochlor 1016	mg/kg	[NT]	[NT]	[NR]	[NR]
Arochlor 1221	mg/kg	[NT]	[NT]	[NR]	[NR]
Arochlor 1232	mg/kg	[NT]	[NT]	[NR]	[NR]
Arochlor 1242	mg/kg	[NT]	[NT]	[NR]	[NR]
Arochlor 1248	mg/kg	[NT]	[NT]	[NR]	[NR]
Arochlor 1254	mg/kg	[NT]	[NT]	101761-2	98%
Arochlor 1260	mg/kg	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%	[NT]	[NT]	101761-2	91%

Report Comments:

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

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

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NA: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

CHAIN OF CUSTODY



ALS Laboratory
 Message link →

CLIENT: **ERM**
 OFFICE: **Sydney**
 PROJECT: **Project Symphony**
 ORDER NUMBER: **0227193**
 PROJECT MANAGER: **W. J. ...**
 CONTACT PII: **02 8884 8888**
 SAMPLER MOBILE: **0401 565 588**
 EDD FORMAT (or default):
 Email Reports to (will default to PM if no other addresses are listed):
 Email Invoice to (will default to PM if no other addresses are listed):
 COMMENT/SPECIAL HANDLING/STORAGE OR DISPOSAL:

FOR LABORATORY USE ONLY (Circle)
 Custody Seal Intact? Yes No
 Free Ice / Frozen Ice blocks present upon receipt? Yes No
 Random Sample Temporarily on Receipt? Yes No
 Other comment:

TURNAROUND REQUIREMENTS:
 Standard TAT (Last due date)
 Non Standard or urgent TAT (Last due date)
 ALS QUOTE NO.: SY794/13

RECEIVED BY: **W. J. ...** DATE/TIME: **29/11/2013**
 RELINQUISHED BY: **W. J. ...** DATE/TIME: **16/12/13**

RECEIVED BY: **W. J. ...** DATE/TIME: **16/12/13**
 RELINQUISHED BY: **W. J. ...** DATE/TIME: **16/12/13**

ANALYSIS REQUIRED INCLUDING SUITS (Nil. Suits Codes must be listed to attract suite price)
 Where Make is required, specify Total (unlabeled bottle required) or Disposed (field filtered bottle required)

LAB ID: **1** SAMPLE ID: **TO1-27113-WG** DATE / TIME: **27/11/13 AM**
 MATRIX: **SOIL** TYPE & PRESERVATIVE: **Unsealed glass**

CONTAINER INFORMATION: **1**
 TOTAL CONTAINERS: **1**

Additional Information:
 Comments on study contaminant levels, dilutions, or samples requiring specific GC analysis etc.

DATE RECEIVED: **6/12/13** TIME RECEIVED: **16:45**
 RECEIVED BY: **W. J. ...**

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 RECEIVED BY: **W. J. ...**

Water Container Codes: P = Unpreserved Plastic; N = Matrix Preserved Plastic; CHC = Mining Preserved Plastic; SH = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AF = Air-tight Unpreserved Plastic; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sealed Bottle; ASS = Plastic Bag for Acid Sulphide Soils; B = Unpreserved Bag; V = VOA Vial HCl Preserved; VS = VOA Vial Sodium Bisulfate Preserved; AV = Air-tight Unpreserved Vial; SD = Sulfide Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen Bottle; SP = Sulfur Preserved Plastic; F = Formaldehyde Preserved Glass;

EnviroLab Service
 12 Ashley St.
 CHATSWOOD NSW 2067
 Ph: (02) 9910 6200



JOB NO: **101949**

PLEASE FORWARD TO ...



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

SAMPLE RECEIPT ADVICE

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

ph: 02 8584 8888

Fax: 02 8584 8800

Attention: Joe Ferring

Sample log in details:

Your reference:

0224193, Project Symphony

Envirolab Reference:

101949

Date received:

06/12/13

Date results expected to be reported:

13/12/13

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	Standard
Temperature on receipt (°C)	10.4
Cooling Method:	Ice Pack
Sampling Date Provided:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

101949

Client:

Environmental Resources Management Australia

Locked Bag 24

Broadway

NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference: **0224193, Project Symphony**
No. of samples: 1 Soil
Date samples received / completed instructions received 06/12/13 / 06/12/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date: 13/12/13 / 13/12/13

Date of Preliminary Report: Not issued

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

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	101949-1
Your Reference	-----	T01_271113_
		WC
Date Sampled	-----	27/11/2013
Type of sample		Soil
Date extracted	-	09/12/2013
Date analysed	-	10/12/2013
TRHC ₆ - C ₉	mg/kg	<25
TRHC ₆ - C ₁₀	mg/kg	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	1
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	121

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	101949-1
Your Reference	-----	T01_271113_ WC
Date Sampled	-----	27/11/2013
Type of sample		Soil
Date extracted	-	09/12/2013
Date analysed	-	09/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	92

PAHs in Soil		
Our Reference:	UNITS	101949-1
Your Reference	-----	T01_271113_ WC
Date Sampled	-----	27/11/2013
Type of sample		Soil
Date extracted	-	09/12/2013
Date analysed	-	10/12/2013
Naphthalene	mg/kg	0.2
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	0.2
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQNEPMB1	mg/kg	<0.5
Total +ve PAH's	mg/kg	0.39
Surrogate p-Terphenyl-d14	%	97

Total Phenolics in Soil		
Our Reference:	UNITS	101949-1
Your Reference	-----	T01_271113_ WC
Date Sampled	-----	27/11/2013
Type of sample		Soil
Date extracted	-	10/12/2013
Date analysed	-	10/12/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil		
Our Reference:	UNITS	101949-1
Your Reference	-----	T01_271113_ WC
Date Sampled	-----	27/11/2013
Type of sample		Soil
Date digested	-	09/12/2013
Date analysed	-	09/12/2013
Arsenic	mg/kg	13
Cadmium	mg/kg	0.4
Chromium	mg/kg	5
Copper	mg/kg	17
Lead	mg/kg	15
Mercury	mg/kg	4.2
Nickel	mg/kg	32
Zinc	mg/kg	110
Barium	mg/kg	50
Beryllium	mg/kg	1
Cobalt	mg/kg	25
Manganese	mg/kg	440
Boron	mg/kg	<3
Molybdenum	mg/kg	<1
Selenium	mg/kg	<2
Thallium	mg/kg	<2
Vanadium	mg/kg	23

Miscellaneous Inorg - soil		
Our Reference:	UNITS	101949-1
Your Reference	-----	T01_271113_ WC
Date Sampled	-----	27/11/2013
Type of sample		Soil
Date prepared	-	10/12/2013
Date analysed	-	10/12/2013
pH 1:5 soil:water	pHUnits	5.8

Moisture		
Our Reference:	UNITS	101949-1
Your Reference	-----	T01_271113_ WC
Date Sampled	-----	27/11/2013
Type of sample		Soil
Date prepared	-	09/12/2013
Date analysed	-	10/12/2013
Moisture	%	4.2

MethodID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA 22nd ED, 4500-H+.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			09/12/2013	[NT]	[NT]	LCS-7	09/12/2013
Date analysed	-			10/12/2013	[NT]	[NT]	LCS-7	10/12/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-7	81%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-7	81%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-7	66%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-7	79%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-7	88%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-7	86%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-7	87%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	115	[NT]	[NT]	LCS-7	91%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			09/12/2013	[NT]	[NT]	LCS-7	09/12/2013
Date analysed	-			09/12/2013	[NT]	[NT]	LCS-7	09/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-7	116%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	102%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	91%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-7	116%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	102%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-7	91%
Surrogate o-Terphenyl	%		Org-003	94	[NT]	[NT]	LCS-7	125%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			09/12/2013	[NT]	[NT]	LCS-7	09/12/2013
Date analysed	-			10/12/2013	[NT]	[NT]	LCS-7	10/12/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-7	93%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-7	96%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-7	93%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-7	94%

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-7	97%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-7	89%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-7	100%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	93	[NT]	[NT]	LCS-7	93%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			10/12/2013	[NT]	[NT]	LCS-1	10/12/2013
Date analysed	-			10/12/2013	[NT]	[NT]	LCS-1	10/12/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	96%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			09/12/2013	[NT]	[NT]	LCS-4	09/12/2013
Date analysed	-			09/12/2013	[NT]	[NT]	LCS-4	09/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-4	101%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-4	112%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	107%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	107%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	104%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-4	89%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	106%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	104%

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Barium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	108%
Beryllium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	113%
Cobalt	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	106%
Manganese	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	108%
Boron	mg/kg	3	Metals-020 ICP-AES	<3	[NT]	[NT]	LCS-4	94%
Molybdenum	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-4	102%
Selenium	mg/kg	2	Metals-020 ICP-AES	<2	[NT]	[NT]	LCS-4	100%
Thallium	mg/kg	2	Metals-020 ICP-AES	<2	[NT]	[NT]	LCS-4	107%
Vanadium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NR]	[NR]
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Miscellaneous Inorg - soil						Base II Duplicate II %RPD		
Date prepared	-			[NT]	[NT]	[NT]	LCS-1	10/12/2013
Date analysed	-			[NT]	[NT]	[NT]	LCS-1	10/12/2013
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	LCS-1	102%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank				
Moisture								
Date prepared	-			[NT]				
Date analysed	-			[NT]				
Moisture	%	0.1	Inorg-008	<0.1				

Report Comments:

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

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NA: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.



Date Received: 12/12/13
 Time Received: 1455
 Received by: [Signature]
 Temp: Cool/Ambient
 Cooling: Ice/Repack
 Security: Not Broken/None

FOR LABORATORY USE ONLY (Circle)
 Custody Seal Intact? Yes No
 Free Ice / frozen ice blocks present upon receipt? Yes No
 Random Sample Temperature on Receipt: 26 °C
 Other comment:

CHAIN OF CUSTODY
 ALS Laboratory please tick ->
 CLIENT: ERM
 OFFICE: Sydney
 PROJECT: Project Symphony
 ORDER NUMBER: 0224193
 PROJECT MANAGER: Joe Fering
 SAMPLER: Gavin Powell / Hannah Campbell
 COC emailed to ALS? (YES / NO) YES

TURNAROUND REQUIREMENTS:
 Standard TAT (List due date):
 Non Standard or urgent TAT (List due date):
 ALS QUOTE NO.: SY1794113
 SITE: BAYSWATER / LIDDELL
 CONTACT PH: [Blank]
 CONTACT MOBILE: [Blank]
 EDD FORMAT (or default): [Blank]
 Email Reports to (will default to PM if no other addresses are listed): [Blank]
 Email Invoice to (will default to PM if no other addresses are listed): [Blank]

RECEIVED BY: [Signature]
DATE/TIME: 10/12/13 1700
RELINQUISHED BY: [Signature]
DATE/TIME: 10/12/13 1430

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	CONTAINER INFORMATION		ANALYSIS REQUIRED INCLUDING SUITES (NO. Suite Codes must be listed to attract sale price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required).													Additional Information
				TYPE & PRESERVATIVE codes (below)	(refer to CONTAINERS TOTAL)	S-2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	S-21 Metals (Ba, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Ti, Se)	S-24 TRHCs (C40)/BTEXN, PAH	Phenols	VOC Target Scan	pH (1:5) / FC/EC	Exchangeable cations (ED07)	Asbestos (absence/presence)	Particle Sizing to 75µm (Sieve)	Organic Matter plus Total Organic Carbon (E004)				
1	BA-MW02-05		SOIL	1J, 1B	2	X	X	X	X	X	X	X	X	X	X	X	X	X	Subject Forward Lab / Split WO Lab Analysis: BA-MW02-2.1 FORWARD Organised By / Date: TO ENVIROLAB Relinquished By / Date: [Blank] Consente / Courier: [Blank] WO No: ES1326990 Attach By PO Internal Sheet. To Enviro Lab
2	BO-MW05-18			1B	1	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	BO-MW05-25			1J	1	X	X	X	X	X	X	X	X	X	X	X	X	X	
4	BO-MW05-30			1B	1	X	X	X	X	X	X	X	X	X	X	X	X	X	
5	BO-MW05-38			1J	1	X	X	X	X	X	X	X	X	X	X	X	X	X	
6	DO1-031213-0P			1J	1	X	X	X	X	X	X	X	X	X	X	X	X	X	
7	TO1-031213-0P			1J	1	X	X	X	X	X	X	X	X	X	X	X	X	X	
8	BA-MW02-2.1			1J, 1B	2	X	X	X	X	X	X	X	X	X	X	X	X	X	
9	Trip Spike			1J	1	X	X	X	X	X	X	X	X	X	X	X	X	X	
10	Trip Blank			1J	1	X	X	X	X	X	X	X	X	X	X	X	X	X	
11	RO1-031213-0P			4	4	X	X	X	X	X	X	X	X	X	X	X	X	X	



Environmental Division
 Sydney
 Work Order
ES1326990

Telephone: +61-2-8784 8555

Relinquished by: David
 12/12
 1000

* BA-MW02-2.1 received

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide/Cd Preserved; AG = Amber Glass Unpreserved; AP = Air-tight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Air-tight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Plastic; F = Formaldehyde Preserved; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bin for Acid Sulphate Spills; B = Unpreserved Bin.



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

SAMPLE RECEIPT ADVICE

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

ph: 02 8584 8888

Fax: 02 8584 8800

Attention: Joe Ferring

Sample log in details:

Your reference:

0224193, Project Symphony

Envirolab Reference:

102320

Date received:

12/12/13

Date results expected to be reported:

19/12/13

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	Standard
Temperature on receipt (°C)	4.9
Cooling Method:	Ice
Sampling Date Provided:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

102320

Client:

Environmental Resources Management Australia

Locked Bag 24

Broadway

NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference:	0224193, Project Symphony
No. of samples:	1 Soil
Date samples received / completed instructions received	12/12/13 / 12/12/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date: 19/12/13 / 19/12/13

Date of Preliminary Report: Not issued

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

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	102320-1
Your Reference	-----	T01_031213
		-GP
Date Sampled	-----	03/12/2013
Type of sample		Soil
Date extracted	-	13/12/2013
Date analysed	-	16/12/2013
TRHC ₆ - C ₉	mg/kg	<25
TRHC ₆ - C ₁₀	mg/kg	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	97

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	102320-1
Your Reference	-----	T01_031213 -GP
Date Sampled	-----	03/12/2013
Type of sample		Soil
Date extracted	-	13/12/2013
Date analysed	-	16/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	112

PAHs in Soil		
Our Reference:	UNITS	102320-1
Your Reference	-----	T01_031213 -GP
Date Sampled	-----	03/12/2013
Type of sample		Soil
Date extracted	-	13/12/2013
Date analysed	-	14/12/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQNEPMB1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	100

Total Phenolics in Soil		
Our Reference:	UNITS	102320-1
Your Reference	-----	T01_031213 -GP
Date Sampled	-----	03/12/2013
Type of sample		Soil
Date extracted	-	13/12/2013
Date analysed	-	13/12/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil		
Our Reference:	UNITS	102320-1
Your Reference	-----	T01_031213 -GP
Date Sampled	-----	03/12/2013
Type of sample		Soil
Date digested	-	13/12/2013
Date analysed	-	16/12/2013
Arsenic	mg/kg	33
Cadmium	mg/kg	<0.4
Chromium	mg/kg	22
Copper	mg/kg	28
Lead	mg/kg	33
Mercury	mg/kg	<0.1
Nickel	mg/kg	26
Zinc	mg/kg	66
Barium	mg/kg	140
Beryllium	mg/kg	2
Cobalt	mg/kg	19
Manganese	mg/kg	610
Boron	mg/kg	<3
Molybdenum	mg/kg	2
Selenium	mg/kg	<2
Thallium	mg/kg	<2
Vanadium	mg/kg	77

Moisture		
Our Reference:	UNITS	102320-1
Your Reference	-----	T01_031213
		-GP
Date Sampled	-----	03/12/2013
Type of sample		Soil
Date prepared	-	13/12/2013
Date analysed	-	16/12/2013
Moisture	%	18

MethodID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			13/12/2013	[NT]	[NT]	LCS-10	13/12/2013
Date analysed	-			16/12/2013	[NT]	[NT]	LCS-10	16/12/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-10	110%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-10	110%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-10	117%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-10	112%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-10	104%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-10	109%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-10	111%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	96	[NT]	[NT]	LCS-10	85%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			13/12/2013	[NT]	[NT]	LCS-10	13/12/2013
Date analysed	-			16/12/2013	[NT]	[NT]	LCS-10	16/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-10	94%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-10	96%
TRHC ₂₈ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-10	112%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-10	94%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-10	96%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-10	112%
Surrogate o-Terphenyl	%		Org-003	90	[NT]	[NT]	LCS-10	69%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			13/12/2013	[NT]	[NT]	LCS-10	13/12/2013
Date analysed	-			14/12/2013	[NT]	[NT]	LCS-10	14/12/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-10	95%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-10	100%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-10	98%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-10	95%

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-10	102%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-10	95%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-10	105%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	98	[NT]	[NT]	LCS-10	102%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			13/12/2013	[NT]	[NT]	LCS-1	13/12/2013
Date analysed	-			13/12/2013	[NT]	[NT]	LCS-1	13/12/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	99%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			[NT]	[NT]	[NT]	LCS-6	13/12/2013
Date analysed	-			[NT]	[NT]	[NT]	LCS-6	06/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-6	95%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-6	102%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	99%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	100%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	97%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-6	86%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	99%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	99%
Barium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	100%

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Beryllium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	91%
Cobalt	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	97%
Manganese	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	104%
Boron	mg/kg	3	Metals-020 ICP-AES	<3	[NT]	[NT]	LCS-6	97%
Molybdenum	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	100%
Selenium	mg/kg	2	Metals-020 ICP-AES	<2	[NT]	[NT]	LCS-6	97%
Thallium	mg/kg	2	Metals-020 ICP-AES	<2	[NT]	[NT]	LCS-6	93%
Vanadium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	99%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank				
Moisture								
Date prepared	-			[NT]				
Date analysed	-			[NT]				
Moisture	%	0.1	Inorg-008	[NT]				

Report Comments:

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

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NA: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.



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12 Ashley St Chatswood NSW 2067
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enquiries@envirolabservices.com.au
www.envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

ph: 02 8584 8888

Fax: 02 8584 8800

Attention: Joe Ferring

Sample log in details:

Your reference:

0224193, Project Symphony

Envirolab Reference:

102634

Date received:

16/12/13

Date results expected to be reported:

19/12/13

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	72hr
Temperature on receipt (°C)	12.1
Cooling Method:	Ice
Sampling Date Provided:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

102634

Client:

Environmental Resources Management Australia

Locked Bag 24

Broadway

NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference:

0224193, Project Symphony

No. of samples:

1 Soil

Date samples received / completed instructions received

16/12/13

/ 16/12/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:

19/12/13

/ 19/12/13

Date of Preliminary Report:

Not issued

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Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	102634-1
Your Reference	-----	T01_061213
		-JG
Date Sampled	-----	6/12/2013
Type of sample		Soil
Date extracted	-	17/12/2013
Date analysed	-	18/12/2013
TRHC ₆ - C ₉	mg/kg	<25
TRHC ₆ - C ₁₀	mg/kg	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	103

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	102634-1
Your Reference	-----	T01_061213
		-JG
Date Sampled	-----	6/12/2013
Type of sample		Soil
Date extracted	-	17/12/2013
Date analysed	-	18/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	89

PAHs in Soil		
Our Reference:	UNITS	102634-1
Your Reference	-----	T01_061213
		-JG
Date Sampled	-----	6/12/2013
Type of sample		Soil
Date extracted	-	17/12/2013
Date analysed	-	17/12/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQNEPMB1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	98

Total Phenolics in Soil		
Our Reference:	UNITS	102634-1
Your Reference	-----	T01_061213 -JG
Date Sampled	-----	6/12/2013
Type of sample		Soil
Date extracted	-	17/12/2013
Date analysed	-	17/12/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil		
Our Reference:	UNITS	102634-1
Your Reference	-----	T01_061213
		-JG
Date Sampled	-----	6/12/2013
Type of sample		Soil
Date digested	-	17/12/2013
Date analysed	-	17/12/2013
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.4
Chromium	mg/kg	4
Copper	mg/kg	2
Lead	mg/kg	7
Mercury	mg/kg	<0.1
Nickel	mg/kg	1
Zinc	mg/kg	11
Barium	mg/kg	19
Beryllium	mg/kg	<1
Cobalt	mg/kg	4
Manganese	mg/kg	44
Boron	mg/kg	<3
Molybdenum	mg/kg	<1
Selenium	mg/kg	<2
Thallium	mg/kg	<2
Vanadium	mg/kg	17

Moisture		
Our Reference:	UNITS	102634-1
Your Reference	-----	T01_061213
		-JG
Date Sampled	-----	6/12/2013
Type of sample		Soil
Date prepared	-	17/12/2013
Date analysed	-	18/12/2013
Moisture	%	16

MethodID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			17/12/2013	[NT]	[NT]	LCS-12	17/12/2013
Date analysed	-			18/12/2013	[NT]	[NT]	LCS-12	18/12/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-12	114%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-12	114%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-12	109%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-12	133%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-12	105%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-12	111%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-12	109%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	100	[NT]	[NT]	LCS-12	104%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			17/12/2013	[NT]	[NT]	LCS-12	17/12/2013
Date analysed	-			17/12/2013	[NT]	[NT]	LCS-12	17/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-12	111%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-12	103%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-12	104%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-12	111%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-12	103%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-12	104%
Surrogate o-Terphenyl	%		Org-003	94	[NT]	[NT]	LCS-12	138%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			17/12/2013	[NT]	[NT]	LCS-12	17/12/2013
Date analysed	-			17/12/2013	[NT]	[NT]	LCS-12	17/12/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-12	95%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-12	96%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-12	95%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-12	92%

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-12	97%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-12	92%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-12	100%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	95	[NT]	[NT]	LCS-12	97%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			17/12/2013	[NT]	[NT]	LCS-1	17/12/2013
Date analysed	-			17/12/2013	[NT]	[NT]	LCS-1	17/12/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	94%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			17/12/2013	[NT]	[NT]	LCS-9	17/12/2013
Date analysed	-			17/12/2013	[NT]	[NT]	LCS-9	17/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-9	91%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-9	99%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	97%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	97%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	92%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-9	89%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	97%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	95%

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Barium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	95%
Beryllium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	89%
Cobalt	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	94%
Manganese	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	99%
Boron	mg/kg	3	Metals-020 ICP-AES	<3	[NT]	[NT]	LCS-9	90%
Molybdenum	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	101%
Selenium	mg/kg	2	Metals-020 ICP-AES	<2	[NT]	[NT]	LCS-9	90%
Thallium	mg/kg	2	Metals-020 ICP-AES	<2	[NT]	[NT]	LCS-9	90%
Vanadium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	97%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank				
Moisture								
Date prepared	-			[NT]				
Date analysed	-			[NT]				
Moisture	%	0.1	Inorg-008	[NT]				

Report Comments:

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

INS: Insufficient sample for this test	PQL: Practical Quantitation Limit	NT: Not tested
NA: Test not required	RPD: Relative Percent Difference	NA: Test not required
<: Less than	>: Greater than	LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

ERM
 Sydney
 Melbourne
 Brisbane
 Perth
 Hunter Valley
 North Coast
 Other

Project No: 0224193
 Project Name: Symphony
 Project Location: Bayswater
 Project Manager: Joe Faring
 Sampler: Gavin Powell

Grnd Floor, 33 Saunders Street, Pyrmont, NSW, 2009. (ph) 02 8584 8888 (fax) 02 8584 8800
 Level 3, Yarra Tower, WTC, 18-38 Siddley Street, Docklands, VIC, 3005. (ph) 03 9696 8011 (fax) 03 9696 8022
 Level 1, 60 Leichhardt Street, Spring Hill, QLD, 4004. (ph) 07 3839 8393 (fax) 07 3839 8381
 Level 6, Grain Pool Bld, 172 St Georges Tce, WA, 6850. (ph) 08 9321 5200 (fax) 08 9321 5262
 53 Bonville Avenue, Thornton, NSW, 2322. (ph) 02 4964 2150 (fax) 02 4964 2152
 Suite 3/146 Gordon Street, Port Macquarie, NSW, 2444. (ph) 02 6584 7155 (fax) 02 6584 7160

COC Number: A 11741
 Laboratory: ALS

Other Comments on sample (eg: high voc, highly contaminated, special detection limits etc etc)
 EnviroLab Services
 12 Ashley St
 Chatswood NSW 2087
 Ph: (02) 9910 6200

Laboratory Number	Sample ID	Sample Depth	Sample Date	Sample Time	Preservation				Containers (number/type)	Yes (tick)	BTEX + TRH	TPH (C6-C9 P & T) +	Speciated TPH	VOC Scan (USEPA 8260 List)	SVOC Scan (USEPA 8270 List)	OC OP Pesticides	PAH	Phenols	PCB	Metals* (dissolved / total)	Asbestos P/A	PH (EC)	VOCs, TOC	
					Soil	Water	Other	Ice																Acid
1	BM-SB012-0.2		6/12		X				1		X						X	X	X	X	X	X	X	
2	BM-SB012-0.8								2		X						X	X	X	X	X	X	X	
3	BM-MW01-0.2								2		X						X	X	X	X	X	X	X	
4	BM-MW01-0.5								2		X						X	X	X	X	X	X	X	
5	BM-MW02-1.0								2		X						X	X	X	X	X	X	X	
6	BM-MW03-0.2								2		X						X	X	X	X	X	X	X	
7	BM-MW05-0.2								2		X						X	X	X	X	X	X	X	
8	BM-MW05-1.5								2		X						X	X	X	X	X	X	X	
9	DOI-061213-CP								1		X						X	X	X	X	X	X	X	
10	DOI-061213-CP		6/12			X			1		X						X	X	X	X	X	X	X	
11	BY-MW11-0.2		9/12			X			4		X						X	X	X	X	X	X	X	
12	BY-MW12-0.2								2		X						X	X	X	X	X	X	X	
13	BY-MW23-0.2								2		X						X	X	X	X	X	X	X	
14	BY-MW24-0.1								2		X						X	X	X	X	X	X	X	
15	BY-MW25-0.1								2		X						X	X	X	X	X	X	X	
16	BY-MW26-0.1								2		X						X	X	X	X	X	X	X	
17	BY-MW27-0.1								2		X						X	X	X	X	X	X	X	
18	BY-MW29-0.1		9/12			X			2		X						X	X	X	X	X	X	X	

Subcon / EnviroLab / Split WO
 Lab / Analysis: PSD - Neutral
 Organised By / Date: Asbestos Asst
 Relinquished By / Date: Joe Faring
 Contain / Courier: To EnviroLab please
 WO No:
 Attach By PO / Internal Sheet:

Environmental Division
 Sydney
 Work Order
ES1327521

Telephone: +61-2-8784 8555

*Metals (circle)
 As Cd Cr Cu Hg Ni Pb Zn

Received by: KA Date/Time: 13/12/13 16:30
 Received by: Sarin Date/Time: 14.12.13 10:00
 Relinquished by: Gavin Powell Date/Time: 13/12/13 17:00
 Relinquished by: KA Date/Time: 17/12/13 13:00

Comments: email symphony-macgregor@erm.com
 Signed: Gavin Powell Date/Time: 10/12/13 06:00
 Signed: KA Date/Time: 13/12/13 17:00



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

SAMPLE RECEIPT ADVICE

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

ph: 02 8584 8888

Fax: 02 8584 8800

Attention: Joe Ferring

Sample log in details:

Your reference:

0224193, Symphony

Envirolab Reference:

102698

Date received:

17/12/13

Date results expected to be reported:

19/12/13

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	48hr
Temperature on receipt (°C)	9.3
Cooling Method:	Ice Pack
Sampling Date Provided:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

102698

Client:

Environmental Resources Management Australia

Locked Bag 24

Broadway

NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference:

0224193, Symphony

No. of samples:

1 Soil

Date samples received / completed instructions received

17/12/13

/ 17/12/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:

19/12/13

/ 19/12/13

Date of Preliminary Report:

Not issued

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Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	102698-1
Your Reference	-----	T01_061213
Date Sampled	-----	6/12/2013
Type of sample		Soil
Date extracted	-	18/12/2013
Date analysed	-	19/12/2013
TRHC ₆ - C ₉	mg/kg	<25
TRHC ₆ - C ₁₀	mg/kg	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	86

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	102698-1
Your Reference	-----	T01_061213
Date Sampled	-----	6/12/2013
Type of sample		Soil
Date extracted	-	18/12/2013
Date analysed	-	18/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	89

PAHs in Soil Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	102698-1 T01_061213 6/12/2013 Soil
Date extracted	-	18/12/2013
Date analysed	-	18/12/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQNEPMB1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	102

Total Phenolics in Soil		
Our Reference:	UNITS	102698-1
Your Reference	-----	T01_061213
Date Sampled	-----	6/12/2013
Type of sample		Soil
Date extracted	-	17/12/2013
Date analysed	-	17/12/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil		
Our Reference:	UNITS	102698-1
Your Reference	-----	T01_061213
Date Sampled	-----	6/12/2013
Type of sample		Soil
Date digested	-	18/12/2013
Date analysed	-	18/12/2013
Arsenic	mg/kg	8
Cadmium	mg/kg	<0.4
Chromium	mg/kg	15
Copper	mg/kg	19
Lead	mg/kg	15
Mercury	mg/kg	<0.1
Nickel	mg/kg	18
Zinc	mg/kg	55

Moisture		
Our Reference:	UNITS	102698-1
Your Reference	-----	T01_061213
Date Sampled	-----	6/12/2013
Type of sample		Soil
Date prepared	-	18/12/2013
Date analysed	-	19/12/2013
Moisture	%	21

MethodID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Inorg-030	Total Phenolics - determined colorimetrically following disitillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

Client Reference: 0224193, Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			18/12/2013	[NT]	[NT]	LCS-1	18/12/2013
Date analysed	-			19/12/2013	[NT]	[NT]	LCS-1	19/12/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	81%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	81%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-1	78%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-1	67%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	82%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-1	89%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	86%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	92	[NT]	[NT]	LCS-1	82%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			18/12/2013	[NT]	[NT]	LCS-1	18/12/2013
Date analysed	-			18/12/2013	[NT]	[NT]	LCS-1	18/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	113%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	107%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	83%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	113%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	107%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	83%
Surrogate o-Terphenyl	%		Org-003	95	[NT]	[NT]	LCS-1	133%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			18/12/2013	[NT]	[NT]	LCS-1	18/12/2013
Date analysed	-			18/12/2013	[NT]	[NT]	LCS-1	18/12/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	100%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	97%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	98%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	97%

Client Reference: 0224193, Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	103%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	95%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-1	105%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	94	[NT]	[NT]	LCS-1	99%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			17/12/2013	[NT]	[NT]	LCS-1	17/12/2013
Date analysed	-			17/12/2013	[NT]	[NT]	LCS-1	17/12/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	94%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			18/12/2013	[NT]	[NT]	LCS-1	18/12/2013
Date analysed	-			18/12/2013	[NT]	[NT]	LCS-1	18/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-1	98%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-1	103%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	102%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	98%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	99%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-1	92%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	103%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	102%

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

Report Comments:

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

INS: Insufficient sample for this test PQL: Practical Quantitation Limit NT: Not tested
NA: Test not required RPD: Relative Percent Difference NA: Test not required
<: Less than >: Greater than LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.



- Sydney
- Melbourne
- Brisbane
- Perth
- Hunter Valley
- North Coast
- Other

Gnd Floor, 33 Saunders Street, Pymont, NSW, 2009. (ph) 02 8584 8833 (fax) 02 8584 8800
 Level 3, Yarra Tower, WTC, 18-38 Siddley Street, Docklands, VIC, 3005. (ph) 03 9696 8011 (fax) 03 9696 8022
 Level 1, 60 Leichhardt Street, Spring Hill, QLD, 4004. (ph) 07 3839 8393 (fax) 07 3939 8381
 Level 6, Grain Pool Bld, 172 St Georges Ter, WA, 6850. (ph) 08 9321 5200 (fax) 08 9321 5262
 53 Bonville Avenue, Thornton, NSW, 2322. (ph) 02 4964 2150 (fax) 02 4964 2152
 Suite 3/146 Gordon Street, Port Macquarie, NSW, 2444. (ph) 02 6584 7155 (fax) 02 6584 7160

Project No: 0229193
 Project Name: *Symphonys*
 Project Location: *Bayswater*
 Project Manager: *Ipe Keming*
 Sampler: *Gavin Powell*

COC Number
A 11743
 Laboratory
ALS

General Analysis Requirements

1. Turn Around Time (please tick) 1 Day 2 Days 3 Days Normal TAT
2. Do you wish any sediment layers in water to be excluded from extractions?
3. Additional QA/QC reported where sample batches are < 10 samples?
4. % of extraneous material removed from samples to be reported as per NEPM 5.1.1?

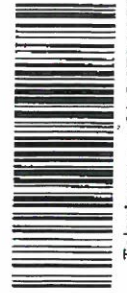
Laboratory Number	Sample ID	Sample Depth	Sample Date	Sample Time	Matrix			Preservation			Containers (numbertype)	Yes (tick)	TPH (G-6 P & T) + BTEX + TPH	Speciated TPH	VOC Scan (USEPA 8260 List)	SVOC Scan (USEPA 8270 List)	OC OP Pesticides	PAH	Phenols	PCB	Metals* (dissolved / total)	Other Comments on sample (eg. high voc, highly contaminated, special detection limits etc etc)
					W	S	W	S	Ice	Acid												
1	BY-MW25-60		11/12		X			X										X	X	X		
2	BY-MW25-20																	X	X	X		
3	BY-MW24-2.1																	X	X	X		
4	BY-MW24-60																	X	X	X		
5	BY-MW23-0.9																	X	X	X		
6	BY-MW23-3.5																	X	X	X		
7	DEL-111213-CP																	X	X	X		
8	DEL-111213-CP																	X	X	X		
8	Trip Spike																	X	X	X		
9	Trip Blank																	X	X	X		
10	DEL-111213-CP		11/12		X			X										X	X	X		
11	TSC 6		11/12		X			X		4								X	X	X		

ENVIROLAB
 EnviroLab Services
 12 Ashley St
 Chatswood NSW 2067
 Ph: (02) 9970 6200

Job No: 102899
 Date Received: 19/12/13
 Time Received: 15:40
 Received by: HM
 Location: Coal/Ambient
 Cooling: Ice/Icepack
 Security: Intact/Broken/None

to Enviro Lab please

Environmental Division
 Sydney
 Work Order
ES1327803



Telephone : +61-2-8784 8555

Comments: email *Symphonys.magner@erm.com*

Relinquished by: *G Powell*

Signed: *G Powell*

Date/Time: 12/12/13 0630

Received by: *Hayley W*

Date/Time: 18/12/13 15:45

Relinquished by: *Hayley W*

Signed: *Hayley W*

Date/Time: 18/12/13 1700

Received by: *Ravi*

Date/Time: 18/12 19:00

(1)



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

SAMPLE RECEIPT ADVICE

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

ph: 02 8584 8888

Fax: 02 8584 8800

Attention: Joseph Ferring

Sample log in details:

Your reference:

0224193, Project Symphony

Envirolab Reference:

102899

Date received:

19/12/13

Date results expected to be reported:

23/12/13

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	48hr
Temperature on receipt (°C)	15.0
Cooling Method:	Ice
Sampling Date Provided:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

102899

Client:

Environmental Resources Management Australia

Locked Bag 24

Broadway

NSW 2007

Attention: Joseph Ferring

Sample log in details:

Your Reference:	0224193, Project Symphony
No. of samples:	1 Soil
Date samples received / completed instructions received	19/12/13 / 19/12/13

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date: 23/12/13 / 23/12/13

Date of Preliminary Report: Not issued

NATA accreditation number 2901. This document shall not be reproduced except in full.

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

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	102899-1
Your Reference	-----	T01_111213
		-GP
Date Sampled	-----	11/12/2013
Type of sample		Soil
Date extracted	-	20/12/2013
Date analysed	-	22/12/2013
TRHC ₆ - C ₉	mg/kg	<25
TRHC ₆ - C ₁₀	mg/kg	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	91

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	102899-1
Your Reference	-----	T01_111213 -GP
Date Sampled	-----	11/12/2013
Type of sample		Soil
Date extracted	-	20/12/2013
Date analysed	-	21/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	100

PAHs in Soil		
Our Reference:	UNITS	102899-1
Your Reference	-----	T01_111213 -GP
Date Sampled	-----	11/12/2013
Type of sample		Soil
Date extracted	-	20/12/2013
Date analysed	-	21/12/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQNEPMB1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	105

Total Phenolics in Soil		
Our Reference:	UNITS	102899-1
Your Reference	-----	T01_111213 -GP
Date Sampled	-----	11/12/2013
Type of sample		Soil
Date extracted	-	23/12/2013
Date analysed	-	23/12/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil		
Our Reference:	UNITS	102899-1
Your Reference	-----	T01_111213 -GP
Date Sampled	-----	11/12/2013
Type of sample		Soil
Date digested	-	20/12/2013
Date analysed	-	20/12/2013
Arsenic	mg/kg	16
Cadmium	mg/kg	<0.4
Chromium	mg/kg	17
Copper	mg/kg	21
Lead	mg/kg	14
Mercury	mg/kg	0.1
Nickel	mg/kg	18
Zinc	mg/kg	59

Moisture		
Our Reference:	UNITS	102899-1
Your Reference	-----	T01_111213
		-GP
Date Sampled	-----	11/12/2013
Type of sample		Soil
Date prepared	-	20/12/2013
Date analysed	-	23/12/2013
Moisture	%	15

MethodID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Inorg-030	Total Phenolics - determined colorimetrically following distillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			18/12/2013	[NT]	[NT]	LCS-1	20/12/2013
Date analysed	-			18/12/2013	[NT]	[NT]	LCS-1	22/12/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	99%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	99%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-1	91%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-1	98%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	98%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-1	104%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	108%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	[NT]	[NT]	[NT]	LCS-1	100%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			20/12/2013	[NT]	[NT]	LCS-1	20/12/2013
Date analysed	-			22/12/2013	[NT]	[NT]	LCS-1	21/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	134%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	118%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	87%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	134%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	118%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	87%
Surrogate o-Terphenyl	%		Org-003	104	[NT]	[NT]	LCS-1	112%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			20/12/2013	[NT]	[NT]	LCS-2	20/12/2013
Date analysed	-			21/12/2013	[NT]	[NT]	LCS-2	21/12/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	109%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	111%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	112%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	108%

Client Reference: 0224193, Project Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	115%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	105%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-2	116%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	101	[NT]	[NT]	LCS-2	112%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			23/12/2013	[NT]	[NT]	LCS-1	23/12/2013
Date analysed	-			23/12/2013	[NT]	[NT]	LCS-1	23/12/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	92%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			20/12/2013	[NT]	[NT]	LCS-1	20/12/2013
Date analysed	-			20/12/2013	[NT]	[NT]	LCS-1	20/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-1	84%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-1	92%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	90%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	88%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	88%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-1	101%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	89%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	90%

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

Report Comments:

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

INS: Insufficient sample for this test PQL: Practical Quantitation Limit NT: Not tested
 NA: Test not required RPD: Relative Percent Difference NA: Test not required
 <: Less than >: Greater than LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

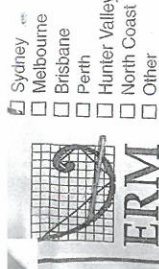
For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.



Sydney
 Melbourne
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 Perth
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 Other

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 Level 1, 60 Leichhardt Street, Spring Hill, QLD, 4004. (ph) 07 3839 8393 (fax) 07 3839 8381
 Level 6, Grain Pool Bld, 172 St Georges Tce, WA, 6850. (ph) 08 9321 5200 (fax) 08 9321 5262
 53 Bonville Avenue, Thornton, NSW, 2322. (ph) 02 4964 2150 (fax) 02 4964 2152
 Suite 3/146 Gordon Street, Port Macquarie, NSW, 2444. (ph) 02 6584 7155 (fax) 02 6584 7160

Project No: **U24193**
 Project Name: **Symphony**
 Project Location: **Bayswater**
 Project Manager: **Joe Ferris**
 Sampler: **GF**

COC Number **A 11746**
 Laboratory **ALS**

General Analysis Requirements

1. Turn Around Time (please tick): 1 Day 2 Days 3 Days Normal TAT
2. Do you wish any sediment layers in water to be excluded from extractions?
3. Additional QA/QC reported where sample batches are < 10 samples?
4. % of extraneous material removed from samples to be reported as per NIEPM 5.1.1?

Laboratory Number	Sample ID	Sample Depth	Sample Date	Sample Time	Matrix			Preservation			Containers (number/type)	Yes (tick)	BTEX + TRN	TPH (C6-C9 P & T) +	Speciated TPH	VOC Scan (USEPA 8260 List)	SVOC Scan (USEPA 8270 List)	OC OP Pesticides	PAH	Phenols	PCB	Metals* (dissolved / total)	Other Comments on sample (eg: high voc, highly contaminated, special detection limits etc etc)	
					Soil	Water	Ice	Acid	Filter	Other														As
6	BY-MJ1X-2-6		18/12		X														X	X	X	X	Hold GTEX+ (6-19)	
1	BY-MJ1B-5-0																		X	X	X	X		
2	001-18103-C08																		X	X	X	X		
3	101-18103-C08		18/12		X														X	X	X	X		
4	Top Sp. ke																		X	X	X	X		
5	Top Blank																		X	X	X	X		
	TSC																		X	X	X	X		

To Envirolab please

Envirolab Services
 12 Ashley St
 Chatswood NSW 2067
 Ph: (02) 9970 6200
 Job No: 103019
 Date Received: 23-12-13
 Time Received: 12:00
 Received by: D.F.
 Temp: Cool/Ambient
 Cooling: Ice/Repack
 Security: In Lab/Broken/None

Subson / Portway Lab / Split WO
 Lab / Analysis: Envirolab / EWD - 101-181213-GA
 Organised By / Date:
 Relinquished By / Date:
 Connote / Courier:
 WO No:
 Attach By PO / Internal Sheet:

Environmental Division
 Sydney
 Work Order
ES1328111



Telephone : + 61-2-8784 8555

Comments: email symphony.maugen@ern.com.au

Relinquished by: *Harvin Powell* Signed: *[Signature]* Date/Time: 19/12/13

Relinquished by: *Mayley W* Signed: *[Signature]* Date/Time: 20/12/13 17:00

*Metals (circle)
As Cd Cr Cu Hg Ni Pb Zn

Received by: *Mayley W* Date/Time: 20/12/13 15:50
 Received by: *Daniel Ford* Date/Time: 23-12-13 12:00



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

SAMPLE RECEIPT ADVICE

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

ph: 02 8584 8888

Fax: 02 8584 8800

Attention: Joe Ferring

Sample log in details:

Your reference:

0224193, Symphony

Envirolab Reference:

103019

Date received:

23/12/13

Date results expected to be reported:

2/01/14

Samples received in appropriate condition for analysis:	YES
No. of samples provided	2 Soils
Turnaround time requested:	48hr
Temperature on receipt (°C)	17.2
Cooling Method:	Ice Pack
Sampling Date Provided:	YES

Comments:

Samples will be held for 1 month for water samples and 2 months for soil samples from date of receipt of samples.

Contact details:

Please direct any queries to Aileen Hie or Jacinta Hurst

ph: 02 9910 6200 fax: 02 9910 6201

email: ahie@envirolabservices.com.au or jhurst@envirolabservices.com.au

CERTIFICATE OF ANALYSIS

103019

Client:

Environmental Resources Management Australia

Locked Bag 24

Broadway

NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference:

0224193, Symphony

No. of samples:

2 Soils

Date samples received / completed instructions received

23/12/13

/ 23/12/12

Analysis Details:

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by: / Issue Date:

2/01/14

/

2/01/14

Date of Preliminary Report:

Not issued

NATA accreditation number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:



Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	103019-1
Your Reference	-----	T01_181213
Date Sampled	-----	-GP
Type of sample		18/12/2013
		Soil
Date extracted	-	24/12/2013
Date analysed	-	25/12/2013
TRHC ₆ - C ₉	mg/kg	<25
TRHC ₆ - C ₁₀	mg/kg	<25
vTPHC ₆ - C ₁₀ less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Surrogate aaa-Trifluorotoluene	%	106

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	103019-1
Your Reference	-----	T01_181213 -GP
Date Sampled	-----	18/12/2013
Type of sample		Soil
Date extracted	-	24/12/2013
Date analysed	-	25/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	<50
TRHC ₁₅ - C ₂₈	mg/kg	<100
TRHC ₂₉ - C ₃₆	mg/kg	<100
TRH>C ₁₀ -C ₁₆	mg/kg	<50
TRH>C ₁₀ - C ₁₆ less Naphthalene (F2)	mg/kg	<50
TRH>C ₁₆ -C ₃₄	mg/kg	<100
TRH>C ₃₄ -C ₄₀	mg/kg	<100
Surrogate o-Terphenyl	%	86

PAHs in Soil		
Our Reference:	UNITS	103019-1
Your Reference	-----	T01_181213 -GP
Date Sampled	-----	18/12/2013
Type of sample		Soil
Date extracted	-	24/12/2013
Date analysed	-	24/12/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQNEPMB1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	87

Total Phenolics in Soil		
Our Reference:	UNITS	103019-1
Your Reference	-----	T01_181213
		-GP
Date Sampled	-----	18/12/2013
Type of sample		Soil
Date extracted	-	24/12/2013
Date analysed	-	24/12/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil		
Our Reference:	UNITS	103019-1
Your Reference	-----	T01_181213 -GP
Date Sampled	-----	18/12/2013
Type of sample		Soil
Date digested	-	30/12/2013
Date analysed	-	30/12/2013
Arsenic	mg/kg	4
Cadmium	mg/kg	<0.4
Chromium	mg/kg	3
Copper	mg/kg	15
Lead	mg/kg	12
Mercury	mg/kg	0.1
Nickel	mg/kg	5
Zinc	mg/kg	52

Moisture		
Our Reference:	UNITS	103019-1
Your Reference	-----	T01_181213
		-GP
Date Sampled	-----	18/12/2013
Type of sample		Soil
Date prepared	-	24/12/2013
Date analysed	-	30/12/2013
Moisture	%	14

MethodID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-014	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-003	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note Naphthalene is determined from the VOC analysis.
Org-012 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Inorg-030	Total Phenolics - determined colorimetrically following distillation, based upon APHA 22nd ED 5530 D.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Inorg-008	Moisture content determined by heating at 105+/-5 deg C for a minimum of 12 hours.

Client Reference: 0224193, Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTRH(C6-C10)/BTEXN in Soil						Base II Duplicate II %RPD		
Date extracted	-			24/12/2013	[NT]	[NT]	LCS-1	24/12/2013
Date analysed	-			25/12/2013	[NT]	[NT]	LCS-1	25/12/2013
TRHC ₆ - C ₉	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	105%
TRHC ₆ - C ₁₀	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	105%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-1	97%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-1	103%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	109%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-1	108%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	105%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	100	[NT]	[NT]	LCS-1	98%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
svTRH(C10-C40) in Soil						Base II Duplicate II %RPD		
Date extracted	-			24/12/2013	[NT]	[NT]	LCS-1	24/12/2013
Date analysed	-			25/12/2013	[NT]	[NT]	LCS-1	25/12/2013
TRHC ₁₀ - C ₁₄	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	104%
TRHC ₁₅ - C ₂₈	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	102%
TRHC ₂₉ - C ₃₆	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	90%
TRH>C ₁₀ -C ₁₆	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	104%
TRH>C ₁₆ -C ₃₄	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	102%
TRH>C ₃₄ -C ₄₀	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	90%
Surrogate o-Terphenyl	%		Org-003	84	[NT]	[NT]	LCS-1	93%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	-			24/12/2013	[NT]	[NT]	LCS-1	24/12/2013
Date analysed	-			24/12/2013	[NT]	[NT]	LCS-1	24/12/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	102%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	105%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	105%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	102%

Client Reference: 0224193, Symphony

QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	109%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	98%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	[NT]	[NT]	LCS-1	108%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	84	[NT]	[NT]	LCS-1	95%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Total Phenolics in Soil						Base II Duplicate II %RPD		
Date extracted	-			24/12/2013	[NT]	[NT]	LCS-1	24/12/2013
Date analysed	-			24/12/2013	[NT]	[NT]	LCS-1	24/12/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	92%
QUALITYCONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Date digested	-			30/12/2013	[NT]	[NT]	LCS-1	30/12/2013
Date analysed	-			30/12/2013	[NT]	[NT]	LCS-1	30/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-1	93%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-1	102%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	98%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	98%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	96%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-1	102%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	97%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	100%

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

Report Comments:

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

INS: Insufficient sample for this test PQL: Practical Quantitation Limit NT: Not tested
 NA: Test not required RPD: Relative Percent Difference NA: Test not required
 <: Less than >: Greater than LCS: Laboratory Control Sample

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.

Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.

Matrix Spike : A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

LCS (Laboratory Control Sample) : This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

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

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

ALST
CHAIN OF CUSTODY
 ALS Laboratory
 Please tick 9

QADE, ADE 21 Burnt Road Pearce SA 5095
 Ph: 08 8528 0900; Fax: 08 8528 0901
 DARRASDALE 23 Sturt Street Sturt SA 5043
 Ph: 08 8528 0900; Fax: 08 8528 0901
 DGL, DGLCONE 46 Chalmers Parade Glenelg SA 5014
 Ph: 07 7271 5000; Fax: 08 8528 0901

DINGCROFT 28 Balfour Road Marden SA 5000
 Ph: 07 4641 3177; Fax: 08 8528 0901
 DNE, DNEJUNE 24 Wormal Place Sprengrue VIC 3171
 Ph: 03 9472 2000; Fax: 03 9472 2001
 DNE, DNECSE 1000 Wormal Place Warragul VIC 3180
 Ph: 03 6072 5757; Fax: 03 6072 5758

DNEV, CASTLE 3 Rose Court Road Warragul NSW 2104
 Ph: 02 5260 9433; Fax: 02 5260 9434
 DNEV, RIVER 4/13 Green Place North Wyalong NSW 2541
 Ph: 02 4925 2000; Fax: 02 4925 2001
 DNEV, RIVER 10 Ford Way Wyalong NSW 2540
 Ph: 02 5260 9433; Fax: 02 5260 9434

DNEV, RIVER 277 289 Woodlark Road Smithfield NSW 2154
 Ph: 02 8194 6535; Fax: 02 8194 6536
 DNEV, RIVER 11-13 Dennis Court Berala QLD 4319
 Ph: 07 4796 0900; Fax: 07 4796 0901
 DNEV, RIVER 99 Kerry Street Wodonga NSW 2592
 Ph: 02 4233 3252; Fax: 02 4233 3253

CLIENT: ERM
OFFICE: Sydney
PROJECT: Project Sydney
ORDER NUMBER: 0283879
PROJECT MANAGER: JOSEPH FERRING
SAMPLER: TOM CALTHORPE
COC emailed to ALS? (YES / NO)
Email Reports to (will default to PM if no other addresses are listed):
Email Invoice to (will default to PM if no other addresses are listed):

TURNAROUND REQUIREMENTS:
 Standard TAT may be longer for some tests e.g. ALS QUOTE NO.: SY79413
 Non Standard or urgent TAT (List due date):
 Standard TAT (List due date):

RELINQUISHED BY: Tom Calthorpe
DATE/TIME: 5/11/13

RELINQUISHED BY: Steven
DATE/TIME: 6/11/13 1700

CONTACT PH:
SAMPLER MOBILE:
EDD FORMAT (or default):
John.Ewing@erm.com
5/11/13

COC SEQUENCE NUMBER (circle):
 1 2 3 4 5 6 7
RECEIVED BY: Steven
DATE/TIME: 6/11/13 0840

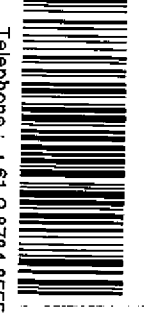
RECEIVED BY: Steven
DATE/TIME: 6/11/13 1700

RECEIVED BY: Steven
DATE/TIME: 6/11/13 1900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:
 Asbestos @ EN
 TWT 9800 64974362-2

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below	TOTAL CONTAINERS	S-2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Ti, Se)	S-24 TRH(C6-C40)/BTEXH, PAH, Phenols	VOC Target Scan	PCB	pH (1:5)	Exchangeable cations (ED007)	PFOS/PPFOA	Asbestos (absence/presence)	Particle Sizing to 75µm (Sieve)	Organic Matter plus Total Organic Carbon (EP004)	Comments on likely contaminant levels, dilutions or sampler requiring specific OC analysis etc.	Additional Information
1	BX-SB12-0.2	4/11/13	soil	1x Jar + bag	2	X	X	X	X					X				
2	BJ-SB14-0.2				2	X	X	X	X					X				
3	BJ-SB15-0.2				2	X	X	X	X					X				
4	BJ-SB08-0.2				2	X	X	X	X					X				
5	B1-SB06-2.0			1x Jar	1													
6	B1-SB06-3.0				1	X	X	X	X					X				
7	B1-SB13-3.0				1	X	X	X	X					X				
8	B1-SB17-1.8				1	X	X	X	X					X				
4	B1-SB18-3.0				1	X	X	X	X					X				
10	B1-SB19-3.0				1	X	X	X	X					X				
11	AS1-311013-TC		W		3	X	X	X	X					X				
12	RD1-011113-TC		W		3	X	X	X	X					X				
					TOTAL													

Environmental Division
 Sydney
 Work Order
ES1323960



Telephone : +61-2-8784 8555



CHAIN OF CUSTODY
 ALS Laboratory
 Mares 104

LABELADE 2 Burma Road, Roerika SA 5095
 Ph: 08 839 0080 E: feedback@alslab.com
 DORSETT 24 Stuart Street, Salisbury QLD 4059
 Ph: 07 3231 7222 E: enquiries@alslab.com
 Ph: 07 3231 7222 E: enquiries@alslab.com
 Ph: 07 3231 7222 E: enquiries@alslab.com

CHICKSAY 7818 Iron Road, Mackay QLD 4740
 Ph: 07 4944 1717 E: enquiries@alslab.com
 CHICKSAY 24 Woodall Road, Mackay QLD 4740
 Ph: 07 4944 1717 E: enquiries@alslab.com
 CHICKSAY 275 Fern Road, Mackay QLD 4740
 Ph: 07 4944 1717 E: enquiries@alslab.com

DREWCASTLE 9 Ross Gum Road, Warrack NSW 2334
 Ph: 02 4988 8433 E: samples@alslab.com
 DUNMORA 414 Gerry Place, North Haven NSW 2441
 Ph: 02 4942 2093 E: enquiries@alslab.com
 DUNMORA 10 Hill Way, Murrumbidgee NSW 2500
 Ph: 02 4228 3125 E: enquiries@alslab.com

DUNMORA 217-280 Woodlark Road, Southfield NSW 2161
 Ph: 02 8784 6555 E: samples@alslab.com
 DUNMORA 14-19 Desart Court, Belfield QLD 4816
 Ph: 07 4700 0000 E: enquiries@alslab.com
 DUNMORA 100 Kenny Street, Warrack NSW 2300
 Ph: 02 4228 3125 E: enquiries@alslab.com

CLIENT: TURNAROUND REQUIREMENTS: Standard TAT (last due date); Non Standard or urgent TAT (last due date):

OFFICE: (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

PROJECT: Project Symphony **ALS QUOTE NO.:** SY79473

ORDER NUMBER: **SITE:** BAYSWATER / Bayswater

PROJECT MANAGER: **CONTACT PH:**

SAMPLER: **SAMPLER MODEL:** **RELINQUISHED BY:**

COC emailed to ALS? (YES / NO) **EDD FORMAT (for default):**

Email Reports to (will default to PM, if no other addresses are listed): **DATE/TIME:**

Email Invoice to (will default to PM if no other addresses are listed): **DATE/TIME:**

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (codes below)	TOTAL CONTAINERS (refer to)	ANALYSIS REQUIRED INCLUDING SUBTESTS (NB: Subtest Codes must be listed to allow auto pricing)													Additional Information
						S-2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Ti, Se)	S-24 TRH(C6-C40)BYTEXN, PAH, Phenols	VOC Target Scan	PCB	pH (1:5)	Exchangeable cations (ED007)	PFOS/PFOA	Asbestos (absence/presence)	Particle Sizing to 75µm (Sieve)	Organic Matter plus Total Organic Carbon (EP004)	Components on body container level, dilutions, or samples requiring specific OC analysis etc.		
13	BS-SB16-0.2	31/10	SOIL		2	X	X	X	X	X	X	X	X	X	X	X	X		
14	BS-SB17-0.2				2	X	X	X	X	X	X	X	X	X	X	X	X	Hold	
15	BS-SB17-1.4				1	X	X	X	X	X	X	X	X	X	X	X	X	Hold	
16	BS-SB13-0.2				2	X	X	X	X	X	X	X	X	X	X	X	X	Hold	
17	BS-SB13-1.4				1	X	X	X	X	X	X	X	X	X	X	X	X	Hold	
18	BS-MW05-0.2				2	X	X	X	X	X	X	X	X	X	X	X	X	Hold	
19	BS-SB06-0.2				2	X	X	X	X	X	X	X	X	X	X	X	X	Hold	
20	BS-SB06-1.4				1	X	X	X	X	X	X	X	X	X	X	X	X	Hold	
21	BS-SB07-0.2				2	X	X	X	X	X	X	X	X	X	X	X	X	Hold	
22	BS-SB07-1.4				1	X	X	X	X	X	X	X	X	X	X	X	X	Hold	
23	BS-SB11-0.2				2	X	X	X	X	X	X	X	X	X	X	X	X	Hold	
					TOTAL														

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORG = Organic Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AS = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AM = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic; HS = HCl Preserved Specimen Bottle; SP = Sulfuric Preserved Plastic; F = Formic Acid Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Stille Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag.

CHAIN OF CUSTODY
Environmental
 ALS Laboratory
 please call 3

DATE/LAB: 21 Burma Road, Pookalla SA 5005
 Ph: 08 83090810 E: info@als.com.au
 GERRISDAVE 32 Sheld Street, Sturtford QLD 4533
 Ph: 07 5253 7222 E: sturtford@als.com.au
 Mt Okech 151 Pine Ave, Cammeroon Olive Creek QLD 4005
 Ph: 07 541 8589 E: pookalla@als.com.au

DATE/LAB: 78 Wilson Road, Mackay QLD 4740
 Ph: 07 464 0171 E: mackay@als.com.au
 CAMELBOURNE 24 Weal Road, Springvale VIC 3171
 Ph: 03 824 9600 E: springvale@als.com.au
 GAWLER 27 Spring Road, Mudgee NSW 2858
 Ph: 02 632 6700 E: mudgee@als.com.au

DATE/LAB: 5 Ross Gum Road, Warabook NSW 2204
 Ph: 02 4828 9433 E: warabook@als.com.au
 DUNOON 413 Casey Place, North NSW 2541
 Ph: 02 432 7660 E: north@als.com.au
 GERRIH 10 Ford Way, Wangi WA 6200
 Ph: 08 9220 8535 E: wangipark@als.com.au

DATE/LAB: 277 269 Woodbank Road, Smithfield NSW 2104
 Ph: 02 9716 8555 E: smithfield@als.com.au
 DUNOON 1415 Denma Court, Berrig QLD 4818
 Ph: 07 4799 0600 E: berrig@als.com.au
 DUNOON 80 Kenny Street, Warragamba NSW 2160
 Ph: 02 4225 3178 E: parklands@als.com.au

CLIENT: TURNAROUND REQUIREMENTS: Standard TAT (last date date)
 Non Standard or urgent TAT (last date date)
 (Standard TAT may be longer for some tests e.g. Ultra Trace Gravimetry)

OFFICE: ALS QUOTE NO.: SV79413

PROJECT: Project Synonymy

ORDER NUMBER: CONTACT PH: BAYSWATER /

PROJECT MANAGER: CONTACT PH: BAYSWATER /

SAMPLER: SAMPLER MOBILE: RELINQUISHED BY: DATE/TIME:

COC emailed to ALS? (YES / NO) EDD FORMAT (or default): DATE/TIME:

Email Reports to: (will default to PM if no other addresses are listed): DATE/TIME:

Email Invoice to: (will default to PM if no other addresses are listed): DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (codes below)	TOTAL CONTAINERS	ANALYSIS REQUIRED (including SUITES (NB: Suite Codes must be listed to attract audit effect) where Metals are required, specify Total (unfiltered bottles required) or Dissolved (field filtered bottles required))										Additional Information
						S-2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Ti, Se)	S-24 TRH(C6-C40)BTEXN, PAH, Phenols	VOC Target Scan	PCB	pH (1:5) /CEL	Exchangeable cations (ED007)	PFOA/PFOA	Asbestos (absence/presence)	Particle Sizing to 75µm (Sieve)	
24	BJ-SB10-0.2	31/10	SOIL		2	X	X	X	X	X	X	X	X	X	X	Hold
25	BJ-MWD3-0.2	1/11			2	X	X	X	X	X	X	X	X	X	X	Hold
26	BJ-MWD3-1.4	1/11			1	X	X	X	X	X	X	X	X	X	X	Hold
27	BJ-MWD4-0.2	1/11			3	X	X	X	X	X	X	X	X	X	X	Hold
28	BJ-SB18-0.2				2	X	X	X	X	X	X	X	X	X	X	Hold
29	BJ-SB18-1.4				1	X	X	X	X	X	X	X	X	X	X	Hold
30	BJ-SB19-0.2				2	X	X	X	X	X	X	X	X	X	X	Hold
31	BJ-SB19-1.4	1/11			1	X	X	X	X	X	X	X	X	X	X	Hold
32	BDL-31013-TC	31/10			1	X	X	X	X	X	X	X	X	X	X	Hold
33	BS-MW01-0.2	1/11			3	X	X	X	X	X	X	X	X	X	X	Hold
34	BS-5B01-0.2				2	X	X	X	X	X	X	X	X	X	X	Hold
35	DD2-04113-TC	4/11			1	X	X	X	X	X	X	X	X	X	X	Forward to Enviro lab
					TOTAL											

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; ST = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Air Tight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Sulphate Preserved; VS = VOA Vial Sulphur Unpreserved; VAS = Sulphur Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen Bottle; SP = Sulphur Preserved Plastic; F = Ferraldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Solides; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; U = Unpreserved Bag

CHAIN OF CUSTODY
 ALS Laboratory
 Please tick

UNDELABRE 21 Emma Road Donvale, SA 5025
 Ph: 08 8329 6688 E: unlabre@als.com.au
 DENTON 22 Sand Street Sharnford QLD 4083
 Ph: 07 5598 1888 E: denton@als.com.au
 DCA AUSTRIE 46 Collins Street Melbourne VIC 3000
 Ph: 07 2471 9600 E: dca@als.com.au

CHANGING 76 Mulhara Road Mackay QLD 4750
 Ph: 07 544 0177 E: changing@als.com.au
 DANEDDURIE 2/4 Woodall Road Springvale VIC 3171
 Ph: 03 9584 1888 E: daneddurie@als.com.au
 DANIDORE 27 Sydney Road Mudgee NSW 2855
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 Ph: 02 4800 0438 E: chiewcastle@als.com.au
 CHONGVA 4/18 Quay Place North Hobart NSW 2241
 Ph: 02 4242 2000 E: chongva@als.com.au
 CHEETH 10 Hill Way Malaga WA 6090
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DS/CHNEY 217 250 Woodside Road Sunnyside NSW 2154
 Ph: 02 8784 8555 E: dschney@als.com.au
 LITWINGVILLE 14-15 Deane Court Berrig QLD 4818
 Ph: 07 4790 0500 E: litwillingville@als.com.au
 LINDLONGONG 26 Kinnaird Street Wollongong NSW 2550
 Ph: 02 4233 3125 E: lindlongong@als.com.au

CLIENT: TUNNAROUND REQUIREMENTS: Standard TAT (last due date) Non Standard or urgent TAT (last due date)

OFFICE: (Standard TAT may be longer for some tests e.g. Ultra Trace Elements)

PROJECT: Project Symphony **ALS QUOTE NO.:** SY79413

ORDER NUMBER: **SITE:** BAYSWATER/LEGUNE

PROJECT MANAGER: **CONTACT PH:**

SAMPLER: **SAMPLER MOBILE:** **RELINQUISHED BY:**

COC enabled to ALST7 (YES / NO): **EDD FORMAT (or default):** **DATE/TIME:**

Email Reports to (will default to PM if no other addresses are listed):

Email Invoice to (will default to PM if no other addresses are listed):

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

COC	1	2	3	4	5	6	7
RECEIVED BY:	aw						
DATE/TIME:	6/10/13						
RECEIVED BY:	aw						
DATE/TIME:	6/11/13						

FOR LABORATORY USE ONLY (COC)

Sample ID: Sample ID: Sample ID: Sample ID: Sample ID: Sample ID: Sample ID: Sample ID:

Random Sample ID: Random Sample ID: Random Sample ID: Random Sample ID: Random Sample ID: Random Sample ID: Random Sample ID: Random Sample ID:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (codes below)	(refer to TOTAL CONTAINERS)	ANALYSIS REQUIRED (including BUTES (NA) Split Codes must be listed to attract scale price) Where Metals are required, specify Total (unfiltered bottles required) or Dissolved (filtered bottles required)	Additional Information
32	AD1-041113-TC		SOIL		X	S-2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg) 17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Ti, Se) S-24 TRH (C6-C40)/BTEXN, PAH, Phenols VOC Target Scan PCB pH (1:5) Exchangeable cations (ED007) PFOS/PFOA Asbestos (absence/presence) Particle Sizing to 75µm (Sieve) Organic Matter plus Total Organic Carbon (EP004)	
31	Trip spike				X		Spike spike
38	Trip blank				X		blank spike
39	D01-41113-TC				X		
40	BS-MW02-0.2				X		
41	BS-SB02-0.2				X		
TOTAL							

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : ES1323960

<p>Client : ENVIRO RESOURCES MANAGEMENT</p> <p>Contact : MR JOSEPH FERRING</p> <p>Address : GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007</p>	<p>Laboratory : Environmental Division Sydney</p> <p>Contact : Barbara Hanna</p> <p>Address : 277-289 Woodpark Road Smithfield NSW Australia 2164</p>
---	--

<p>E-mail : joseph.ferring@erm.com</p> <p>Telephone : +61 02 8584 8888</p> <p>Facsimile : +61 02 8584 8800</p>	<p>E-mail : Barbara.Hanna@alsglobal.com</p> <p>Telephone : +61 2 8784 8555</p> <p>Facsimile : +61 2 8784 8555</p>
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<p>Project : PROJECT SYMPHONY</p> <p>Order number : 0213879</p> <p>C-O-C number : ----</p> <p>Site : ----</p> <p>Sampler : TC</p>	<p>Page : 1 of 4</p> <p>Quote number : ES2013ENVRES0369 (SY/794/13)</p> <p>QC Level : NEPM 2013 Schedule B(3) and ALS QCS3 requirement</p>
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Dates

<p>Date Samples Received : 06-NOV-2013</p> <p>Client Requested Due Date : 12-NOV-2013</p>	<p>Issue Date : 07-NOV-2013 14:23</p> <p>Scheduled Reporting Date : 12-NOV-2013</p>
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Delivery Details

<p>Mode of Delivery : Carrier</p> <p>No. of coolers/boxes : 1 HARD</p> <p>Security Seal : Intact.</p>	<p>Temperature : ----</p> <p>No. of samples received : 41</p> <p>No. of samples analysed : 30</p>
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General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Asbestos and Particle Size analysis will be conducted by ALS Newcastle.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Sample D02_041113_TC forwarded to Envirolab as per COC.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (60 days) from date of completion of work order.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exist.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default to 15:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory for processing purposes and will be shown bracketed without a time component.

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	(On Hold) SOIL No analysis requested	SOIL - EA002 pH (1:5)	SOIL - EA055-103 Moisture Content	SOIL - EA150* Particle Size Analysis by Sieving (Default sieves from	SOIL - EA200 Asbestos Identification in Soils	SOIL - ED007 CEC / Exchangeable Cations (ED007) -All	SOIL - EP004 (Carbon) Total Organic Carbon (Calc.)	SOIL - EP066 (solids) Polychlorinated Biphenyls by GCMS
ES1323960-001	04-NOV-2013 15:00	BJ_SB12_0.2					✓			
ES1323960-002	04-NOV-2013 15:00	BJ_SB14_0.2					✓			
ES1323960-003	04-NOV-2013 15:00	BJ_SB15_0.2					✓			
ES1323960-004	04-NOV-2013 15:00	BJ_SB08_0.2					✓			
ES1323960-005	04-NOV-2013 15:00	BJ_SB06_2.0	✓							
ES1323960-013	31-OCT-2013 15:00	BJ_SB16_0.2					✓			
ES1323960-014	31-OCT-2013 15:00	BJ_SB17_0.2					✓			
ES1323960-015	31-OCT-2013 15:00	BJ_SB17_1.4	✓							
ES1323960-016	31-OCT-2013 15:00	BJ_SB13_0.2					✓			
ES1323960-017	31-OCT-2013 15:00	BJ_SB13_1.4	✓							
ES1323960-018	31-OCT-2013 15:00	BJ_MW05_0.2					✓			
ES1323960-019	31-OCT-2013 15:00	BJ_SB06_0.2					✓			
ES1323960-020	31-OCT-2013 15:00	BJ_SB06_1.4	✓							
ES1323960-021	31-OCT-2013 15:00	BJ_SB07_0.2					✓			
ES1323960-022	31-OCT-2013 15:00	BJ_SB07_1.4	✓							
ES1323960-023	31-OCT-2013 15:00	BJ_SB11_0.2					✓			
ES1323960-024	31-OCT-2013 15:00	BJ_SB10_0.2					✓			
ES1323960-025	31-OCT-2013 15:00	BJ_MW03_0.2					✓			
ES1323960-026	31-OCT-2013 15:00	BJ_MW03_1.4	✓							
ES1323960-027	01-NOV-2013 15:00	BJ_MW04_0.2		✓		✓	✓	✓	✓	
ES1323960-028	01-NOV-2013 15:00	BJ_SB18_0.2	✓							
ES1323960-029	01-NOV-2013 15:00	BJ_SB18_1.4	✓							
ES1323960-030	01-NOV-2013 15:00	BJ_SB19_0.2	✓							
ES1323960-031	01-NOV-2013 15:00	BJ_SB19_1.4	✓							
ES1323960-033	01-NOV-2013 15:00	BS_MW01_0.2		✓	✓	✓	✓	✓	✓	✓
ES1323960-034	01-NOV-2013 15:00	BS_SB01_0.2	✓							
ES1323960-041	31-OCT-2013 15:00	BS_MW02_0.2					✓			
ES1323960-042	31-OCT-2013 15:00	BS_SB02_0.2					✓			



Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - EP074 (solids) Volatile Organic Compounds	SOIL - S-18 (NO MOIST) TRH(C6-C9)/BTEXN with No Moisture for TBs	SOIL - S-27 TRH/BTEXN/PAH/Phenols/8Metals
ES1323960-001	04-NOV-2013 15:00	BJ_SB12_0.2	✓		✓
ES1323960-002	04-NOV-2013 15:00	BJ_SB14_0.2	✓		✓
ES1323960-003	04-NOV-2013 15:00	BJ_SB15_0.2			✓
ES1323960-004	04-NOV-2013 15:00	BJ_SB08_0.2			✓
ES1323960-006	04-NOV-2013 15:00	BJ_SB06_3.0	✓		✓
ES1323960-007	04-NOV-2013 15:00	BJ_SB13_3.0			✓
ES1323960-008	04-NOV-2013 15:00	BJ_SB17_1.8			✓
ES1323960-009	04-NOV-2013 15:00	BJ_SB18_3.0	✓		✓
ES1323960-010	04-NOV-2013 15:00	BJ_SB19_3.0			✓
ES1323960-013	31-OCT-2013 15:00	BJ_SB16_0.2	✓		✓
ES1323960-014	31-OCT-2013 15:00	BJ_SB17_0.2	✓		✓
ES1323960-016	31-OCT-2013 15:00	BJ_SB13_0.2	✓		✓
ES1323960-018	31-OCT-2013 15:00	BJ_MW05_0.2	✓		✓
ES1323960-019	31-OCT-2013 15:00	BJ_SB06_0.2			✓
ES1323960-021	31-OCT-2013 15:00	BJ_SB07_0.2			✓
ES1323960-023	31-OCT-2013 15:00	BJ_SB11_0.2			✓
ES1323960-024	31-OCT-2013 15:00	BJ_SB10_0.2			✓
ES1323960-025	31-OCT-2013 15:00	BJ_MW03_0.2			✓
ES1323960-027	01-NOV-2013 15:00	BJ_MW04_0.2			✓
ES1323960-032	31-OCT-2013 15:00	D01_311013_TC			✓
ES1323960-037	04-NOV-2013 15:00	TRIP SPIKE		✓	
ES1323960-038	04-NOV-2013 15:00	TRIP BLANK		✓	
ES1323960-039	04-NOV-2013 15:00	TSC		✓	
ES1323960-040	31-OCT-2013 15:00	D01_41113_TC			✓
ES1323960-041	31-OCT-2013 15:00	BS_MW02_0.2			✓
ES1323960-042	31-OCT-2013 15:00	BS_SB02_0.2			✓



WATER - W-27
TRH/TEXN/PAH/Phenols/8 Metals

Matrix: **WATER**

Laboratory sample ID	Client sampling date / time	Client sample ID	
ES1323960-011	31-OCT-2013 15:00	R01_311013_TC	✓
ES1323960-012	01-NOV-2013 15:00	R01_011113_TC	✓
ES1323960-036	04-NOV-2013 15:00	R01_041113_TC	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

JOHN EWING

- *AU Certificate of Analysis - NATA Email john.ewing@erm.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) Email john.ewing@erm.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA Email john.ewing@erm.com
- A4 - AU Sample Receipt Notification - Environmental HT Email john.ewing@erm.com
- Chain of Custody (CoC) Email john.ewing@erm.com
- EDI Format - ENMRG Email john.ewing@erm.com
- EDI Format - EQUIS V5 ERM Email john.ewing@erm.com
- EDI Format - ESDAT Email john.ewing@erm.com
- EDI Format - XTab Email john.ewing@erm.com

MR JOSEPH FERRING

- *AU Certificate of Analysis - NATA (COA) Email joseph.ferring@erm.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email joseph.ferring@erm.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email joseph.ferring@erm.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email joseph.ferring@erm.com
- A4 - AU Tax Invoice (INV) Email joseph.ferring@erm.com
- Chain of Custody (CoC) (COC) Email joseph.ferring@erm.com
- EDI Format - ENMRG (ENMRG) Email joseph.ferring@erm.com
- EDI Format - EQUIS V5 ERM (EQUIS_V5_ERM) Email joseph.ferring@erm.com
- EDI Format - ESDAT (ESDAT) Email joseph.ferring@erm.com
- EDI Format - XTab (XTAB) Email joseph.ferring@erm.com

THE ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV) Email au.accounts@erm.com

CERTIFICATE OF ANALYSIS

Work Order	: ES1323960	Page	: 1 of 32
Client	: ENVIRO RESOURCES MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: MR JOSEPH FERRING	Contact	: Barbara Hanna
Address	: GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: joseph.ferring@erm.com	E-mail	: Barbara.Hanna@alsglobal.com
Telephone	: +61 02 8584 8888	Telephone	: +61 2 8784 8555
Facsimile	: +61 02 8584 8800	Facsimile	: +61 2 8784 8555
Project	: PROJECT SYMPHONY	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 0213879	Date Samples Received	: 06-NOV-2013
C-O-C number	: ----	Issue Date	: 13-NOV-2013
Sampler	: TC	No. of samples received	: 41
Site	: ----	No. of samples analysed	: 30
Quote number	: SY/794/13		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits



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

- **EA200 Legend**
- **EA200 'Am' Amosite (brown asbestos)**
- **EA200 'Ch' Chrysotile (white asbestos)**
- **EA200 'Cr' Crocidolite (blue asbestos)**
- **EA200 'Trace' - Asbestos fibres detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres**
- **EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.**
- **EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.**
- **EA200: Negative results for vinyl tiles should be confirmed by an independent analytical technique.**
- **EP080: The TRIP SPIKE and TRIP SPIKE CONTROL have been analysed for volatile TPH and BTEX only. The TRIP SPIKE and TRIP SPIKE CONTROL were prepared in the lab using reagent grade sand spiked with petrol. The TRIP SPIKE was dispatched from the lab and the TRIP SPIKE CONTROL retained. The spike samples were extracted and analysed concurrently with samples reported in this batch.**



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories

Position

Accreditation Category

Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Di-An Dao		Sydney Inorganics
Hamish Murray	Supervisor - Soils	Newcastle - Inorganics
Hoa Nguyen	Senior Inorganic Chemist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Peter Rennie	Asbestos Identifier	Newcastle - Asbestos
Phalak Inthakson	Laboratory Manager - Organics	Sydney Organics
Raymond Commodor	Instrument Chemist	Sydney Inorganics



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB12_0.2	BJ_SB14_0.2	BJ_SB15_0.2	BJ_SB08_0.2	BJ_SB06_3.0
				04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-001	ES1323960-002	ES1323960-003	ES1323960-004	ES1323960-006
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	11.1	9.3	5.6	7.1	14.8
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	----
Asbestos Type	1332-21-4	0.1	--	-	-	-	-	----
Sample weight (dry)	----	0.01	g	798	740	810	775	----
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	10	13	10	14	14
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	1
Chromium	7440-47-3	2	mg/kg	14	16	22	18	17
Copper	7440-50-8	5	mg/kg	11	17	8	18	22
Lead	7439-92-1	5	mg/kg	13	16	10	20	25
Nickel	7440-02-0	2	mg/kg	16	22	13	34	65
Zinc	7440-66-6	5	mg/kg	50	75	36	87	95
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	----	----	<5
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	----	----	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	----	----	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	----	----	<5
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	----	----	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB12_0.2	BJ_SB14_0.2	BJ_SB15_0.2	BJ_SB08_0.2	BJ_SB06_3.0
				04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-001	ES1323960-002	ES1323960-003	ES1323960-004	ES1323960-006
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	----	----	<5
Chloromethane	74-87-3	5	mg/kg	<5	<5	----	----	<5
Vinyl chloride	75-01-4	5	mg/kg	<5	<5	----	----	<5
Bromomethane	74-83-9	5	mg/kg	<5	<5	----	----	<5
Chloroethane	75-00-3	5	mg/kg	<5	<5	----	----	<5
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	----	----	<5
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB12_0.2	BJ_SB14_0.2	BJ_SB15_0.2	BJ_SB08_0.2	BJ_SB06_3.0
				04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-001	ES1323960-002	ES1323960-003	ES1323960-004	ES1323960-006
EP074E: Halogenated Aliphatic Compounds - Continued								
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
EP074H: Naphthalene								
Naphthalene	91-20-3	5	mg/kg	<5	<5	----	----	<5
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB12_0.2	BJ_SB14_0.2	BJ_SB15_0.2	BJ_SB08_0.2	BJ_SB06_3.0
				04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-001	ES1323960-002	ES1323960-003	ES1323960-004	ES1323960-006
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB12_0.2	BJ_SB14_0.2	BJ_SB15_0.2	BJ_SB08_0.2	BJ_SB06_3.0
				04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-001	ES1323960-002	ES1323960-003	ES1323960-004	ES1323960-006
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP074S: VOC Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	110	113	----	----	108
Toluene-D8	2037-26-5	0.1	%	101	102	----	----	100
4-Bromofluorobenzene	460-00-4	0.1	%	101	102	----	----	96.4
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	99.1	105	104	108	98.6
2-Chlorophenol-D4	93951-73-6	0.1	%	96.6	100	99.2	104	93.6
2,4,6-Tribromophenol	118-79-6	0.1	%	79.3	81.7	78.0	82.9	79.0
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	83.6	87.2	86.8	92.3	83.7
Anthracene-d10	1719-06-8	0.1	%	73.8	78.6	77.3	81.3	73.1
4-Terphenyl-d14	1718-51-0	0.1	%	75.6	81.1	79.4	83.8	78.0
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	113	117	122	105	111
Toluene-D8	2037-26-5	0.1	%	99.0	101	106	91.9	99.0
4-Bromofluorobenzene	460-00-4	0.1	%	92.4	92.1	106	92.4	89.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB13_3.0	BJ_SB17_1.8	BJ_SB18_3.0	BJ_SB19_3.0	BJ_SB16_0.2
				04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-007	ES1323960-008	ES1323960-009	ES1323960-010	ES1323960-013
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	9.4	16.8	13.9	11.0	8.5
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	----	----	No
Asbestos Type	1332-21-4	0.1	--	----	----	----	----	-
Sample weight (dry)	----	0.01	g	----	----	----	----	781
APPROVED IDENTIFIER:	----	-	--	----	----	----	----	C.OWLER
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	12	14	11	<5	11
Cadmium	7440-43-9	1	mg/kg	1	1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	48	16	15	5	13
Copper	7440-50-8	5	mg/kg	20	22	11	<5	18
Lead	7439-92-1	5	mg/kg	14	20	12	7	37
Nickel	7440-02-0	2	mg/kg	74	5	16	<2	20
Zinc	7440-66-6	5	mg/kg	67	44	65	8	93
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	----	----	<0.5	----	<0.5
Isopropylbenzene	98-82-8	0.5	mg/kg	----	----	<0.5	----	<0.5
n-Propylbenzene	103-65-1	0.5	mg/kg	----	----	<0.5	----	<0.5
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	----	----	<0.5	----	<0.5
sec-Butylbenzene	135-98-8	0.5	mg/kg	----	----	<0.5	----	<0.5
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	----	----	<0.5	----	<0.5
tert-Butylbenzene	98-06-6	0.5	mg/kg	----	----	<0.5	----	<0.5
p-Isopropyltoluene	99-87-6	0.5	mg/kg	----	----	<0.5	----	<0.5
n-Butylbenzene	104-51-8	0.5	mg/kg	----	----	<0.5	----	<0.5
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	----	----	<5	----	<5
2-Butanone (MEK)	78-93-3	5	mg/kg	----	----	<5	----	<5
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	----	----	<5	----	<5
2-Hexanone (MBK)	591-78-6	5	mg/kg	----	----	<5	----	<5
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	----	----	<0.5	----	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB13_3.0	BJ_SB17_1.8	BJ_SB18_3.0	BJ_SB19_3.0	BJ_SB16_0.2
				04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-007	ES1323960-008	ES1323960-009	ES1323960-010	ES1323960-013
EP074D: Fumigants								
2,2-Dichloropropane	594-20-7	0.5	mg/kg	----	----	<0.5	----	<0.5
1,2-Dichloropropane	78-87-5	0.5	mg/kg	----	----	<0.5	----	<0.5
cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	----	----	<0.5	----	<0.5
trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	----	----	<0.5	----	<0.5
1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	----	----	<0.5	----	<0.5
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	----	----	<5	----	<5
Chloromethane	74-87-3	5	mg/kg	----	----	<5	----	<5
Vinyl chloride	75-01-4	5	mg/kg	----	----	<5	----	<5
Bromomethane	74-83-9	5	mg/kg	----	----	<5	----	<5
Chloroethane	75-00-3	5	mg/kg	----	----	<5	----	<5
Trichlorofluoromethane	75-69-4	5	mg/kg	----	----	<5	----	<5
1,1-Dichloroethene	75-35-4	0.5	mg/kg	----	----	<0.5	----	<0.5
Iodomethane	74-88-4	0.5	mg/kg	----	----	<0.5	----	<0.5
trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	----	----	<0.5	----	<0.5
1,1-Dichloroethane	75-34-3	0.5	mg/kg	----	----	<0.5	----	<0.5
cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	----	----	<0.5	----	<0.5
1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	----	----	<0.5	----	<0.5
1,1-Dichloropropylene	563-58-6	0.5	mg/kg	----	----	<0.5	----	<0.5
Carbon Tetrachloride	56-23-5	0.5	mg/kg	----	----	<0.5	----	<0.5
1,2-Dichloroethane	107-06-2	0.5	mg/kg	----	----	<0.5	----	<0.5
Trichloroethene	79-01-6	0.5	mg/kg	----	----	<0.5	----	<0.5
Dibromomethane	74-95-3	0.5	mg/kg	----	----	<0.5	----	<0.5
1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	----	----	<0.5	----	<0.5
1,3-Dichloropropane	142-28-9	0.5	mg/kg	----	----	<0.5	----	<0.5
Tetrachloroethene	127-18-4	0.5	mg/kg	----	----	<0.5	----	<0.5
1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	----	----	<0.5	----	<0.5
trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	----	----	<0.5	----	<0.5
cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	----	----	<0.5	----	<0.5
1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	----	----	<0.5	----	<0.5
1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	----	----	<0.5	----	<0.5
Pentachloroethane	76-01-7	0.5	mg/kg	----	----	<0.5	----	<0.5
1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	----	----	<0.5	----	<0.5
Hexachlorobutadiene	87-68-3	0.5	mg/kg	----	----	<0.5	----	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB13_3.0	BJ_SB17_1.8	BJ_SB18_3.0	BJ_SB19_3.0	BJ_SB16_0.2
				04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-007	ES1323960-008	ES1323960-009	ES1323960-010	ES1323960-013
EP074E: Halogenated Aliphatic Compounds - Continued								
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	----	----	<0.5	----	<0.5
Bromobenzene	108-86-1	0.5	mg/kg	----	----	<0.5	----	<0.5
2-Chlorotoluene	95-49-8	0.5	mg/kg	----	----	<0.5	----	<0.5
4-Chlorotoluene	106-43-4	0.5	mg/kg	----	----	<0.5	----	<0.5
1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	----	----	<0.5	----	<0.5
1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	----	----	<0.5	----	<0.5
1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	----	----	<0.5	----	<0.5
1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	----	----	<0.5	----	<0.5
1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	----	----	<0.5	----	<0.5
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	----	----	<0.5	----	<0.5
Bromodichloromethane	75-27-4	0.5	mg/kg	----	----	<0.5	----	<0.5
Dibromochloromethane	124-48-1	0.5	mg/kg	----	----	<0.5	----	<0.5
Bromoform	75-25-2	0.5	mg/kg	----	----	<0.5	----	<0.5
EP074H: Naphthalene								
Naphthalene	91-20-3	5	mg/kg	----	----	<5	----	<5
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB13_3.0	BJ_SB17_1.8	BJ_SB18_3.0	BJ_SB19_3.0	BJ_SB16_0.2
				04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-007	ES1323960-008	ES1323960-009	ES1323960-010	ES1323960-013
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	180
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	280
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	230
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	110
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	340
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB13_3.0	BJ_SB17_1.8	BJ_SB18_3.0	BJ_SB19_3.0	BJ_SB16_0.2
				04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-007	ES1323960-008	ES1323960-009	ES1323960-010	ES1323960-013
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP074S: VOC Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	96.1	----	103
Toluene-D8	2037-26-5	0.1	%	----	----	119	----	114
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	108	----	105
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	108	108	110	100	103
2-Chlorophenol-D4	93951-73-6	0.1	%	103	102	105	96.2	97.4
2,4,6-Tribromophenol	118-79-6	0.1	%	84.3	88.4	81.3	74.9	75.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	91.0	90.6	89.8	84.6	87.7
Anthracene-d10	1719-06-8	0.1	%	81.1	81.0	79.4	76.2	77.5
4-Terphenyl-d14	1718-51-0	0.1	%	83.8	82.6	83.4	80.5	81.4
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	109	116	111	120	118
Toluene-D8	2037-26-5	0.1	%	98.2	101	109	101	104
4-Bromofluorobenzene	460-00-4	0.1	%	99.3	101	107	102	102



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB17_0.2	BJ_SB13_0.2	BJ_MW05_0.2	BJ_SB06_0.2	BJ_SB07_0.2
				31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-014	ES1323960-016	ES1323960-018	ES1323960-019	ES1323960-021
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	11.5	6.7	6.3	5.9	6.7
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos Type	1332-21-4	0.1	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	818	728	713	635	604
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	C.OWLER
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	9	21	16	13	12
Cadmium	7440-43-9	1	mg/kg	<1	<1	1	<1	1
Chromium	7440-47-3	2	mg/kg	20	10	14	15	16
Copper	7440-50-8	5	mg/kg	24	10	22	17	23
Lead	7439-92-1	5	mg/kg	17	9	20	14	21
Nickel	7440-02-0	2	mg/kg	18	10	29	8	22
Zinc	7440-66-6	5	mg/kg	72	48	95	87	88
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP074A: Monocyclic Aromatic Hydrocarbons								
Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1.3.5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1.2.4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
EP074B: Oxygenated Compounds								
Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	<5	----	----
2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	<5	----	----
4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	<5	----	----
2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	<5	----	----
EP074C: Sulfonated Compounds								
Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB17_0.2	BJ_SB13_0.2	BJ_MW05_0.2	BJ_SB06_0.2	BJ_SB07_0.2
				31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-014	ES1323960-016	ES1323960-018	ES1323960-019	ES1323960-021
EP074D: Fumigants								
2.2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1.2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
cis-1.3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
trans-1.3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1.2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
EP074E: Halogenated Aliphatic Compounds								
Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	<5	----	----
Chloromethane	74-87-3	5	mg/kg	<5	<5	<5	----	----
Vinyl chloride	75-01-4	5	mg/kg	<5	<5	<5	----	----
Bromomethane	74-83-9	5	mg/kg	<5	<5	<5	----	----
Chloroethane	75-00-3	5	mg/kg	<5	<5	<5	----	----
Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	<5	----	----
1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB17_0.2	BJ_SB13_0.2	BJ_MW05_0.2	BJ_SB06_0.2	BJ_SB07_0.2
				31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-014	ES1323960-016	ES1323960-018	ES1323960-019	ES1323960-021
EP074E: Halogenated Aliphatic Compounds - Continued								
EP074F: Halogenated Aromatic Compounds								
Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
EP074G: Trihalomethanes								
Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
EP074H: Naphthalene								
Naphthalene	91-20-3	5	mg/kg	<5	<5	<5	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB17_0.2	BJ_SB13_0.2	BJ_MW05_0.2	BJ_SB06_0.2	BJ_SB07_0.2
				31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-014	ES1323960-016	ES1323960-018	ES1323960-019	ES1323960-021
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB17_0.2	BJ_SB13_0.2	BJ_MW05_0.2	BJ_SB06_0.2	BJ_SB07_0.2
				31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-014	ES1323960-016	ES1323960-018	ES1323960-019	ES1323960-021
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP074S: VOC Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	98.1	104	104	----	----
Toluene-D8	2037-26-5	0.1	%	115	116	113	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	101	107	102	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	102	105	103	104	103
2-Chlorophenol-D4	93951-73-6	0.1	%	96.6	101	99.7	99.6	99.8
2,4,6-Tribromophenol	118-79-6	0.1	%	74.7	80.0	76.3	77.6	75.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	85.2	89.3	86.8	89.1	87.7
Anthracene-d10	1719-06-8	0.1	%	76.2	80.7	78.6	79.2	76.9
4-Terphenyl-d14	1718-51-0	0.1	%	80.1	84.1	81.6	81.6	80.1
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	113	119	120	119	124
Toluene-D8	2037-26-5	0.1	%	105	106	104	103	108
4-Bromofluorobenzene	460-00-4	0.1	%	99.5	104	102	104	104



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				BJ_SB11_0.2	BJ_SB10_0.2	BJ_MW03_0.2	BJ_MW04_0.2	D01_311013_TC
				31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00	01-NOV-2013 15:00	31-OCT-2013 15:00
				ES1323960-023	ES1323960-024	ES1323960-025	ES1323960-027	ES1323960-032
Compound	CAS Number	LOR	Unit					
EA150: Particle Sizing								
+75µm	----	1	%	----	----	----	63	----
+150µm	----	1	%	----	----	----	49	----
+300µm	----	1	%	----	----	----	42	----
+425µm	----	1	%	----	----	----	40	----
+600µm	----	1	%	----	----	----	36	----
+1180µm	----	1	%	----	----	----	30	----
+2.36mm	----	1	%	----	----	----	25	----
+4.75mm	----	1	%	----	----	----	18	----
+9.5mm	----	1	%	----	----	----	11	----
+19.0mm	----	1	%	----	----	----	10	----
+37.5mm	----	1	%	----	----	----	<1	----
+75.0mm	----	1	%	----	----	----	<1	----
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	----	----	----	8.3	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	4.4	6.1	5.9	5.4	3.7
EA150: Soil Classification based on Particle Size								
Fines (<75 µm)	----	1	%	----	----	----	37	----
Sand (>75 µm)	----	1	%	----	----	----	38	----
Gravel (>2mm)	----	1	%	----	----	----	25	----
Cobbles (>6cm)	----	1	%	----	----	----	<1	----
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	----
Asbestos Type	1332-21-4	0.1	--	-	-	-	-	----
Sample weight (dry)	----	0.01	g	665	803	398	626	----
APPROVED IDENTIFIER:	----	-	--	P.RENNIE	P.RENNIE	P.RENNIE	P.RENNIE	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	----	----	----	24.8	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	2.7	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	0.4	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	<0.1	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	28.0	----
EG005T: Total Metals by ICP-AES								



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB11_0.2	BJ_SB10_0.2	BJ_MW03_0.2	BJ_MW04_0.2	D01_311013_TC
				31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00	01-NOV-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-023	ES1323960-024	ES1323960-025	ES1323960-027	ES1323960-032
EG005T: Total Metals by ICP-AES - Continued								
Arsenic	7440-38-2	5	mg/kg	10	12	13	10	10
Cadmium	7440-43-9	1	mg/kg	<1	<1	1	<1	<1
Chromium	7440-47-3	2	mg/kg	8	15	28	25	9
Copper	7440-50-8	5	mg/kg	8	8	22	15	9
Lead	7439-92-1	5	mg/kg	8	12	18	13	8
Nickel	7440-02-0	2	mg/kg	8	9	30	19	9
Zinc	7440-66-6	5	mg/kg	50	66	68	59	43
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP004: Organic Matter								
Organic Matter	----	0.5	%	----	----	----	0.8	----
Total Organic Carbon	----	0.5	%	----	----	----	<0.5	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB11_0.2	BJ_SB10_0.2	BJ_MW03_0.2	BJ_MW04_0.2	D01_311013_TC
				31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00	01-NOV-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-023	ES1323960-024	ES1323960-025	ES1323960-027	ES1323960-032
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	160	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	160	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	190	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	190	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB11_0.2	BJ_SB10_0.2	BJ_MW03_0.2	BJ_MW04_0.2	D01_311013_TC
				31-OCT-2013 15:00	31-OCT-2013 15:00	31-OCT-2013 15:00	01-NOV-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-023	ES1323960-024	ES1323960-025	ES1323960-027	ES1323960-032
EP080: BTEXN - Continued								
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	104	101	104	102	103
2-Chlorophenol-D4	93951-73-6	0.1	%	101	97.6	99.4	99.4	101
2,4,6-Tribromophenol	118-79-6	0.1	%	77.8	75.5	80.0	75.7	75.4
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	87.8	85.6	88.7	86.8	87.2
Anthracene-d10	1719-06-8	0.1	%	78.9	76.9	77.6	76.6	77.9
4-Terphenyl-d14	1718-51-0	0.1	%	80.6	79.5	81.1	79.3	80.7
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	111	117	110	114	113
Toluene-D8	2037-26-5	0.1	%	94.2	99.1	95.3	102	100
4-Bromofluorobenzene	460-00-4	0.1	%	96.3	99.0	94.4	98.6	99.4



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BS_MW01_0.2	TRIP SPIKE	TRIP BLANK	TSC	D01_41113_TC
				01-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-033	ES1323960-037	ES1323960-038	ES1323960-039	ES1323960-040
EA150: Particle Sizing								
+75µm	----	1	%	30	----	----	----	----
+150µm	----	1	%	22	----	----	----	----
+300µm	----	1	%	14	----	----	----	----
+425µm	----	1	%	11	----	----	----	----
+600µm	----	1	%	9	----	----	----	----
+1180µm	----	1	%	8	----	----	----	----
+2.36mm	----	1	%	6	----	----	----	----
+4.75mm	----	1	%	5	----	----	----	----
+9.5mm	----	1	%	<1	----	----	----	----
+19.0mm	----	1	%	<1	----	----	----	----
+37.5mm	----	1	%	<1	----	----	----	----
+75.0mm	----	1	%	<1	----	----	----	----
EA002 : pH (Soils)								
pH Value	----	0.1	pH Unit	8.2	----	----	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	14.4	----	----	----	3.9
EA150: Soil Classification based on Particle Size								
Fines (<75 µm)	----	1	%	70	----	----	----	----
Sand (>75 µm)	----	1	%	23	----	----	----	----
Gravel (>2mm)	----	1	%	6	----	----	----	----
Cobbles (>6cm)	----	1	%	<1	----	----	----	----
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----
Asbestos Type	1332-21-4	0.1	--	-	----	----	----	----
Sample weight (dry)	----	0.01	g	434	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	P.RENNIE	----	----	----	----
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	22.4	----	----	----	----
Exchangeable Magnesium	----	0.1	meq/100g	4.8	----	----	----	----
Exchangeable Potassium	----	0.1	meq/100g	0.8	----	----	----	----
Exchangeable Sodium	----	0.1	meq/100g	<0.1	----	----	----	----
Cation Exchange Capacity	----	0.1	meq/100g	28.0	----	----	----	----
EG005T: Total Metals by ICP-AES								



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BS_MW01_0.2	TRIP SPIKE	TRIP BLANK	TSC	D01_41113_TC
				01-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-033	ES1323960-037	ES1323960-038	ES1323960-039	ES1323960-040
EG005T: Total Metals by ICP-AES - Continued								
Arsenic	7440-38-2	5	mg/kg	----	----	----	----	12
Cadmium	7440-43-9	1	mg/kg	----	----	----	----	<1
Chromium	7440-47-3	2	mg/kg	----	----	----	----	9
Copper	7440-50-8	5	mg/kg	----	----	----	----	11
Lead	7439-92-1	5	mg/kg	----	----	----	----	16
Nickel	7440-02-0	2	mg/kg	----	----	----	----	9
Zinc	7440-66-6	5	mg/kg	----	----	----	----	101
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	----	----	<0.1
EP004: Organic Matter								
Organic Matter	----	0.5	%	2.4	----	----	----	----
Total Organic Carbon	----	0.5	%	1.4	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	----	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	----	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	----	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	----	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	----	----	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	----	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	----	----	----	----	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	----	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	----	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	----	----	----	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BS_MW01_0.2	TRIP SPIKE	TRIP BLANK	TSC	D01_41113_TC
				01-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-033	ES1323960-037	ES1323960-038	ES1323960-039	ES1323960-040
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Anthracene	120-12-7	0.5	mg/kg	----	----	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	----	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	----	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	----	----	----	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	----	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	----	----	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	----	----	----	----	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	----	----	----	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	----	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	----	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	----	----	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	----	----	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	73	<10	82	<10
C10 - C14 Fraction	----	50	mg/kg	----	----	----	----	<50
C15 - C28 Fraction	----	100	mg/kg	----	----	----	----	<100
C29 - C36 Fraction	----	100	mg/kg	----	----	----	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	----	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	81	<10	90	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	50	<10	55	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg	----	----	----	----	<50
>C16 - C34 Fraction	----	100	mg/kg	----	----	----	----	<100
>C34 - C40 Fraction	----	100	mg/kg	----	----	----	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	----	----	----	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	----	----	----	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	0.7	<0.2	0.8	<0.2
Toluene	108-88-3	0.5	mg/kg	----	16.6	<0.5	18.2	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BS_MW01_0.2	TRIP SPIKE	TRIP BLANK	TSC	D01_41113_TC
				01-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	04-NOV-2013 15:00	31-OCT-2013 15:00
Compound	CAS Number	LOR	Unit	ES1323960-033	ES1323960-037	ES1323960-038	ES1323960-039	ES1323960-040
EP080: BTEXN - Continued								
Ethylbenzene	100-41-4	0.5	mg/kg	----	1.8	<0.5	2.0	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	8.7	<0.5	9.8	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	3.4	<0.5	3.8	<0.5
^ Sum of BTEX	----	0.2	mg/kg	----	31.2	<0.2	34.6	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	----	12.1	<0.5	13.6	<0.5
Naphthalene	91-20-3	1	mg/kg	----	<1	<1	<1	<1
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	66.4	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	----	----	92.9
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	----	----	105
2,4,6-Tribromophenol	118-79-6	0.1	%	----	----	----	----	85.0
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	104
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	95.7
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	103
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	----	109	113	121	110
Toluene-D8	2037-26-5	0.1	%	----	97.8	97.4	104	97.6
4-Bromofluorobenzene	460-00-4	0.1	%	----	94.2	96.5	102	95.8



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				BS_MW02_0.2	BS_SB02_0.2	---	---	---
				31-OCT-2013 15:00	31-OCT-2013 15:00	---	---	---
Compound	CAS Number	LOR	Unit	ES1323960-041	ES1323960-042	---	---	---
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	---	1.0	%	4.8	9.1	---	---	---
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	---	---	---
Asbestos Type	1332-21-4	0.1	--	-	-	---	---	---
Sample weight (dry)	---	0.01	g	726	742	---	---	---
APPROVED IDENTIFIER:	---	-	--	P.RENNIE	P.RENNIE	---	---	---
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	16	16	---	---	---
Cadmium	7440-43-9	1	mg/kg	<1	<1	---	---	---
Chromium	7440-47-3	2	mg/kg	11	11	---	---	---
Copper	7440-50-8	5	mg/kg	18	10	---	---	---
Lead	7439-92-1	5	mg/kg	38	12	---	---	---
Nickel	7440-02-0	2	mg/kg	9	7	---	---	---
Zinc	7440-66-6	5	mg/kg	100	49	---	---	---
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	---	---	---
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	---	---	---
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	---	---	---
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	---	---	---
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	---	---	---
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	---	---	---
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	---	---	---
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	---	---	---
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	---	---	---
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	---	---	---
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	---	---	---
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	---	---	---
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	---	---	---
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	---	---	---



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BS_MW02_0.2	BS_SB02_0.2	---	---	---
				31-OCT-2013 15:00	31-OCT-2013 15:00	---	---	---
Compound	CAS Number	LOR	Unit	ES1323960-041	ES1323960-042	---	---	---
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
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	---	---	---
Benz(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)fluoranthene	205-99-2	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								
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	>C10_C16	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								



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				BS_MW02_0.2	BS_SB02_0.2	----	----	----
				31-OCT-2013 15:00	31-OCT-2013 15:00	----	----	----
				ES1323960-041	ES1323960-042	----	----	----
Compound	CAS Number	LOR	Unit					
EP080: BTEXN - Continued								
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	----	----	----
^ 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	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	91.0	89.0	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	105	101	----	----	----
2,4,6-Tribromophenol	118-79-6	0.1	%	88.6	94.2	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	102	101	----	----	----
Anthracene-d10	1719-06-8	0.1	%	95.4	93.8	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	103	101	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	118	103	----	----	----
Toluene-D8	2037-26-5	0.1	%	103	94.4	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	101	93.4	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)

Client sample ID

Client sampling date / time

				R01_311013_TC	R01_011113_TC	R01_041113_TC	---	---
				31-OCT-2013 15:00	01-NOV-2013 15:00	04-NOV-2013 15:00	---	---
Compound	CAS Number	LOR	Unit	ES1323960-011	ES1323960-012	ES1323960-036	---	---
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	<0.001	---	---
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	---	---
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	<0.001	---	---
Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	<0.001	---	---
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	---	---
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	<0.001	---	---
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	<0.005	---	---
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	---	---
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	1.0	µg/L	<1.0	<1.0	<1.0	---	---
2-Chlorophenol	95-57-8	1.0	µg/L	<1.0	<1.0	<1.0	---	---
2-Methylphenol	95-48-7	1.0	µg/L	<1.0	<1.0	<1.0	---	---
3- & 4-Methylphenol	1319-77-3	2.0	µg/L	<2.0	<2.0	<2.0	---	---
2-Nitrophenol	88-75-5	1.0	µg/L	<1.0	<1.0	<1.0	---	---
2,4-Dimethylphenol	105-67-9	1.0	µg/L	<1.0	<1.0	<1.0	---	---
2,4-Dichlorophenol	120-83-2	1.0	µg/L	<1.0	<1.0	<1.0	---	---
2,6-Dichlorophenol	87-65-0	1.0	µg/L	<1.0	<1.0	<1.0	---	---
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L	<1.0	<1.0	<1.0	---	---
2,4,6-Trichlorophenol	88-06-2	1.0	µg/L	<1.0	<1.0	<1.0	---	---
2,4,5-Trichlorophenol	95-95-4	1.0	µg/L	<1.0	<1.0	<1.0	---	---
Pentachlorophenol	87-86-5	2.0	µg/L	<2.0	<2.0	<2.0	---	---
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	---	---
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	---	---
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	---	---
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	---	---
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	---	---
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	---	---
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	---	---
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	---	---
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	---	---
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	---	---



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)

Client sample ID

Client sampling date / time

				R01_311013_TC	R01_011113_TC	R01_041113_TC	---	---
				31-OCT-2013 15:00	01-NOV-2013 15:00	04-NOV-2013 15:00	---	---
Compound	CAS Number	LOR	Unit	ES1323960-011	ES1323960-012	ES1323960-036	---	---
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	<1.0	---	---
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	---	---
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	---	---
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	---	---
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	---	---
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	---	---
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	<0.5	---	---
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	<0.5	---	---
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	---	---
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	---	---
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	---	---
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	---	---
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	---	---
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	---	---
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	---	---
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	<100	<100	---	---
>C16 - C34 Fraction	----	100	µg/L	<100	<100	<100	---	---
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	---	---
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	<100	---	---
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	<100	---	---
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	---	---
Toluene	108-88-3	2	µg/L	<2	<2	<2	---	---
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	---	---
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	---	---
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	---	---
^ Total Xylenes	1330-20-7	2	µg/L	<2	<2	<2	---	---
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	---	---
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	---	---

EP075(SIM)S: Phenolic Compound Surrogates



Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Client sample ID

				R01_311013_TC	R01_011113_TC	R01_041113_TC	----	----
Client sampling date / time				31-OCT-2013 15:00	01-NOV-2013 15:00	04-NOV-2013 15:00	----	----
Compound	CAS Number	LOR	Unit	ES1323960-011	ES1323960-012	ES1323960-036	----	----
EP075(SIM)S: Phenolic Compound Surrogates - Continued								
Phenol-d6	13127-88-3	0.1	%	30.4	27.2	27.1	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	67.3	65.0	62.2	----	----
2,4,6-Tribromophenol	118-79-6	0.1	%	71.4	80.2	75.8	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	83.4	86.9	71.5	----	----
Anthracene-d10	1719-06-8	0.1	%	74.9	75.8	69.6	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	76.5	77.4	75.2	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	110	104	108	----	----
Toluene-D8	2037-26-5	0.1	%	128	119	128	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	111	103	112	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	BJ_SB12_0.2 - 04-NOV-2013 15:00	Pale brown clay soil with some small brown rocks plus some vegetation
EA200: Description	BJ_SB14_0.2 - 04-NOV-2013 15:00	Pale brown clay soil with some small brown rocks plus some vegetation
EA200: Description	BJ_SB15_0.2 - 04-NOV-2013 15:00	Pale brown clay soil with some small brown rocks plus some vegetation
EA200: Description	BJ_SB08_0.2 - 04-NOV-2013 15:00	Pale brown clay soil with some small brown rocks plus some vegetation
EA200: Description	BJ_SB16_0.2 - 31-OCT-2013 15:00	Pale brown clay soil with some small brown rocks plus some vegetation
EA200: Description	BJ_SB17_0.2 - 31-OCT-2013 15:00	Pale brown clay soil with some small brown rocks plus some slag grains and some vegetation
EA200: Description	BJ_SB13_0.2 - 31-OCT-2013 15:00	Pale cream-brown clay soil with some small brown rocks plus a trace of vegetation
EA200: Description	BJ_MW05_0.2 - 31-OCT-2013 15:00	Mid brown clay soil with some grey and brown rocks plus a trace of vegetation
EA200: Description	BJ_SB06_0.2 - 31-OCT-2013 15:00	Pale brown clay soil with some small grey rocks plus some quartz grains and a trace of vegetation
EA200: Description	BJ_SB07_0.2 - 31-OCT-2013 15:00	Mid brown clay soil with some red rocks plus some quartz and slag grains and a trace of vegetation
EA200: Description	BJ_SB11_0.2 - 31-OCT-2013 15:00	Grey-brown soil with some vegetation and small grey-brown rocks
EA200: Description	BJ_SB10_0.2 - 31-OCT-2013 15:00	Light brown soil with some vegetation and small white and dark brown rocks
EA200: Description	BJ_MW03_0.2 - 31-OCT-2013 15:00	Dark brown soil with large quantity vegetation and small coal pieces
EA200: Description	BJ_MW04_0.2 - 01-NOV-2013 15:00	Brown soil with some vegetation and small grey and brown rocks and coal pieces
EA200: Description	BS_MW01_0.2 - 01-NOV-2013 15:00	Brown soil with some vegetation and small grey rocks and coal pieces
EA200: Description	BS_MW02_0.2 - 31-OCT-2013 15:00	Brown soil with some vegetation and small grey rocks and coal pieces
EA200: Description	BS_SB02_0.2 - 31-OCT-2013 15:00	Mixture of brown soil and coal pieces with some vegetation



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP074S: VOC Surrogates			
1,2-Dichloroethane-D4	17060-07-0	64	130
Toluene-D8	2037-26-5	66	136
4-Bromofluorobenzene	460-00-4	60	122
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	72.8	133.2
Toluene-D8	2037-26-5	73.9	132.1
4-Bromofluorobenzene	460-00-4	71.6	130.0

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2,4,6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

QUALITY CONTROL REPORT

Work Order	: ES1323960	Page	: 1 of 30
Client	: ENVIRO RESOURCES MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: MR JOSEPH FERRING	Contact	: Barbara Hanna
Address	: GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: joseph.ferring@erm.com	E-mail	: Barbara.Hanna@alsglobal.com
Telephone	: +61 02 8584 8888	Telephone	: +61 2 8784 8555
Facsimile	: +61 02 8584 8800	Facsimile	: +61 2 8784 8555
Project	: PROJECT SYMPHONY	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----	Date Samples Received	: 06-NOV-2013
C-O-C number	: ----	Issue Date	: 13-NOV-2013
Sampler	: TC	No. of samples received	: 41
Order number	: 0213879	No. of samples analysed	: 30
Quote number	: SY/794/13		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

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



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.

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



NATA Accredited
Laboratory 825

Accredited for
compliance with
ISO/IEC 17025.

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Di-An Dao		Sydney Inorganics
Hamish Murray	Supervisor - Soils	Newcastle - Inorganics
Hoa Nguyen	Senior Inorganic Chemist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Peter Rennie	Asbestos Identifier	Newcastle - Asbestos
Phalak Inthaksone	Laboratory Manager - Organics	Sydney Organics
Raymond Commodor	Instrument Chemist	Sydney Inorganics



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 (%)
EA002 : pH (Soils) (QC Lot: 3149545)									
ES1323718-001	Anonymous	EA002: pH Value	----	0.1	pH Unit	6.3	6.4	0.0	0% - 20%
ES1323980-001	Anonymous	EA002: pH Value	----	0.1	pH Unit	9.2	9.2	0.0	0% - 20%
EA055: Moisture Content (QC Lot: 3152108)									
ES1323960-003	BJ_SB15_0.2	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	5.6	4.8	14.8	No Limit
ES1323960-019	BJ_SB06_0.2	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	5.9	5.4	9.4	No Limit
EA055: Moisture Content (QC Lot: 3152109)									
ES1323960-041	BS_MW02_0.2	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	4.8	5.4	11.9	No Limit
ES1324312-004	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	10.8	10.2	6.2	0% - 50%
ED007: Exchangeable Cations (QC Lot: 3152580)									
ES1323960-027	BJ_MW04_0.2	ED007: Exchangeable Calcium	----	0.1	meq/100g	24.8	23.2	6.8	0% - 20%
		ED007: Exchangeable Magnesium	----	0.1	meq/100g	2.7	2.6	0.0	0% - 20%
		ED007: Exchangeable Potassium	----	0.1	meq/100g	0.4	0.4	0.0	0% - 20%
		ED007: Exchangeable Sodium	----	0.1	meq/100g	<0.1	<0.1	0.0	0% - 20%
		ED007: Cation Exchange Capacity	----	0.1	meq/100g	28.0	26.2	6.4	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 3149386)									
ES1323960-001	BJ_SB12_0.2	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	14	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	16	17	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	10	10	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	11	11	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	13	13	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	50	50	0.0	No Limit
ES1323960-014	BJ_SB17_0.2	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	20	15	28.1	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	18	15	20.3	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	9	7	19.5	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	24	20	19.5	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	14	19.7	No Limit
EG005T: Zinc	7440-66-6	5	mg/kg	72	59	19.9	0% - 50%		
EG005T: Total Metals by ICP-AES (QC Lot: 3149391)									
ES1323960-040	D01_41113_TC	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	9	9	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	9	8	12.8	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	12	11	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	11	17	42.7	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: 3149391) - continued									
ES1323960-040	D01_41113_TC	EG005T: Lead	7439-92-1	5	mg/kg	16	26	45.9	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	101	87	15.1	0% - 20%
ES1324019-011	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	6	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	53	65	21.1	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3149387)									
ES1323960-001	BJ_SB12_0.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1323960-014	BJ_SB17_0.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3149392)									
ES1323960-040	D01_41113_TC	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1324019-011	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP004: Organic Matter (QC Lot: 3147606)									
ES1323275-001	Anonymous	EP004: Organic Matter	----	0.5	%	2.6	2.7	0.0	No Limit
		EP004: Total Organic Carbon	----	0.5	%	1.5	1.6	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3149321)									
ES1324280-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 3148650)									
ES1323906-001	Anonymous	EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1323960-016	BJ_SB13_0.2	EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	<0.5	0.0	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 (%)
EP074B: Oxygenated Compounds (QC Lot: 3148650)									
ES1323906-001	Anonymous	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
ES1323960-016	BJ_SB13_0.2	EP074: Vinyl Acetate	108-05-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	5	mg/kg	<5	<5	0.0	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	5	mg/kg	<5	<5	0.0	No Limit
EP074C: Sulfonated Compounds (QC Lot: 3148650)									
ES1323906-001	Anonymous	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1323960-016	BJ_SB13_0.2	EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074D: Fumigants (QC Lot: 3148650)									
ES1323906-001	Anonymous	EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1323960-016	BJ_SB13_0.2	EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP074E: Halogenated Aliphatic Compounds (QC Lot: 3148650)									
ES1323906-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	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 (%)
EP074E: Halogenated Aliphatic Compounds (QC Lot: 3148650) - continued									
ES1323906-001	Anonymous	EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit		
ES1323960-016	BJ_SB13_0.2	EP074: 1.1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.1.2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: trans-1.4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: cis-1.4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.1.2.2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2.3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1.2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dichlorodifluoromethane	75-71-8	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloromethane	74-87-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Vinyl chloride	75-01-4	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Bromomethane	74-83-9	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Chloroethane	75-00-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Trichlorofluoromethane	75-69-4	5	mg/kg	<5	<5	0.0	No Limit

EP074F: Halogenated Aromatic Compounds (QC Lot: 3148650)



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 (%)
EP074F: Halogenated Aromatic Compounds (QC Lot: 3148650) - continued									
ES1323906-001	Anonymous	EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1323960-016	BJ_SB13_0.2	EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1323960-016	BJ_SB13_0.2	EP074: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1323960-016	BJ_SB13_0.2	EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP074: Naphthalene	91-20-3	5	mg/kg	<5	<5	0.0	No Limit
		EP074: Naphthalene	91-20-3	5	mg/kg	<5	<5	0.0	No Limit
EP074H: Naphthalene (QC Lot: 3148650)									
EP075(SIM)A: Phenolic Compounds (QC Lot: 3147260)									
ES1323960-001	BJ_SB12_0.2	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	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)A: Phenolic Compounds (QC Lot: 3147260) - continued									
ES1323960-001	BJ_SB12_0.2	EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
ES1323960-014	BJ_SB17_0.2	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 3149755)									
ES1324335-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3147260)									
ES1323960-001	BJ_SB12_0.2	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	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: 3147260) - continued									
ES1323960-001	BJ_SB12_0.2	EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1323960-014	BJ_SB17_0.2	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3149755)									
ES1324335-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	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: 3149755) - continued									
ES1324335-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3147259)									
ES1323960-001	BJ_SB12_0.2	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1323960-014	BJ_SB17_0.2	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3148647)									
ES1323960-003	BJ_SB15_0.2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1323960-024	BJ_SB10_0.2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3148649)									
ES1323906-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1323960-016	BJ_SB13_0.2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3149754)									
ES1324335-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3147259)									
ES1323960-001	BJ_SB12_0.2	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.0	No Limit
ES1323960-014	BJ_SB17_0.2	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3148647)									
ES1323960-003	BJ_SB15_0.2	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES1323960-024	BJ_SB10_0.2	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3148649)									
ES1323906-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES1323960-016	BJ_SB13_0.2	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3149754)									
ES1324335-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	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 (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3149754) - continued									
ES1324335-001	Anonymous	EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 3148647)									
ES1323960-003	BJ_SB15_0.2	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
ES1323960-024	BJ_SB10_0.2	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 3148649)									
ES1323906-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
ES1323960-016	BJ_SB13_0.2	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3148541)									
ES1323960-036	R01_041113_TC	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 3148541) - continued									
ES1323960-036	R01_041113_TC	EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
ES1324126-008	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.045	0.052	14.9	0% - 20%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 3148540)									
ES1323960-011	R01_311013_TC	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1324127-002	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 3148803)									
ES1323856-008	Anonymous	EP075(SIM): Phenol	108-95-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2.0	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	µg/L	<2.0	<2.0	0.0	No Limit
ES1323856-009	Anonymous	EP075(SIM): Phenol	108-95-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2.0	µg/L	<2.0	<2.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3148803)									
ES1323856-008	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit



Sub-Matrix: **WATER**

				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: 3148803) - continued									
ES1323856-008	Anonymous	EP075(SIM): Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit
ES1323856-009	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	0.0	No Limit
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit		
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit		
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3148802)									
ES1323856-008	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
ES1323856-009	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3148815)									
ES1323956-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	410	370	8.2	0% - 20%
ES1323960-011	R01_311013_TC	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3148802)									
ES1323856-008	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
ES1323856-009	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3148815)									
ES1323956-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	430	390	8.4	0% - 20%
ES1323960-011	R01_311013_TC	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3148815)									
ES1323956-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	41	39	5.2	0% - 20%
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	25	23	6.8	0% - 50%
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	17	16	7.8	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	12	11	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	8	<5	48.5	No Limit
ES1323960-011	R01_311013_TC	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	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 Sample (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**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
ED007: Exchangeable Cations (QCLot: 3152580)									
ED007: Exchangeable Calcium	----	0.1	meq/100g	<0.1	----	----	----	----	
ED007: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	----	----	----	----	
ED007: Exchangeable Potassium	----	0.1	meq/100g	<0.1	----	----	----	----	
ED007: Exchangeable Sodium	----	0.1	meq/100g	<0.1	----	----	----	----	
ED007: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	----	----	----	----	
EG005T: Total Metals by ICP-AES (QCLot: 3149386)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	107	87	129	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	112	80	122	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	122	71	133	
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	114	86	128	
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	108	81	123	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	120	84	130	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	118	81	133	
EG005T: Total Metals by ICP-AES (QCLot: 3149391)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	113	87	129	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	117	80	122	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	126	71	133	
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	114	86	128	
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	116	81	123	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	125	84	130	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	116	81	133	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3149387)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	80.6	66	112	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3149392)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	85.7	66	112	
EP004: Organic Matter (QCLot: 3147606)									
EP004: Organic Matter	----	0.5	%	<0.5	4.58 %	95.8	85	105	
EP004: Total Organic Carbon	----	0.5	%	<0.5	2.66 %	95.7	84	106	
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3149321)									
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	90.8	57.4	117	
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 3148650)									
EP074: Styrene	100-42-5	0.5	mg/kg	<0.5	1 mg/kg	88.6	64	126	
EP074: Isopropylbenzene	98-82-8	0.5	mg/kg	<0.5	1 mg/kg	89.9	66	128	
EP074: n-Propylbenzene	103-65-1	0.5	mg/kg	<0.5	1 mg/kg	89.8	63	129	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 3148650) - continued									
EP074: 1,3,5-Trimethylbenzene	108-67-8	0.5	mg/kg	<0.5	1 mg/kg	92.5	63	129	
EP074: sec-Butylbenzene	135-98-8	0.5	mg/kg	<0.5	1 mg/kg	91.5	64	130	
EP074: 1,2,4-Trimethylbenzene	95-63-6	0.5	mg/kg	<0.5	1 mg/kg	93.0	63	129	
EP074: tert-Butylbenzene	98-06-6	0.5	mg/kg	<0.5	1 mg/kg	90.6	63	129	
EP074: p-Isopropyltoluene	99-87-6	0.5	mg/kg	<0.5	1 mg/kg	86.2	62	130	
EP074: n-Butylbenzene	104-51-8	0.5	mg/kg	<0.5	1 mg/kg	85.1	61	131	
EP074B: Oxygenated Compounds (QCLot: 3148650)									
EP074: Vinyl Acetate	108-05-4	1	mg/kg	----	10 mg/kg	56.9	29.6	156	
		5	mg/kg	<5	----	----	----	----	
EP074: 2-Butanone (MEK)	78-93-3	1	mg/kg	----	10 mg/kg	131	58	136	
		5	mg/kg	<5	----	----	----	----	
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	1	mg/kg	----	10 mg/kg	120	54	138	
		5	mg/kg	<5	----	----	----	----	
EP074: 2-Hexanone (MBK)	591-78-6	1	mg/kg	----	10 mg/kg	115	54	136	
		5	mg/kg	<5	----	----	----	----	
EP074C: Sulfonated Compounds (QCLot: 3148650)									
EP074: Carbon disulfide	75-15-0	0.5	mg/kg	<0.5	1 mg/kg	67.5	54	126	
EP074D: Fumigants (QCLot: 3148650)									
EP074: 2,2-Dichloropropane	594-20-7	0.5	mg/kg	<0.5	1 mg/kg	89.5	55	133	
EP074: 1,2-Dichloropropane	78-87-5	0.5	mg/kg	<0.5	1 mg/kg	93.9	69	127	
EP074: cis-1,3-Dichloropropylene	10061-01-5	0.5	mg/kg	<0.5	1 mg/kg	85.9	54	124	
EP074: trans-1,3-Dichloropropylene	10061-02-6	0.5	mg/kg	<0.5	1 mg/kg	82.4	51	125	
EP074: 1,2-Dibromoethane (EDB)	106-93-4	0.5	mg/kg	<0.5	1 mg/kg	97.8	66	126	
EP074E: Halogenated Aliphatic Compounds (QCLot: 3148650)									
EP074: Dichlorodifluoromethane	75-71-8	1	mg/kg	----	10 mg/kg	61.0	30	148	
		5	mg/kg	<5	----	----	----	----	
EP074: Chloromethane	74-87-3	1	mg/kg	----	10 mg/kg	80.6	41	141	
		5	mg/kg	<5	----	----	----	----	
EP074: Vinyl chloride	75-01-4	1	mg/kg	----	10 mg/kg	87.8	43	147	
		5	mg/kg	<5	----	----	----	----	
EP074: Bromomethane	74-83-9	1	mg/kg	----	10 mg/kg	96.8	47	141	
		5	mg/kg	<5	----	----	----	----	
EP074: Chloroethane	75-00-3	1	mg/kg	----	10 mg/kg	97.2	49	143	
		5	mg/kg	<5	----	----	----	----	
EP074: Trichlorofluoromethane	75-69-4	1	mg/kg	----	10 mg/kg	89.1	49	135	
		5	mg/kg	<5	----	----	----	----	
EP074: 1,1-Dichloroethene	75-35-4	0.5	mg/kg	<0.5	1 mg/kg	87.6	54	126	
EP074: Iodomethane	74-88-4	0.5	mg/kg	<0.5	1 mg/kg	83.3	43	129	
EP074: trans-1,2-Dichloroethene	156-60-5	0.5	mg/kg	<0.5	1 mg/kg	87.1	62	130	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EP074E: Halogenated Aliphatic Compounds (QCLot: 3148650) - continued									
EP074: 1,1-Dichloroethane	75-34-3	0.5	mg/kg	<0.5	1 mg/kg	99.4	66	132	
EP074: cis-1,2-Dichloroethene	156-59-2	0.5	mg/kg	<0.5	1 mg/kg	92.8	66	132	
EP074: 1,1,1-Trichloroethane	71-55-6	0.5	mg/kg	<0.5	1 mg/kg	95.6	62	126	
EP074: 1,1-Dichloropropylene	563-58-6	0.5	mg/kg	<0.5	1 mg/kg	93.4	64	128	
EP074: Carbon Tetrachloride	56-23-5	0.5	mg/kg	<0.5	1 mg/kg	82.3	59	125	
EP074: 1,2-Dichloroethane	107-06-2	0.5	mg/kg	<0.5	1 mg/kg	108	65	123	
EP074: Trichloroethene	79-01-6	0.5	mg/kg	<0.5	1 mg/kg	90.5	64	120	
EP074: Dibromomethane	74-95-3	0.5	mg/kg	<0.5	1 mg/kg	96.8	65	127	
EP074: 1,1,2-Trichloroethane	79-00-5	0.5	mg/kg	<0.5	1 mg/kg	97.7	70	130	
EP074: 1,3-Dichloropropane	142-28-9	0.5	mg/kg	<0.5	1 mg/kg	96.8	72	128	
EP074: Tetrachloroethene	127-18-4	0.5	mg/kg	<0.5	1 mg/kg	85.9	67	143	
EP074: 1,1,1,2-Tetrachloroethane	630-20-6	0.5	mg/kg	<0.5	1 mg/kg	87.8	62	122	
EP074: trans-1,4-Dichloro-2-butene	110-57-6	0.5	mg/kg	<0.5	1 mg/kg	101	54	128	
EP074: cis-1,4-Dichloro-2-butene	1476-11-5	0.5	mg/kg	<0.5	1 mg/kg	90.2	55	129	
EP074: 1,1,2,2-Tetrachloroethane	79-34-5	0.5	mg/kg	<0.5	1 mg/kg	108	56	132	
EP074: 1,2,3-Trichloropropane	96-18-4	0.5	mg/kg	<0.5	1 mg/kg	97.5	65	135	
EP074: Pentachloroethane	76-01-7	0.5	mg/kg	<0.5	1 mg/kg	74.2	19.8	134	
EP074: 1,2-Dibromo-3-chloropropane	96-12-8	0.5	mg/kg	<0.5	1 mg/kg	92.8	53	129	
EP074: Hexachlorobutadiene	87-68-3	0.5	mg/kg	<0.5	1 mg/kg	79.9	48	136	
EP074F: Halogenated Aromatic Compounds (QCLot: 3148650)									
EP074: Chlorobenzene	108-90-7	0.5	mg/kg	<0.5	1 mg/kg	91.8	70	128	
EP074: Bromobenzene	108-86-1	0.5	mg/kg	<0.5	1 mg/kg	93.1	67	127	
EP074: 2-Chlorotoluene	95-49-8	0.5	mg/kg	<0.5	1 mg/kg	96.6	64	130	
EP074: 4-Chlorotoluene	106-43-4	0.5	mg/kg	<0.5	1 mg/kg	91.6	62	130	
EP074: 1,3-Dichlorobenzene	541-73-1	0.5	mg/kg	<0.5	1 mg/kg	89.5	63	129	
EP074: 1,4-Dichlorobenzene	106-46-7	0.5	mg/kg	<0.5	1 mg/kg	91.8	63	129	
EP074: 1,2-Dichlorobenzene	95-50-1	0.5	mg/kg	<0.5	1 mg/kg	91.2	66	128	
EP074: 1,2,4-Trichlorobenzene	120-82-1	0.5	mg/kg	<0.5	1 mg/kg	74.6	54	134	
EP074: 1,2,3-Trichlorobenzene	87-61-6	0.5	mg/kg	<0.5	1 mg/kg	81.1	60	132	
EP074G: Trihalomethanes (QCLot: 3148650)									
EP074: Chloroform	67-66-3	0.5	mg/kg	<0.5	1 mg/kg	105	62	120	
EP074: Bromodichloromethane	75-27-4	0.5	mg/kg	<0.5	1 mg/kg	89.0	61	121	
EP074: Dibromochloromethane	124-48-1	0.5	mg/kg	<0.5	1 mg/kg	88.2	63	121	
EP074: Bromoform	75-25-2	0.5	mg/kg	<0.5	1 mg/kg	95.7	60	126	
EP074H: Naphthalene (QCLot: 3148650)									
EP074: Naphthalene	91-20-3	0.5	mg/kg	----	1 mg/kg	100	63	133	
		5	mg/kg	<5	----	----	----	----	
EP075(SIM)A: Phenolic Compounds (QCLot: 3147260)									



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EP075(SIM)A: Phenolic Compounds (QCLot: 3147260) - continued									
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	100	74	116	
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	89.4	74	116	
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	91.9	72	116	
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1	8 mg/kg	# 125	69	123	
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	71.4	60.3	117	
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	74.1	69	117	
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	77.5	68	112	
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	82.0	73	117	
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	78.0	76.4	114	
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	76.2	57	111	
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	78.5	68.9	112	
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1	8 mg/kg	13.2	3.9	57	
EP075(SIM)A: Phenolic Compounds (QCLot: 3149755)									
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	90.4	74	116	
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	92.6	74	116	
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	99.2	72	116	
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1	8 mg/kg	103	69	123	
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	87.2	60.3	117	
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	95.4	69	117	
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	86.9	68	112	
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	83.0	73	117	
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	95.2	76.4	114	
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	84.4	57	111	
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	107	68.9	112	
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1	8 mg/kg	35.4	3.9	57	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3147260)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	88.1	80	124	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	91.8	77	123	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	94.7	79	123	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	93.7	77	123	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	95.1	79	123	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	94.6	79	123	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	96.9	79	123	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	100	79	125	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	87.1	73	121	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	94.0	81	123	
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	81.1	70	118	
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	101	77	123	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	92.7	76	122	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3147260) - continued									
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	90.3	71	113	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	90.6	71.7	113	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	87.5	72.4	114	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3149755)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	94.5	80	124	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	99.8	77	123	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	103	79	123	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	105	77	123	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	104	79	123	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	105	79	123	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	107	79	123	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	107	79	125	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	101	73	121	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	104	81	123	
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	94.2	70	118	
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	98.1	77	123	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	97.3	76	122	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	84.4	71	113	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	83.3	71.7	113	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	83.4	72.4	114	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3147259)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	96.6	71	131	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	93.7	74	138	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	94.6	64	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3148647)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	83.8	68.4	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3148649)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	102	68.4	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3149754)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	92.6	71	131	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	88.0	74	138	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	85.9	64	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3147259)									
EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	250 mg/kg	94.5	70	130	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	93.9	74	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----	
		50	mg/kg	----	150 mg/kg	94.8	63	131	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3148647)									



Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3148647) - continued									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	83.9	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3148649)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	100	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3149754)									
EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	250 mg/kg	92.0	70	130	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	86.1	74	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----	
		50	mg/kg	----	150 mg/kg	83.6	63	131	
EP080: BTEXN (QCLot: 3148647)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	94.1	62	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	79.6	62	128	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	84.3	58	118	
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	82.4	60	120	
	106-42-3								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	89.0	60	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	91.4	62	138	
EP080: BTEXN (QCLot: 3148649)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	105	62	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	97.6	62	128	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	92.9	58	118	
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	92.7	60	120	
	106-42-3								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	94.7	60	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	93.5	62	138	

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3148541)									
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	106	80	118	
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	96.4	82	112	
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	95.6	81	111	
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	98.1	80	112	
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	98.0	83	111	
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	94.8	81	113	
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	107	80	116	
EG035F: Dissolved Mercury by FIMS (QCLot: 3148540)									
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	106	78	114	
EP075(SIM)A: Phenolic Compounds (QCLot: 3148803)									



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report				
				Report	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
				Result		LCS	Low	High	
EP075(SIM)A: Phenolic Compounds (QCLot: 3148803) - continued									
EP075(SIM): Phenol	108-95-2	0.2	µg/L	----	5 µg/L	32.7	24.5	61.9	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): 2-Chlorophenol	95-57-8	0.2	µg/L	----	5 µg/L	69.6	63.8	110	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): 2-Methylphenol	95-48-7	0.2	µg/L	----	5 µg/L	65.1	55.9	112	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	0.4	µg/L	----	10 µg/L	63.6	42.5	114	
		2	µg/L	<2.0	----	----	----	----	
EP075(SIM): 2-Nitrophenol	88-75-5	0.2	µg/L	----	5 µg/L	71.1	62.7	117	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.2	µg/L	----	5 µg/L	81.2	59.9	112	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.2	µg/L	----	5 µg/L	80.4	59.3	122	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.2	µg/L	----	5 µg/L	78.0	64.3	118	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.2	µg/L	----	5 µg/L	93.8	63	119	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.2	µg/L	----	5 µg/L	83.7	58.7	118	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.2	µg/L	----	5 µg/L	91.4	50	108	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): Pentachlorophenol	87-86-5	0.4	µg/L	----	10 µg/L	91.7	8.7	95	
		2	µg/L	<2.0	----	----	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3148803)									
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	5 µg/L	76.2	58.6	119	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	5 µg/L	79.8	63.6	114	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	5 µg/L	76.8	62.2	113	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	5 µg/L	83.4	63.9	115	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	5 µg/L	82.5	62.6	116	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	5 µg/L	81.0	64.3	116	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	5 µg/L	74.4	63.6	118	
		1	µg/L	<1.0	----	----	----	----	



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3148803) - continued									
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	5 µg/L	80.6	63.1	118	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	5 µg/L	83.3	64.1	117	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	5 µg/L	83.6	62.5	116	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	5 µg/L	73.8	61.7	119	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	5 µg/L	76.9	61.7	117	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	5 µg/L	85.7	63.3	117	
		0.5	µg/L	<0.5	----	----	----	----	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	5 µg/L	66.2	59.9	118	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.2	µg/L	----	5 µg/L	65.7	61.2	117	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.2	µg/L	----	5 µg/L	69.0	59.1	118	
		1	µg/L	<1.0	----	----	----	----	
EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	1	µg/L	<1.0	----	----	----	----	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3148802)									
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	97.4	59	129	
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	101	71	131	
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	99.0	62	120	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3148815)									
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	95.2	75	127	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3148802)									
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	100	58.9	131	
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	101	73.9	138	
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----	
		50	µg/L	----	1500 µg/L	104	67	127	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3148815)									
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	94.5	75	127	
EP080: BTEXN (QCLot: 3148815)									
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	95.4	70	124	
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	101	65	129	
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	97.6	70	120	
EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	10 µg/L	95.8	69	121	
	106-42-3								
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	95.0	72	122	



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
						LCS	Low	High
EP080: BTEXN (QCLot: 3148815) - continued								
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	90.2	70	124

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**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%) MS	Recovery Limits (%) Low High	
EG005T: Total Metals by ICP-AES (QCLot: 3149386)							
ES1323960-001	BJ_SB12_0.2	EG005T: Arsenic	7440-38-2	50 mg/kg	102	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	107	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	108	70	130
		EG005T: Copper	7440-50-8	125 mg/kg	111	70	130
		EG005T: Lead	7439-92-1	125 mg/kg	110	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	122	70	130
		EG005T: Zinc	7440-66-6	125 mg/kg	115	70	130
EG005T: Total Metals by ICP-AES (QCLot: 3149391)							
ES1323960-040	D01_41113_TC	EG005T: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	107	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	101	70	130
		EG005T: Copper	7440-50-8	125 mg/kg	110	70	130
		EG005T: Lead	7439-92-1	125 mg/kg	110	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	108	70	130
		EG005T: Zinc	7440-66-6	125 mg/kg	102	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3149387)							
ES1323960-001	BJ_SB12_0.2	EG035T: Mercury	7439-97-6	5 mg/kg	92.9	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3149392)							
ES1323960-040	D01_41113_TC	EG035T: Mercury	7439-97-6	5 mg/kg	97.7	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3149321)							
ES1324280-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	93.0	70	130
EP074E: Halogenated Aliphatic Compounds (QCLot: 3148650)							
ES1323906-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	2.5 mg/kg	101	70	130
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	92.8	70	130
EP074F: Halogenated Aromatic Compounds (QCLot: 3148650)							
ES1323906-001	Anonymous	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	88.9	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 3147260)							



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 3147260) - continued							
ES1323960-001	BJ_SB12_0.2	EP075(SIM): Phenol	108-95-2	10 mg/kg	96.8	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	87.0	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	74.5	60	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	75.3	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	59.9	20	130
EP075(SIM)A: Phenolic Compounds (QCLot: 3149755)							
ES1324335-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	86.6	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	92.2	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	86.9	60	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	94.2	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	75.1	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3147260)							
ES1323960-001	BJ_SB12_0.2	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	85.1	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	86.9	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3149755)							
ES1324335-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	97.9	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	102	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3147259)							
ES1323960-001	BJ_SB12_0.2	EP071: C10 - C14 Fraction	----	640 mg/kg	76.7	73	137
		EP071: C15 - C28 Fraction	----	3140 mg/kg	79.7	53	131
		EP071: C29 - C36 Fraction	----	2860 mg/kg	68.9	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3148647)							
ES1323960-003	BJ_SB15_0.2	EP080: C6 - C9 Fraction	----	32.5 mg/kg	106	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3148649)							
ES1323906-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	84.5	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3149754)							
ES1324335-001	Anonymous	EP071: C10 - C14 Fraction	----	640 mg/kg	77.5	73	137
		EP071: C15 - C28 Fraction	----	3140 mg/kg	79.0	53	131
		EP071: C29 - C36 Fraction	----	2860 mg/kg	67.9	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3147259)							
ES1323960-001	BJ_SB12_0.2	EP071: >C10 - C16 Fraction	>C10_C16	850 mg/kg	96.6	73	137
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	73.3	53	131
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	56.7	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3148647)							
ES1323960-003	BJ_SB15_0.2	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	104	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3148649)							



Sub-Matrix: SOIL				Matrix Spike (MS) Report				
				Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3148649) - continued								
ES1323906-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	78.2	70	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3149754)								
ES1324335-001	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	850 mg/kg	98.6	73	137	
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	72.3	53	131	
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	55.6	52	132	
EP080: BTEXN (QCLot: 3148647)								
ES1323960-003	BJ_SB15_0.2	EP080: Benzene	71-43-2	2.5 mg/kg	101	70	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	92.9	70	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	95.3	70	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	92.0	70	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	97.5	70	130	
	EP080: Naphthalene	91-20-3	2.5 mg/kg	106	70	130		
EP080: BTEXN (QCLot: 3148649)								
ES1323906-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	82.5	70	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	81.9	70	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	76.7	70	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	78.2	70	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	80.9	70	130	
	EP080: Naphthalene	91-20-3	2.5 mg/kg	71.8	70	130		

Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 3148541)							
ES1324126-001	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	129	70	130
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	116	70	130
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	111	70	130
		EG020A-F: Copper	7440-50-8	0.2 mg/L	116	70	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	113	70	130
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	100	70	130
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	125	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 3148540)							
ES1323960-012	R01_011113_TC	EG035F: Mercury	7439-97-6	0.0100 mg/L	96.6	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 3148803)							
ES1323856-008	Anonymous	EP075(SIM): Phenol	108-95-2	20 µg/L	33.2	20	130
		EP075(SIM): 2-Chlorophenol	95-57-8	20 µg/L	72.8	60	130



Sub-Matrix: **WATER**

				Matrix Spike (MS) Report				
				Spike	Spike Recovery(%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP075(SIM)A: Phenolic Compounds (QCLot: 3148803) - continued								
ES1323856-008	Anonymous	EP075(SIM): 2-Nitrophenol	88-75-5	20 µg/L	74.1	60	130	
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	20 µg/L	89.0	70	130	
		EP075(SIM): Pentachlorophenol	87-86-5	20 µg/L	81.9	20	130	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3148803)								
ES1323856-008	Anonymous	EP075(SIM): Acenaphthene	83-32-9	20 µg/L	74.0	70	130	
		EP075(SIM): Pyrene	129-00-0	20 µg/L	81.2	70	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3148802)								
ES1323856-008	Anonymous	EP071: C10 - C14 Fraction	----	200 µg/L	112	74	150	
		EP071: C15 - C28 Fraction	----	300 µg/L	94.4	77	153	
		EP071: C29 - C36 Fraction	----	200 µg/L	98.4	67	153	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3148815)								
ES1323956-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	118	70	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3148802)								
ES1323856-008	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	250 µg/L	109	74	150	
		EP071: >C16 - C34 Fraction	----	350 µg/L	92.7	77	153	
		EP071: >C34 - C40 Fraction	----	150 µg/L	104	67	153	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3148815)								
ES1323956-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	114	70	130	
EP080: BTEXN (QCLot: 3148815)								
ES1323956-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	95.9	70	130	
		EP080: Toluene	108-88-3	25 µg/L	112	70	130	
		EP080: Ethylbenzene	100-41-4	25 µg/L	113	70	130	
		EP080: meta- & para-Xylene	108-38-3	25 µg/L	117	70	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	25 µg/L	113	70	130	
	EP080: Naphthalene	91-20-3	25 µg/L	87.5	70	130		

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are 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) and Matrix Spike Duplicate (MSD) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3147259)											
ES1323960-001	BJ_SB12_0.2	EP071: C10 - C14 Fraction	----	640 mg/kg	76.7	----	73	137	----	----	
		EP071: C15 - C28 Fraction	----	3140 mg/kg	79.7	----	53	131	----	----	



Sub-Matrix: SOIL					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						MS	MSD	Low	High	Value	Control Limit
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number								
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3147259) - continued											
ES1323960-001	BJ_SB12_0.2	EP071: C29 - C36 Fraction	----	2860 mg/kg	68.9	----	52	132	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3147259)											
ES1323960-001	BJ_SB12_0.2	EP071: >C10 - C16 Fraction	>C10_C16	850 mg/kg	96.6	----	73	137	----	----	
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	73.3	----	53	131	----	----	
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	56.7	----	52	132	----	----	
EP075(SIM)A: Phenolic Compounds (QCLot: 3147260)											
ES1323960-001	BJ_SB12_0.2	EP075(SIM): Phenol	108-95-2	10 mg/kg	96.8	----	70	130	----	----	
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	87.0	----	70	130	----	----	
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	74.5	----	60	130	----	----	
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	75.3	----	70	130	----	----	
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	59.9	----	20	130	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3147260)											
ES1323960-001	BJ_SB12_0.2	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	85.1	----	70	130	----	----	
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	86.9	----	70	130	----	----	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3148647)											
ES1323960-003	BJ_SB15_0.2	EP080: C6 - C9 Fraction	----	32.5 mg/kg	106	----	70	130	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3148647)											
ES1323960-003	BJ_SB15_0.2	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	104	----	70	130	----	----	
EP080: BTEXN (QCLot: 3148647)											
ES1323960-003	BJ_SB15_0.2	EP080: Benzene	71-43-2	2.5 mg/kg	101	----	70	130	----	----	
		EP080: Toluene	108-88-3	2.5 mg/kg	92.9	----	70	130	----	----	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	95.3	----	70	130	----	----	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	92.0	----	70	130	----	----	
			106-42-3								
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	97.5	----	70	130	----	----	
		EP080: Naphthalene	91-20-3	2.5 mg/kg	106	----	70	130	----	----	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3148649)											
ES1323906-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	84.5	----	70	130	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3148649)											
ES1323906-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	78.2	----	70	130	----	----	
EP080: BTEXN (QCLot: 3148649)											
ES1323906-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	82.5	----	70	130	----	----	
		EP080: Toluene	108-88-3	2.5 mg/kg	81.9	----	70	130	----	----	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	76.7	----	70	130	----	----	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	78.2	----	70	130	----	----	
			106-42-3								
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	80.9	----	70	130	----	----	
		EP080: Naphthalene	91-20-3	2.5 mg/kg	71.8	----	70	130	----	----	



Sub-Matrix: SOIL					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						MS	MSD	Low	High	Value	Control Limit
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number								
EP074E: Halogenated Aliphatic Compounds (QCLot: 3148650)											
ES1323906-001	Anonymous	EP074: 1,1-Dichloroethene	75-35-4	2.5 mg/kg	101	----	70	130	----	----	
		EP074: Trichloroethene	79-01-6	2.5 mg/kg	92.8	----	70	130	----	----	
EP074F: Halogenated Aromatic Compounds (QCLot: 3148650)											
ES1323906-001	Anonymous	EP074: Chlorobenzene	108-90-7	2.5 mg/kg	88.9	----	70	130	----	----	
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3149321)											
ES1324280-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	93.0	----	70	130	----	----	
EG005T: Total Metals by ICP-AES (QCLot: 3149386)											
ES1323960-001	BJ_SB12_0.2	EG005T: Arsenic	7440-38-2	50 mg/kg	102	----	70	130	----	----	
		EG005T: Cadmium	7440-43-9	50 mg/kg	107	----	70	130	----	----	
		EG005T: Chromium	7440-47-3	50 mg/kg	108	----	70	130	----	----	
		EG005T: Copper	7440-50-8	125 mg/kg	111	----	70	130	----	----	
		EG005T: Lead	7439-92-1	125 mg/kg	110	----	70	130	----	----	
		EG005T: Nickel	7440-02-0	50 mg/kg	122	----	70	130	----	----	
		EG005T: Zinc	7440-66-6	125 mg/kg	115	----	70	130	----	----	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3149387)											
ES1323960-001	BJ_SB12_0.2	EG035T: Mercury	7439-97-6	5 mg/kg	92.9	----	70	130	----	----	
EG005T: Total Metals by ICP-AES (QCLot: 3149391)											
ES1323960-040	D01_41113_TC	EG005T: Arsenic	7440-38-2	50 mg/kg	101	----	70	130	----	----	
		EG005T: Cadmium	7440-43-9	50 mg/kg	107	----	70	130	----	----	
		EG005T: Chromium	7440-47-3	50 mg/kg	101	----	70	130	----	----	
		EG005T: Copper	7440-50-8	125 mg/kg	110	----	70	130	----	----	
		EG005T: Lead	7439-92-1	125 mg/kg	110	----	70	130	----	----	
		EG005T: Nickel	7440-02-0	50 mg/kg	108	----	70	130	----	----	
		EG005T: Zinc	7440-66-6	125 mg/kg	102	----	70	130	----	----	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3149392)											
ES1323960-040	D01_41113_TC	EG035T: Mercury	7439-97-6	5 mg/kg	97.7	----	70	130	----	----	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3149754)											
ES1324335-001	Anonymous	EP071: C10 - C14 Fraction	----	640 mg/kg	77.5	----	73	137	----	----	
		EP071: C15 - C28 Fraction	----	3140 mg/kg	79.0	----	53	131	----	----	
		EP071: C29 - C36 Fraction	----	2860 mg/kg	67.9	----	52	132	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3149754)											
ES1324335-001	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	850 mg/kg	98.6	----	73	137	----	----	
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	72.3	----	53	131	----	----	
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	55.6	----	52	132	----	----	
EP075(SIM)A: Phenolic Compounds (QCLot: 3149755)											
ES1324335-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	86.6	----	70	130	----	----	
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	92.2	----	70	130	----	----	



Sub-Matrix: **SOIL**

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					MS	MSD	Low	High	Value	Control Limit
EP075(SIM)A: Phenolic Compounds (QCLot: 3149755) - continued										
ES1324335-001	Anonymous	EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	86.9	----	60	130	----	----
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	94.2	----	70	130	----	----
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	75.1	----	20	130	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3149755)										
ES1324335-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	97.9	----	70	130	----	----
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	102	----	70	130	----	----

Sub-Matrix: **WATER**

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					MS	MSD	Low	High	Value	Control Limit
EG035F: Dissolved Mercury by FIMS (QCLot: 3148540)										
ES1323960-012	R01_011113_TC	EG035F: Mercury	7439-97-6	0.0100 mg/L	96.6	----	70	130	----	----
EG020F: Dissolved Metals by ICP-MS (QCLot: 3148541)										
ES1324126-001	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	129	----	70	130	----	----
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	116	----	70	130	----	----
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	111	----	70	130	----	----
		EG020A-F: Copper	7440-50-8	0.2 mg/L	116	----	70	130	----	----
		EG020A-F: Lead	7439-92-1	0.2 mg/L	113	----	70	130	----	----
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	100	----	70	130	----	----
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	125	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3148802)										
ES1323856-008	Anonymous	EP071: C10 - C14 Fraction	----	200 µg/L	112	----	74	150	----	----
		EP071: C15 - C28 Fraction	----	300 µg/L	94.4	----	77	153	----	----
		EP071: C29 - C36 Fraction	----	200 µg/L	98.4	----	67	153	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3148802)										
ES1323856-008	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	250 µg/L	109	----	74	150	----	----
		EP071: >C16 - C34 Fraction	----	350 µg/L	92.7	----	77	153	----	----
		EP071: >C34 - C40 Fraction	----	150 µg/L	104	----	67	153	----	----
EP075(SIM)A: Phenolic Compounds (QCLot: 3148803)										
ES1323856-008	Anonymous	EP075(SIM): Phenol	108-95-2	20 µg/L	33.2	----	20	130	----	----
		EP075(SIM): 2-Chlorophenol	95-57-8	20 µg/L	72.8	----	60	130	----	----
		EP075(SIM): 2-Nitrophenol	88-75-5	20 µg/L	74.1	----	60	130	----	----
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	20 µg/L	89.0	----	70	130	----	----
		EP075(SIM): Pentachlorophenol	87-86-5	20 µg/L	81.9	----	20	130	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3148803)										
ES1323856-008	Anonymous	EP075(SIM): Acenaphthene	83-32-9	20 µg/L	74.0	----	70	130	----	----
		EP075(SIM): Pyrene	129-00-0	20 µg/L	81.2	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3148815)										



Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)		
					MS	MSD	Low	High	Value	Control Limit	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3148815) - continued											
ES1323956-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	118	----	70	130	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3148815)											
ES1323956-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	114	----	70	130	----	----	
EP080: BTEXN (QCLot: 3148815)											
ES1323956-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	95.9	----	70	130	----	----	
		EP080: Toluene	108-88-3	25 µg/L	112	----	70	130	----	----	
		EP080: Ethylbenzene	100-41-4	25 µg/L	113	----	70	130	----	----	
		EP080: meta- & para-Xylene	108-38-3	25 µg/L	117	----	70	130	----	----	
			106-42-3								
		EP080: ortho-Xylene	95-47-6	25 µg/L	113	----	70	130	----	----	
	EP080: Naphthalene	91-20-3		25 µg/L	87.5	----	70	130	----	----	

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: ES1323960	Page	: 1 of 15
Client	: ENVIRO RESOURCES MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: MR JOSEPH FERRING	Contact	: Barbara Hanna
Address	: GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: joseph.ferring@erm.com	E-mail	: Barbara.Hanna@alsglobal.com
Telephone	: +61 02 8584 8888	Telephone	: +61 2 8784 8555
Facsimile	: +61 02 8584 8800	Facsimile	: +61 2 8784 8555
Project	: PROJECT SYMPHONY	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----	Date Samples Received	: 06-NOV-2013
C-O-C number	: ----	Issue Date	: 13-NOV-2013
Sampler	: TC	No. of samples received	: 41
Order number	: 0213879	No. of samples analysed	: 30
Quote number	: SY/794/13		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA002 : pH (Soils)							
Soil Glass Jar - Unpreserved (EA002) BJ_MW04_0.2, BS_MW01_0.2	01-NOV-2013	08-NOV-2013	08-NOV-2013	✓	08-NOV-2013	09-NOV-2013	✓
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103) BJ_MW04_0.2, BS_MW01_0.2	01-NOV-2013	----	----	----	11-NOV-2013	15-NOV-2013	✓
Soil Glass Jar - Unpreserved (EA055-103) BJ_SB12_0.2, BJ_SB14_0.2, BJ_SB15_0.2, BJ_SB08_0.2, BJ_SB06_3.0, BJ_SB13_3.0, BJ_SB17_1.8, BJ_SB18_3.0, BJ_SB19_3.0	04-NOV-2013	----	----	----	11-NOV-2013	18-NOV-2013	✓
Soil Glass Jar - Unpreserved (EA055-103) BJ_SB16_0.2, BJ_SB17_0.2, BJ_SB13_0.2, BJ_MW05_0.2, BJ_SB06_0.2, BJ_SB07_0.2, BJ_SB11_0.2, BJ_SB10_0.2, BJ_MW03_0.2, D01_311013_TC, D01_41113_TC, BS_MW02_0.2, BS_SB02_0.2	31-OCT-2013	----	----	----	11-NOV-2013	14-NOV-2013	✓
EA150: Particle Sizing							
Snap Lock Bag (EA150) BJ_MW04_0.2, BS_MW01_0.2	01-NOV-2013	---	30-APR-2014	----	12-NOV-2013	11-MAY-2014	✓
EA150: Soil Classification based on Particle Size							
Snap Lock Bag (EA150) BJ_MW04_0.2, BS_MW01_0.2	01-NOV-2013	---	30-APR-2014	----	12-NOV-2013	11-MAY-2014	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples							
Snap Lock Bag (EA200) BJ_MW04_0.2, BS_MW01_0.2	01-NOV-2013	---	30-APR-2014	----	13-NOV-2013	12-MAY-2014	✓
Snap Lock Bag (EA200) BJ_SB12_0.2, BJ_SB15_0.2, BJ_SB08_0.2	04-NOV-2013	---	03-MAY-2014	----	13-NOV-2013	12-MAY-2014	✓
Snap Lock Bag (EA200) BJ_SB16_0.2, BJ_SB13_0.2, BJ_SB06_0.2, BJ_SB11_0.2, BJ_MW03_0.2, BS_SB02_0.2, BJ_SB17_0.2, BJ_MW05_0.2, BJ_SB07_0.2, BJ_SB10_0.2, BS_MW02_0.2	31-OCT-2013	---	29-APR-2014	----	13-NOV-2013	12-MAY-2014	✓
ED007: Exchangeable Cations							
Soil Glass Jar - Unpreserved (ED007) BJ_MW04_0.2, BS_MW01_0.2	01-NOV-2013	12-NOV-2013	29-NOV-2013	✓	12-NOV-2013	29-NOV-2013	✓
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) BJ_MW04_0.2	01-NOV-2013	08-NOV-2013	30-APR-2014	✓	11-NOV-2013	30-APR-2014	✓
Soil Glass Jar - Unpreserved (EG005T) BJ_SB12_0.2, BJ_SB15_0.2, BJ_SB06_3.0, BJ_SB17_1.8, BJ_SB19_3.0, BJ_SB14_0.2, BJ_SB08_0.2, BJ_SB13_3.0, BJ_SB18_3.0	04-NOV-2013	08-NOV-2013	03-MAY-2014	✓	11-NOV-2013	03-MAY-2014	✓
Soil Glass Jar - Unpreserved (EG005T) BJ_SB16_0.2, BJ_SB13_0.2, BJ_SB06_0.2, BJ_SB11_0.2, BJ_MW03_0.2, D01_41113_TC, BS_SB02_0.2, BJ_SB17_0.2, BJ_MW05_0.2, BJ_SB07_0.2, BJ_SB10_0.2, D01_311013_TC, BS_MW02_0.2	31-OCT-2013	08-NOV-2013	29-APR-2014	✓	11-NOV-2013	29-APR-2014	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) BJ_MW04_0.2	01-NOV-2013	08-NOV-2013	29-NOV-2013	✓	11-NOV-2013	29-NOV-2013	✓
Soil Glass Jar - Unpreserved (EG035T) BJ_SB12_0.2, BJ_SB15_0.2, BJ_SB06_3.0, BJ_SB17_1.8, BJ_SB19_3.0 BJ_SB14_0.2, BJ_SB08_0.2, BJ_SB13_3.0, BJ_SB18_3.0	04-NOV-2013	08-NOV-2013	02-DEC-2013	✓	11-NOV-2013	02-DEC-2013	✓
Soil Glass Jar - Unpreserved (EG035T) BJ_SB16_0.2, BJ_SB13_0.2, BJ_SB06_0.2, BJ_SB11_0.2, BJ_MW03_0.2, D01_41113_TC, BS_SB02_0.2 BJ_SB17_0.2, BJ_MW05_0.2, BJ_SB07_0.2, BJ_SB10_0.2, D01_311013_TC, BS_MW02_0.2	31-OCT-2013	08-NOV-2013	28-NOV-2013	✓	11-NOV-2013	28-NOV-2013	✓
EP004: Organic Matter							
Soil Glass Jar - Unpreserved (EP004) BJ_MW04_0.2, BS_MW01_0.2	01-NOV-2013	08-NOV-2013	29-NOV-2013	✓	08-NOV-2013	29-NOV-2013	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066) BS_MW01_0.2	01-NOV-2013	11-NOV-2013	15-NOV-2013	✓	12-NOV-2013	21-DEC-2013	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013							
Soil Glass Jar - Unpreserved (EP071) BJ_MW04_0.2	01-NOV-2013	08-NOV-2013	15-NOV-2013	✓	11-NOV-2013	18-DEC-2013	✓
Soil Glass Jar - Unpreserved (EP071) BJ_SB12_0.2, BJ_SB15_0.2, BJ_SB06_3.0, BJ_SB17_1.8, BJ_SB19_3.0 BJ_SB14_0.2, BJ_SB08_0.2, BJ_SB13_3.0, BJ_SB18_3.0	04-NOV-2013	08-NOV-2013	18-NOV-2013	✓	11-NOV-2013	18-DEC-2013	✓
Soil Glass Jar - Unpreserved (EP071) BJ_SB16_0.2, BJ_SB13_0.2, BJ_SB06_0.2, BJ_SB11_0.2, BJ_MW03_0.2 BJ_SB17_0.2, BJ_MW05_0.2, BJ_SB07_0.2, BJ_SB10_0.2, D01_311013_TC	31-OCT-2013	08-NOV-2013	14-NOV-2013	✓	11-NOV-2013	18-DEC-2013	✓
Soil Glass Jar - Unpreserved (EP071) D01_41113_TC, BS_SB02_0.2 BS_MW02_0.2	31-OCT-2013	11-NOV-2013	14-NOV-2013	✓	11-NOV-2013	21-DEC-2013	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP074D: Fumigants								
Soil Glass Jar - Unpreserved (EP074) BJ_SB12_0.2, BJ_SB06_3.0	BJ_SB14_0.2, BJ_SB18_3.0	04-NOV-2013	07-NOV-2013	11-NOV-2013	✓	07-NOV-2013	11-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP074) BJ_SB16_0.2, BJ_SB13_0.2	BJ_SB17_0.2, BJ_MW05_0.2	31-OCT-2013	07-NOV-2013	07-NOV-2013	✓	07-NOV-2013	07-NOV-2013	✓
EP074E: Halogenated Aliphatic Compounds								
Soil Glass Jar - Unpreserved (EP074) BJ_SB12_0.2, BJ_SB06_3.0	BJ_SB14_0.2, BJ_SB18_3.0	04-NOV-2013	07-NOV-2013	11-NOV-2013	✓	07-NOV-2013	11-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP074) BJ_SB16_0.2, BJ_SB13_0.2	BJ_SB17_0.2, BJ_MW05_0.2	31-OCT-2013	07-NOV-2013	07-NOV-2013	✓	07-NOV-2013	07-NOV-2013	✓
EP074F: Halogenated Aromatic Compounds								
Soil Glass Jar - Unpreserved (EP074) BJ_SB12_0.2, BJ_SB06_3.0	BJ_SB14_0.2, BJ_SB18_3.0	04-NOV-2013	07-NOV-2013	11-NOV-2013	✓	07-NOV-2013	11-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP074) BJ_SB16_0.2, BJ_SB13_0.2	BJ_SB17_0.2, BJ_MW05_0.2	31-OCT-2013	07-NOV-2013	07-NOV-2013	✓	07-NOV-2013	07-NOV-2013	✓
EP074A: Monocyclic Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP074) BJ_SB12_0.2, BJ_SB06_3.0	BJ_SB14_0.2, BJ_SB18_3.0	04-NOV-2013	07-NOV-2013	11-NOV-2013	✓	07-NOV-2013	11-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP074) BJ_SB16_0.2, BJ_SB13_0.2	BJ_SB17_0.2, BJ_MW05_0.2	31-OCT-2013	07-NOV-2013	07-NOV-2013	✓	07-NOV-2013	07-NOV-2013	✓
EP074H: Naphthalene								
Soil Glass Jar - Unpreserved (EP074) BJ_SB12_0.2, BJ_SB06_3.0	BJ_SB14_0.2, BJ_SB18_3.0	04-NOV-2013	07-NOV-2013	11-NOV-2013	✓	07-NOV-2013	11-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP074) BJ_SB16_0.2, BJ_SB13_0.2	BJ_SB17_0.2, BJ_MW05_0.2	31-OCT-2013	07-NOV-2013	07-NOV-2013	✓	07-NOV-2013	07-NOV-2013	✓
EP074B: Oxygenated Compounds								
Soil Glass Jar - Unpreserved (EP074) BJ_SB12_0.2, BJ_SB06_3.0	BJ_SB14_0.2, BJ_SB18_3.0	04-NOV-2013	07-NOV-2013	11-NOV-2013	✓	07-NOV-2013	11-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP074) BJ_SB16_0.2, BJ_SB13_0.2	BJ_SB17_0.2, BJ_MW05_0.2	31-OCT-2013	07-NOV-2013	07-NOV-2013	✓	07-NOV-2013	07-NOV-2013	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP074C: Sulfonated Compounds								
Soil Glass Jar - Unpreserved (EP074) BJ_SB12_0.2, BJ_SB06_3.0	BJ_SB14_0.2, BJ_SB18_3.0	04-NOV-2013	07-NOV-2013	11-NOV-2013	✓	07-NOV-2013	11-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP074) BJ_SB16_0.2, BJ_SB13_0.2	BJ_SB17_0.2, BJ_MW05_0.2	31-OCT-2013	07-NOV-2013	07-NOV-2013	✓	07-NOV-2013	07-NOV-2013	✓
EP074G: Trihalomethanes								
Soil Glass Jar - Unpreserved (EP074) BJ_SB12_0.2, BJ_SB06_3.0	BJ_SB14_0.2, BJ_SB18_3.0	04-NOV-2013	07-NOV-2013	11-NOV-2013	✓	07-NOV-2013	11-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP074) BJ_SB16_0.2, BJ_SB13_0.2	BJ_SB17_0.2, BJ_MW05_0.2	31-OCT-2013	07-NOV-2013	07-NOV-2013	✓	07-NOV-2013	07-NOV-2013	✓
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM)) BJ_MW04_0.2		01-NOV-2013	08-NOV-2013	15-NOV-2013	✓	11-NOV-2013	18-DEC-2013	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) BJ_SB12_0.2, BJ_SB15_0.2, BJ_SB06_3.0, BJ_SB17_1.8, BJ_SB19_3.0	BJ_SB14_0.2, BJ_SB08_0.2, BJ_SB13_3.0, BJ_SB18_3.0	04-NOV-2013	08-NOV-2013	18-NOV-2013	✓	11-NOV-2013	18-DEC-2013	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) BJ_SB16_0.2, BJ_SB13_0.2, BJ_SB06_0.2, BJ_SB11_0.2, BJ_MW03_0.2	BJ_SB17_0.2, BJ_MW05_0.2, BJ_SB07_0.2, BJ_SB10_0.2, D01_311013_TC	31-OCT-2013	08-NOV-2013	14-NOV-2013	✓	11-NOV-2013	18-DEC-2013	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) D01_41113_TC, BS_SB02_0.2	BS_MW02_0.2	31-OCT-2013	11-NOV-2013	14-NOV-2013	✓	12-NOV-2013	21-DEC-2013	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) BJ_MW04_0.2	01-NOV-2013	08-NOV-2013	15-NOV-2013	✓	11-NOV-2013	18-DEC-2013	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) BJ_SB12_0.2, BJ_SB15_0.2, BJ_SB06_3.0, BJ_SB17_1.8, BJ_SB19_3.0 BJ_SB14_0.2, BJ_SB08_0.2, BJ_SB13_3.0, BJ_SB18_3.0	04-NOV-2013	08-NOV-2013	18-NOV-2013	✓	11-NOV-2013	18-DEC-2013	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) BJ_SB16_0.2, BJ_SB13_0.2, BJ_SB06_0.2, BJ_SB11_0.2, BJ_MW03_0.2 BJ_SB17_0.2, BJ_MW05_0.2, BJ_SB07_0.2, BJ_SB10_0.2, D01_311013_TC	31-OCT-2013	08-NOV-2013	14-NOV-2013	✓	11-NOV-2013	18-DEC-2013	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) D01_41113_TC, BS_SB02_0.2 BS_MW02_0.2	31-OCT-2013	11-NOV-2013	14-NOV-2013	✓	12-NOV-2013	21-DEC-2013	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) BJ_MW04_0.2	01-NOV-2013	08-NOV-2013	15-NOV-2013	✓	08-NOV-2013	15-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP080) BJ_SB12_0.2, BJ_SB06_3.0 BJ_SB14_0.2, BJ_SB18_3.0	04-NOV-2013	07-NOV-2013	18-NOV-2013	✓	07-NOV-2013	18-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP080) BJ_SB15_0.2, BJ_SB13_3.0, BJ_SB19_3.0, TRIP BLANK BJ_SB08_0.2, BJ_SB17_1.8, TRIP SPIKE, TSC	04-NOV-2013	08-NOV-2013	18-NOV-2013	✓	08-NOV-2013	18-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP080) BJ_SB16_0.2, BJ_SB13_0.2 BJ_SB17_0.2, BJ_MW05_0.2	31-OCT-2013	07-NOV-2013	14-NOV-2013	✓	07-NOV-2013	14-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP080) BJ_SB06_0.2, BJ_SB11_0.2, BJ_MW03_0.2, D01_41113_TC, BS_SB02_0.2 BJ_SB07_0.2, BJ_SB10_0.2, D01_311013_TC, BS_MW02_0.2	31-OCT-2013	08-NOV-2013	14-NOV-2013	✓	08-NOV-2013	14-NOV-2013	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) BJ_MW04_0.2	01-NOV-2013	08-NOV-2013	15-NOV-2013	✓	08-NOV-2013	15-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP080) BJ_SB12_0.2, BJ_SB06_3.0	04-NOV-2013	07-NOV-2013	18-NOV-2013	✓	07-NOV-2013	18-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP080) BJ_SB15_0.2, BJ_SB13_3.0, BJ_SB19_3.0, TRIP BLANK,	04-NOV-2013	08-NOV-2013	18-NOV-2013	✓	08-NOV-2013	18-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP080) BJ_SB16_0.2, BJ_SB13_0.2	31-OCT-2013	07-NOV-2013	14-NOV-2013	✓	07-NOV-2013	14-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP080) BJ_SB06_0.2, BJ_SB11_0.2, BJ_MW03_0.2, D01_41113_TC, BS_SB02_0.2	31-OCT-2013	08-NOV-2013	14-NOV-2013	✓	08-NOV-2013	14-NOV-2013	✓

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F) R01_011113_TC	01-NOV-2013	---	30-APR-2014	----	08-NOV-2013	30-APR-2014	✓
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F) R01_041113_TC	04-NOV-2013	---	03-MAY-2014	----	08-NOV-2013	03-MAY-2014	✓
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F) R01_311013_TC	31-OCT-2013	---	29-APR-2014	----	08-NOV-2013	29-APR-2014	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F) R01_011113_TC	01-NOV-2013	---	29-NOV-2013	----	08-NOV-2013	29-NOV-2013	✓
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F) R01_041113_TC	04-NOV-2013	---	02-DEC-2013	----	08-NOV-2013	02-DEC-2013	✓
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F) R01_311013_TC	31-OCT-2013	---	28-NOV-2013	----	08-NOV-2013	28-NOV-2013	✓



Matrix: WATER

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013							
Amber Glass Bottle - Unpreserved (EP071) R01_011113_TC	01-NOV-2013	07-NOV-2013	08-NOV-2013	✓	09-NOV-2013	17-DEC-2013	✓
Amber Glass Bottle - Unpreserved (EP071) R01_041113_TC	04-NOV-2013	07-NOV-2013	11-NOV-2013	✓	09-NOV-2013	17-DEC-2013	✓
Amber Glass Bottle - Unpreserved (EP071) R01_311013_TC	31-OCT-2013	07-NOV-2013	07-NOV-2013	✓	09-NOV-2013	17-DEC-2013	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM)) R01_011113_TC	01-NOV-2013	07-NOV-2013	08-NOV-2013	✓	09-NOV-2013	17-DEC-2013	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) R01_041113_TC	04-NOV-2013	07-NOV-2013	11-NOV-2013	✓	09-NOV-2013	17-DEC-2013	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) R01_311013_TC	31-OCT-2013	07-NOV-2013	07-NOV-2013	✓	09-NOV-2013	17-DEC-2013	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) R01_011113_TC	01-NOV-2013	07-NOV-2013	08-NOV-2013	✓	09-NOV-2013	17-DEC-2013	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) R01_041113_TC	04-NOV-2013	07-NOV-2013	11-NOV-2013	✓	09-NOV-2013	17-DEC-2013	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) R01_311013_TC	31-OCT-2013	07-NOV-2013	07-NOV-2013	✓	09-NOV-2013	17-DEC-2013	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) R01_011113_TC	01-NOV-2013	08-NOV-2013	15-NOV-2013	✓	08-NOV-2013	15-NOV-2013	✓
Amber VOC Vial - Sulfuric Acid (EP080) R01_041113_TC	04-NOV-2013	08-NOV-2013	18-NOV-2013	✓	08-NOV-2013	18-NOV-2013	✓
Amber VOC Vial - Sulfuric Acid (EP080) R01_311013_TC	31-OCT-2013	08-NOV-2013	14-NOV-2013	✓	08-NOV-2013	14-NOV-2013	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013							
Amber VOC Vial - Sulfuric Acid (EP080) R01_011113_TC	01-NOV-2013	08-NOV-2013	15-NOV-2013	✓	08-NOV-2013	15-NOV-2013	✓
Amber VOC Vial - Sulfuric Acid (EP080) R01_041113_TC	04-NOV-2013	08-NOV-2013	18-NOV-2013	✓	08-NOV-2013	18-NOV-2013	✓
Amber VOC Vial - Sulfuric Acid (EP080) R01_311013_TC	31-OCT-2013	08-NOV-2013	14-NOV-2013	✓	08-NOV-2013	14-NOV-2013	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Exchangeable Cations	ED007	1	2	50.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	4	40	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	6	16.7	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	3	30	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
pH (1:5)	EA002	2	14	14.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	3	33.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	4	40	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	4	40	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	3	30	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	4	40	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	2	18	11.1	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Exchangeable Cations	ED007	1	2	50.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	6	16.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	30	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	3	33.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	30	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Exchangeable Cations	ED007	1	2	50.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organic Matter	EP004	1	6	16.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	30	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	3	33.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	30	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Organic Matter	EP004	1	6	16.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	30	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	3	33.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement



Matrix: **SOIL** Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
<i>Analytical Methods</i>							
Matrix Spikes (MS) - Continued							
Total Metals by ICP-AES	EG005T	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	30	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Volatile Organic Compounds	EP074	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER** Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
<i>Analytical Methods</i>							
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	13	15.4	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	15	13.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	17	11.8	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	15	13.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	13	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	13	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	13	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH (1:5)	EA002	SOIL	(APHA 21st ed., 4500H+) pH is determined on soil samples after a 1:5 soil/water leach. This method is compliant with NEPM (2013) Schedule B(3) (Method 103)
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis (Sieving)	EA150	SOIL	Particle Size Analysis by Sieving according to AS1289.3.6.1 - 2009
Asbestos Identification in bulk solids	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples
Exchangeable Cations	ED007	SOIL	Rayment & Lyons (2011) Method 15A1. Cations are exchanged from the sample by contact with Ammonium Chloride. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil. This method is compliant with NEPM (2013) Schedule B(3) (Method 301)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Organic Matter	EP004	SOIL	AS1289.4.1.1 - 1997., Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM (2013) Schedule B(3) (Method 105)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (2013) Schedule B(3) (Method 506.1)
Volatile Organic Compounds	EP074	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 501)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 501)



Analytical Methods	Method	Matrix	Method Descriptions
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Appdx. 2)
TPH - Semivolatle Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (2013) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with NEPM (2013) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
Exchangeable Cations Preparation Method	ED007PR	SOIL	Rayment & Higginson (1992) method 15A1. A 1M NH ₄ Cl extraction by end over end tumbling at a ratio of 1:20. There is no pretreatment for soluble salts. Extracts can be run by ICP for cations.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)
Organic Matter	EP004-PR	SOIL	AS1289.4.1.1 - 1997., Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM (2013) Schedule B(3) (Method 105)
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option A - Concentrating)	ORG17A	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na ₂ SO ₄ and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.



<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.



Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075(SIM)A: Phenolic Compounds	3753871-007	----	3- & 4-Methylphenol	1319-77-3	125 %	69-123%	Recovery greater than upper control limit

- For all matrices, no Method Blank value outliers occur.
- For all matrices, no Duplicate outliers occur.
- For all matrices, no Matrix Spike outliers occur.

Regular Sample Surrogates

- For all regular sample matrices, no surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- No Quality Control Sample Frequency Outliers exist.

ALS Environmental
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 Ph: 08 8325 0890 E: info@als.com.au
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 Ph: 07 5241 5800 E: samples@als.com.au

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 DUNEDIN 413 Gray Street, North Sydney NSW 2060
 Ph: 02 4422 2003 E: samples@als.com.au
 DUNEDIN 10 Lind Way, Malaga WA 6000
 Ph: 08 9209 7699 E: samples@als.com.au

CLIENT: TURNAROUND REQUIREMENTS: Standard TAT (List due date) Non Standard or urgent TAT (List due date)
 (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

PROJECT: Project Symphony
 ALS QUOTE NO.: SY78413

ORDER NUMBER: 0724193
SITE: Bay 5 BAYSWATER LINDALE

PROJECT MANAGER: [Signature]
CONTACT PH:
SAMPLER MOBILE:
SAMPLER: EDD FORMAT (or default):

COC emailed to ALS? (YES / NO)
 Email Reports to (will default to PM if no other addresses are listed): John.evings@ern.com
 Email Invoice to (will default to PM if no other addresses are listed):

RELIQUISHED BY: Tom Cahill
 DATE/TIME: 7/11/13

RECEIVED BY: Steven
 DATE/TIME: 8/11/13 1030

RELIQUISHED BY:
 DATE/TIME:

RECEIVED BY:
 DATE/TIME:

COCC SEQUENCE NUMBER (OHS)	1	2	3	4	5	6	7
COC							
DATE/TIME							

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (codes below)	TOTAL CONTAINERS	ANALYSIS REQUIRED INCLUDING SUITES (ND, Split Codes must be listed to attract suite price) Where Metals are required, specify Total (undiluted bottles required) or Dissolved (field filtered bottles required)										Additional Information		
						S-2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Ti, Se)	S-24 TRH(C6-C40)/BTEXN, PAH, Phenols	VOC Target Scan	PCB	pH (1:5)	Exchangeable cations (ED007)	PFOS/PFOA	Asbestos (absence/presence)	Particle Sizing to 75µm (Sieve)		Organic Matter plus Total Organic Carbon (EP004)	
1	D01-05113-LTC	5/11	SOIL		1	X	X											
2	D02-05113-LTC				1	X	X											
3	BJ-SB09-0.2				2													
4	BJ-SB03-0.2				2													
5	BJ-SB02-0.2				2													
6	BJ-SB01-0.2				2													
7	BJ-SB04-0.2				2													
8	BJ-SB05-0.2				2													
9	BJ-SB07-1.6	6/11			1													
10	BJ-SB10-1.0				1													
11	BJ-SB12-2.4				1													
TOTAL																		

Water Contaminant Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORG = Nitric Preserved Organic; SH = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AT = Airtight Unpreserved Plastic; V = VOA Vol I/CI Preserved; VN = VOA Vol I/CI Preserved; VS = VOA Vol I/CI Preserved; AV = Airtight Unpreserved VOA SO = Sulphur Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen bottle; SP = Sulphur Preserved Plastic; F = Fertiliser; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Stable Bottle; ASS = Plastic Bag for Acid Sulphate Soils; U = Unpreserved Bag

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 Sydney
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Ph: 02 4242 3105 E: toronto@als.com.au
DUPERTH 10, Head Way, Walsby VIC 5206
Ph: 08 9200 7655 E: samples.perth@als.com.au

DUNOBY 277-289 Woodpark Road, Springvale VIC 3171
Ph: 02 8784 5555 E: samples.vic@als.com.au
DUNOBYVILLE 14-15 Dennis Court, Epping VIC 3103
Ph: 07 4789 0600 E: melbourne.vic@als.com.au
DUNOLONGMERE 59, Kempy Street, Warragul VIC 3179
Ph: 02 4225 3125 E: perth@als.com.au

CLIENT: **TURKROUND REQUIREMENTS:** Standard TAT (List due date): Non Standard or urgent TAT (List due date):
OFFICE: (Standard TAT may be longer for some tests e.g. Ultra Trace Quantals)

PROJECT: Project Symphony **ALS QUOTE NO.:** SY78413

ORDER NUMBER: **SITE:** BAYSWATER/Lakelet

PROJECT MANAGER: **CONTACT PH:** **RELINQUISHED BY:** Tom Carllidge **DATE/TIME:** 7/11/13

SAMPLER: **SAMPLER MOBILE:** **RECEIVED BY:** Steven **DATE/TIME:** 8/11/13 10:30

COC emailed to ALS? (YES / NO) **EDD FORMAT (or default):** **RELINQUISHED BY:** **DATE/TIME:**

Email Reports to (will default to PM if no other addresses are listed): **DATE/TIME:**

Email Invoice to (will default to PM if no other addresses are listed): **DATE/TIME:**

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: **RECEIVED BY:** **DATE/TIME:**

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (codes below)	TOTAL CONTAINERS	ANALYSIS REQUIRED (including BUTES (NB: Solim Codes must be listed to affect auto price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required).											Additional Information								
						S-2 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Ti, Se)	S-24 TRH(C6-C40)BTEXN, PAH, Phenols	VOC Target Scan	PCB	pH (1-5)	Exchangeable cations (ED007)	PFOS/PFOA	Asbestos (absence/presence)	Particle Sizing to 75µm (Sieve)	Organic Matter plus Total Organic Carbon (EP004)		Comments on heavy contaminant levels, dilutions or samples requiring specific COC analysis etc.							
12	BJ-SB14-2-9	6/11	S		1	X																			
13	BJ-SB16-1-9				1		X																		
14	BJ-SB08-2-7				1			X																	
15	BJ-SB09-0-4				1				X																
16	BJ-NW02-4-9				1					X															
17	BJ-SB02-1-6				1						X														
18	BJ-SB05-0-4				1							X													
19	BJ-SB04-0-7				1								X												
20	BJ-SB03-1-7				1									X											
TOTAL																									

Water Containing: C = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Sodium Hydroxide Preserved Plastic; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AR = Airtight Unpreserved Plastic; V = VOA Vol HCl Preserved; VB = VOA Vol Sodium Bisulphate Preserved; VS = VOA Vol Sulphuric Preserved; AV = Airtight Unpreserved Vial; SB = Sulphuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen Bottle; SP = Sulphuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Stirling Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag.

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: ES1324259		
Client	: ENVIRO RESOURCES MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: JOHN EWING	Contact	: Barbara Hanna
Address	: GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: john.ewing@erm.com	E-mail	: Barbara.Hanna@alsglobal.com
Telephone	: +61 02 8584 8888	Telephone	: +61 2 8784 8555
Facsimile	: +61 02 8584 8800	Facsimile	: +61 2 8784 8555
Project	: Project Symphony	Page	: 1 of 2
Order number	: 0224193	Quote number	: ES2013ENVRES0369 (SY/794/13)
C-O-C number	: ----	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: BAYSWATER		
Sampler	: ----		

Dates

Date Samples Received	: 08-NOV-2013	Issue Date	: 11-NOV-2013 13:15
Client Requested Due Date	: 14-NOV-2013	Scheduled Reporting Date	: 14-NOV-2013

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 5.7°C - Ice present
No. of coolers/boxes	: 7 HARDS	No. of samples received	: 20
Security Seal	: Intact.	No. of samples analysed	: 20

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Sample D02_051113_TC to be forwarded to Envirolab.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (60 days) from date of completion of work order.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default to 15:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory for processing purposes and will be shown bracketed without a time component.

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - EA200 Asbestos Identification in Soils	SOIL - S-27 TRHIBTEXNI/PAH/Phenols/8Metals
ES1324259-001	05-NOV-2013 15:00	D01_051113_TC		✓
ES1324259-002	05-NOV-2013 15:00	BJ_SB09_0.2	✓	✓
ES1324259-003	05-NOV-2013 15:00	BJ_SB03_0.2	✓	✓
ES1324259-004	05-NOV-2013 15:00	BJ_SB02_0.2	✓	✓
ES1324259-005	05-NOV-2013 15:00	BJ_MW01_0.2	✓	✓
ES1324259-006	05-NOV-2013 15:00	BJ_SB01_0.2	✓	✓
ES1324259-007	05-NOV-2013 15:00	BJ_SB04_0.2	✓	✓
ES1324259-008	05-NOV-2013 15:00	BJ_SB05_0.2	✓	✓
ES1324259-009	06-NOV-2013 15:00	BJ_SB07_1.6		✓
ES1324259-010	06-NOV-2013 15:00	BJ_SB10_1.0		✓
ES1324259-011	06-NOV-2013 15:00	BJ_SB12_2.4		✓
ES1324259-012	06-NOV-2013 15:00	BJ_SB14_2.9		✓
ES1324259-013	06-NOV-2013 15:00	BJ_SB16_1.9		✓
ES1324259-014	06-NOV-2013 15:00	BJ_SB08_2.7		✓
ES1324259-015	06-NOV-2013 15:00	BJ_SB09_0.4		✓
ES1324259-016	06-NOV-2013 15:00	BJ_MW02_4.9		✓
ES1324259-017	06-NOV-2013 15:00	BJ_SB02_1.6		✓
ES1324259-018	06-NOV-2013 15:00	BJ_SB05_0.4		✓
ES1324259-019	06-NOV-2013 15:00	BJ_SB04_0.7		✓
ES1324259-020	06-NOV-2013 15:00	BJ_SB03_1.7		✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

JOHN EWING

- *AU Certificate of Analysis - NATA (COA) Email john.ewing@erm.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email john.ewing@erm.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email john.ewing@erm.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email john.ewing@erm.com
- Chain of Custody (CoC) (COC) Email john.ewing@erm.com
- EDI Format - ENMRG (ENMRG) Email john.ewing@erm.com
- EDI Format - EQUIS V5 ERM (EQUIS_V5_ERM) Email john.ewing@erm.com
- EDI Format - ESDAT (ESDAT) Email john.ewing@erm.com
- EDI Format - XTab (XTAB) Email john.ewing@erm.com

THE ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV) Email au.accounts@erm.com

CERTIFICATE OF ANALYSIS

Work Order : ES1324259 Client : ENVIRO RESOURCES MANAGEMENT Contact : JOHN EWING Address : GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007 E-mail : john.ewing@erm.com Telephone : +61 02 8584 8888 Facsimile : +61 02 8584 8800 Project : Project Symphony Order number : 0224193 C-O-C number : ---- Sampler : ---- Site : BAYSWATER Quote number : SY/794/13	Page : 1 of 15 Laboratory : Environmental Division Sydney Contact : Barbara Hanna Address : 277-289 Woodpark Road Smithfield NSW Australia 2164 E-mail : Barbara.Hanna@alsglobal.com Telephone : +61 2 8784 8555 Facsimile : +61 2 8784 8555 QC Level : NEPM 2013 Schedule B(3) and ALS QCS3 requirement Date Samples Received : 08-NOV-2013 Issue Date : 15-NOV-2013 No. of samples received : 20 No. of samples analysed : 20
--	--

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits



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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Christopher Owler	Team Leader - Asbestos	Newcastle - Asbestos
Phalak Inthaksono	Laboratory Manager - Organics	Sydney Organics



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

- **EA200 Legend**
- **EA200 'Am' Amosite (brown asbestos)**
- **EA200 'Ch' Chrysotile (white asbestos)**
- **EA200 'Cr' Crocidolite (blue asbestos)**
- **EA200 'Trace' - Asbestos fibres detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres**
- **EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.**
- **EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.**
- **EA200: Negative results for vinyl tiles should be confirmed by an independent analytical technique.**



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				D01_051113_TC	BJ_SB09_0.2	BJ_SB03_0.2	BJ_SB02_0.2	BJ_MW01_0.2
				05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324259-001	ES1324259-002	ES1324259-003	ES1324259-004	ES1324259-005
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	4.2	9.1	10.0	18.4	8.5
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	No	No	No
Asbestos Type	1332-21-4	0.1	--	----	-	-	-	-
Sample weight (dry)	----	0.01	g	----	692	560	715	756
APPROVED IDENTIFIER:	----	-	--	----	C.OWLER	C.OWLER	C.OWLER	C.OWLER
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	9	20	12	10	9
Cadmium	7440-43-9	1	mg/kg	1	1	1	<1	2
Chromium	7440-47-3	2	mg/kg	16	17	18	6	19
Copper	7440-50-8	5	mg/kg	22	31	31	36	274
Lead	7439-92-1	5	mg/kg	16	23	30	33	215
Nickel	7440-02-0	2	mg/kg	26	31	30	10	22
Zinc	7440-66-6	5	mg/kg	94	107	339	228	1950
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				D01_051113_TC	BJ_SB09_0.2	BJ_SB03_0.2	BJ_SB02_0.2	BJ_MW01_0.2
				05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324259-001	ES1324259-002	ES1324259-003	ES1324259-004	ES1324259-005
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				D01_051113_TC	BJ_SB09_0.2	BJ_SB03_0.2	BJ_SB02_0.2	BJ_MW01_0.2
				05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324259-001	ES1324259-002	ES1324259-003	ES1324259-004	ES1324259-005
EP080: BTEXN - Continued								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	84.6	81.9	81.8	82.9	83.1
2-Chlorophenol-D4	93951-73-6	0.1	%	89.8	81.7	91.8	91.8	91.9
2,4,6-Tribromophenol	118-79-6	0.1	%	75.9	73.0	73.8	77.0	74.1
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	87.0	77.4	81.9	85.9	84.7
Anthracene-d10	1719-06-8	0.1	%	83.5	80.8	82.2	82.9	81.9
4-Terphenyl-d14	1718-51-0	0.1	%	87.9	86.3	87.8	88.4	87.2
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	106	95.1	81.9	92.6	120
Toluene-D8	2037-26-5	0.1	%	108	97.4	86.9	97.2	123
4-Bromofluorobenzene	460-00-4	0.1	%	111	95.0	83.9	94.8	114



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB01_0.2	BJ_SB04_0.2	BJ_SB05_0.2	BJ_SB07_1.6	BJ_SB10_1.0
				05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324259-006	ES1324259-007	ES1324259-008	ES1324259-009	ES1324259-010
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	21.5	16.7	17.6	9.7	10.0
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	----	----
Asbestos Type	1332-21-4	0.1	--	-	-	-	----	----
Sample weight (dry)	----	0.01	g	568	687	850	----	----
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	----	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	10	13	11	11	8
Cadmium	7440-43-9	1	mg/kg	1	2	1	<1	<1
Chromium	7440-47-3	2	mg/kg	16	28	12	16	12
Copper	7440-50-8	5	mg/kg	58	271	28	28	14
Lead	7439-92-1	5	mg/kg	74	246	23	21	12
Nickel	7440-02-0	2	mg/kg	21	32	26	29	17
Zinc	7440-66-6	5	mg/kg	660	2800	150	79	59
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB01_0.2	BJ_SB04_0.2	BJ_SB05_0.2	BJ_SB07_1.6	BJ_SB10_1.0
				05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324259-006	ES1324259-007	ES1324259-008	ES1324259-009	ES1324259-010
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB01_0.2	BJ_SB04_0.2	BJ_SB05_0.2	BJ_SB07_1.6	BJ_SB10_1.0
				05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324259-006	ES1324259-007	ES1324259-008	ES1324259-009	ES1324259-010
EP080: BTEXN - Continued								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	81.1	86.1	85.4	80.9	88.2
2-Chlorophenol-D4	93951-73-6	0.1	%	91.3	96.4	94.3	89.6	94.8
2,4,6-Tribromophenol	118-79-6	0.1	%	74.8	78.5	76.3	73.5	78.0
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	87.4	88.9	86.2	85.0	89.5
Anthracene-d10	1719-06-8	0.1	%	82.8	84.4	82.4	81.2	84.6
4-Terphenyl-d14	1718-51-0	0.1	%	87.9	89.4	87.8	86.4	90.8
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	101	112	102	102	103
Toluene-D8	2037-26-5	0.1	%	102	109	95.7	103	105
4-Bromofluorobenzene	460-00-4	0.1	%	101	100	89.4	94.0	95.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	BJ_SB12_2.4	BJ_SB14_2.9	BJ_SB16_1.9	BJ_SB08_2.7	BJ_SB09_0.4
				06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
				ES1324259-011	ES1324259-012	ES1324259-013	ES1324259-014	ES1324259-015
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	20.3	17.9	20.1	15.4	21.0
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	9	16	5	11	9
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	12	19	5	14	14
Copper	7440-50-8	5	mg/kg	13	16	12	16	15
Lead	7439-92-1	5	mg/kg	18	20	9	14	15
Nickel	7440-02-0	2	mg/kg	14	34	6	23	24
Zinc	7440-66-6	5	mg/kg	50	83	34	66	72
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB12_2.4	BJ_SB14_2.9	BJ_SB16_1.9	BJ_SB08_2.7	BJ_SB09_0.4
				06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324259-011	ES1324259-012	ES1324259-013	ES1324259-014	ES1324259-015
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_SB12_2.4	BJ_SB14_2.9	BJ_SB16_1.9	BJ_SB08_2.7	BJ_SB09_0.4
				06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324259-011	ES1324259-012	ES1324259-013	ES1324259-014	ES1324259-015
EP080: BTEXN - Continued								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	86.7	81.9	81.7	86.4	82.3
2-Chlorophenol-D4	93951-73-6	0.1	%	94.9	91.6	88.2	93.0	92.8
2.4.6-Tribromophenol	118-79-6	0.1	%	78.4	74.8	77.0	76.8	73.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	90.4	85.2	86.0	86.8	88.8
Anthracene-d10	1719-06-8	0.1	%	86.0	80.9	80.8	83.2	83.6
4-Terphenyl-d14	1718-51-0	0.1	%	91.9	87.2	89.4	89.8	89.8
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	104	113	107	116	120
Toluene-D8	2037-26-5	0.1	%	98.4	106	101	110	118
4-Bromofluorobenzene	460-00-4	0.1	%	93.1	103	95.9	104	110



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_MW02_4.9	BJ_SB02_1.6	BJ_SB05_0.4	BJ_SB04_0.7	BJ_SB03_1.7
				06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324259-016	ES1324259-017	ES1324259-018	ES1324259-019	ES1324259-020
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	18.2	7.4	14.7	9.5	14.5
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	24	5	<5	14	9
Cadmium	7440-43-9	1	mg/kg	<1	<1	1	2	<1
Chromium	7440-47-3	2	mg/kg	6	8	9	18	7
Copper	7440-50-8	5	mg/kg	13	21	27	106	14
Lead	7439-92-1	5	mg/kg	9	22	16	113	9
Nickel	7440-02-0	2	mg/kg	9	7	18	34	7
Zinc	7440-66-6	5	mg/kg	35	54	101	1220	39
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_MW02_4.9	BJ_SB02_1.6	BJ_SB05_0.4	BJ_SB04_0.7	BJ_SB03_1.7
				06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324259-016	ES1324259-017	ES1324259-018	ES1324259-019	ES1324259-020
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				BJ_MW02_4.9	BJ_SB02_1.6	BJ_SB05_0.4	BJ_SB04_0.7	BJ_SB03_1.7
				06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324259-016	ES1324259-017	ES1324259-018	ES1324259-019	ES1324259-020
EP080: BTEXN - Continued								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	86.0	88.5	80.0	85.2	86.2
2-Chlorophenol-D4	93951-73-6	0.1	%	91.6	95.3	87.1	96.0	95.3
2,4,6-Tribromophenol	118-79-6	0.1	%	76.7	76.5	73.1	75.6	75.2
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	86.0	89.0	86.8	88.4	89.5
Anthracene-d10	1719-06-8	0.1	%	82.5	84.0	83.2	84.0	83.8
4-Terphenyl-d14	1718-51-0	0.1	%	89.4	90.5	89.4	89.6	90.9
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	112	106	112	104	110
Toluene-D8	2037-26-5	0.1	%	108	104	108	101	107
4-Bromofluorobenzene	460-00-4	0.1	%	98.9	93.7	96.6	92.4	97.8

Analytical Results

Descriptive Results

Sub-Matrix: SOIL

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	BJ_SB09_0.2 - 05-NOV-2013 15:00	Pale brown clay soil with some brown and grey rocks plus a trace of vegetation
EA200: Description	BJ_SB03_0.2 - 05-NOV-2013 15:00	Pale brown clay soil with some brown and grey rocks plus a trace of vegetation
EA200: Description	BJ_SB02_0.2 - 05-NOV-2013 15:00	Pale brown clay soil with some brown and red rocks plus some vegetation
EA200: Description	BJ_MW01_0.2 - 05-NOV-2013 15:00	Pale brown clay soil with some brown and red rocks plus some vegetation
EA200: Description	BJ_SB01_0.2 - 05-NOV-2013 15:00	Pale brown clay soil with some brown and red rocks plus some vegetation
EA200: Description	BJ_SB04_0.2 - 05-NOV-2013 15:00	Pale brown clay soil with some brown and red rocks plus some vegetation
EA200: Description	BJ_SB05_0.2 - 05-NOV-2013 15:00	Pale brown clay soil with some brown and red rocks plus some vegetation



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
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	72.8	133.2
Toluene-D8	2037-26-5	73.9	132.1
4-Bromofluorobenzene	460-00-4	71.6	130.0

QUALITY CONTROL REPORT

Work Order	: ES1324259	Page	: 1 of 11
Client	: ENVIRO RESOURCES MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: JOHN EWING	Contact	: Barbara Hanna
Address	: GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: john.ewing@erm.com	E-mail	: Barbara.Hanna@alsglobal.com
Telephone	: +61 02 8584 8888	Telephone	: +61 2 8784 8555
Facsimile	: +61 02 8584 8800	Facsimile	: +61 2 8784 8555
Project	: Project Symphony	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: BAYSWATER	Date Samples Received	: 08-NOV-2013
C-O-C number	: ----	Issue Date	: 15-NOV-2013
Sampler	: ----	No. of samples received	: 20
Order number	: 0224193	No. of samples analysed	: 20
Quote number	: SY/794/13		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

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



NATA Accredited
Laboratory 825

Accredited for
compliance with
ISO/IEC 17025.

Signatories

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

Signatories

Celine Conceicao
Christopher Owler
Phalak Inthaksone

Position

Senior Spectroscopist
Team Leader - Asbestos
Laboratory Manager - Organics

Accreditation Category

Sydney Inorganics
Newcastle - Asbestos
Sydney Organics



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.

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: 3154225)									
ES1324220-027	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	10.4	10.1	3.3	0% - 50%
ES1324220-043	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	7.7	6.8	12.1	No Limit
EA055: Moisture Content (QC Lot: 3154226)									
ES1324259-007	BJ_SB04_0.2	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	16.7	15.5	7.0	0% - 50%
ES1324259-018	BJ_SB05_0.4	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	14.7	14.8	0.0	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 3154082)									
ES1324259-001	D01_051113_TC	EG005T: Cadmium	7440-43-9	1	mg/kg	1	1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	16	16	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	26	27	0.0	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	9	9	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	22	20	6.8	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	16	17	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	94	91	2.7	0% - 50%
ES1324259-011	BJ_SB12_2.4	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	12	12	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	14	20	34.7	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	9	8	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	13	14	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	18	15	20.4	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	50	60	18.3	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3154083)									
ES1324259-001	D01_051113_TC	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1324259-011	BJ_SB12_2.4	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 3152140)									
ES1324259-001	D01_051113_TC	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	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)A: Phenolic Compounds (QC Lot: 3152140) - continued									
ES1324259-001	D01_051113_TC	EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
ES1324259-011	BJ_SB12_2.4	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
		EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3152140)							
ES1324259-001	D01_051113_TC	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1324259-011	BJ_SB12_2.4	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	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: 3152140) - continued									
ES1324259-011	BJ_SB12_2.4	EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenzo(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3152139)									
ES1324259-001	D01_051113_TC	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1324259-011	BJ_SB12_2.4	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3153252)									
ES1324259-001	D01_051113_TC	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1324259-011	BJ_SB12_2.4	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3152139)									
ES1324259-001	D01_051113_TC	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.0	No Limit
ES1324259-011	BJ_SB12_2.4	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3153252)									
ES1324259-001	D01_051113_TC	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES1324259-011	BJ_SB12_2.4	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 3153252)									
ES1324259-001	D01_051113_TC	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	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 Sample (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

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EG005T: Total Metals by ICP-AES (QCLot: 3154082)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	114	87	129	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	111	80	122	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	118	71	133	
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	114	86	128	
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	98.0	81	123	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	106	84	130	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	116	81	133	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3154083)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	80.7	66	112	
EP075(SIM)A: Phenolic Compounds (QCLot: 3152140)									
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	88.4	74	116	
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	86.6	74	116	
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	100	72	116	
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1	8 mg/kg	95.7	69	123	
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	79.9	60.3	117	
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	83.2	69	117	
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	78.6	68	112	
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	84.8	73	117	
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	83.3	76.4	114	
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	71.1	57	111	
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	78.4	68.9	112	
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1	8 mg/kg	17.8	3.9	57	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3152140)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	82.7	80	124	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	86.6	77	123	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	87.0	79	123	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	89.2	77	123	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	89.4	79	123	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	89.4	79	123	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	89.5	79	123	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	90.8	79	125	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	86.6	73	121	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	89.7	81	123	
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	86.7	70	118	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3152140) - continued									
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	91.4	77	123	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	79.9	76	122	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	77.9	71	113	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	82.2	71.7	113	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	82.0	72.4	114	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3152139)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	101	71	131	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	101	74	138	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	87.0	64	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3153252)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	113	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3152139)									
EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	250 mg/kg	95.5	70	130	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	98.6	74	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----	
		50	mg/kg	----	150 mg/kg	75.0	63	131	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3153252)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	108	68.4	128	
EP080: BTEXN (QCLot: 3153252)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	107	62	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	105	62	128	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	101	58	118	
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	104	60	120	
	106-42-3								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	104	60	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	100	62	138	

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report				
				Spike Concentration	Spike Recovery(%)		Recovery Limits (%)	
					MS	Low	High	
EG005T: Total Metals by ICP-AES (QCLot: 3154082)								
ES1324259-001	D01_051113_TC	EG005T: Arsenic	7440-38-2	50 mg/kg	110	70	130	
		EG005T: Cadmium	7440-43-9	50 mg/kg	106	70	130	
		EG005T: Chromium	7440-47-3	50 mg/kg	110	70	130	



Sub-Matrix: SOIL

				Matrix Spike (MS) Report				
				Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EG005T: Total Metals by ICP-AES (QCLot: 3154082) - continued								
ES1324259-001	D01_051113_TC	EG005T: Copper	7440-50-8	125 mg/kg	112	70	130	
		EG005T: Lead	7439-92-1	125 mg/kg	99.2	70	130	
		EG005T: Nickel	7440-02-0	50 mg/kg	100	70	130	
		EG005T: Zinc	7440-66-6	125 mg/kg	102	70	130	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3154083)								
ES1324259-001	D01_051113_TC	EG035T: Mercury	7439-97-6	5 mg/kg	95.7	70	130	
EP075(SIM)A: Phenolic Compounds (QCLot: 3152140)								
ES1324259-001	D01_051113_TC	EP075(SIM): Phenol	108-95-2	10 mg/kg	84.6	70	130	
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	85.9	70	130	
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	75.2	60	130	
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	81.2	70	130	
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	38.0	20	130	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3152140)								
ES1324259-001	D01_051113_TC	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	82.8	70	130	
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	86.9	70	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3152139)								
ES1324259-001	D01_051113_TC	EP071: C10 - C14 Fraction	----	640 mg/kg	76.0	73	137	
		EP071: C15 - C28 Fraction	----	3140 mg/kg	77.7	53	131	
		EP071: C29 - C36 Fraction	----	2860 mg/kg	73.4	52	132	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3153252)								
ES1324259-001	D01_051113_TC	EP080: C6 - C9 Fraction	----	32.5 mg/kg	98.6	70	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3152139)								
ES1324259-001	D01_051113_TC	EP071: >C10 - C16 Fraction	>C10_C16	850 mg/kg	100	73	137	
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	73.8	53	131	
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	58.5	52	132	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3153252)								
ES1324259-001	D01_051113_TC	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	92.7	70	130	
EP080: BTEXN (QCLot: 3153252)								
ES1324259-001	D01_051113_TC	EP080: Benzene	71-43-2	2.5 mg/kg	91.5	70	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	89.7	70	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	84.9	70	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	87.9	70	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	86.7	70	130	
	EP080: Naphthalene	91-20-3	2.5 mg/kg	84.4	70	130		



Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are 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) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)		
				Concentration	MS	MSD	Low	High	Value	Control Limit	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3152139)											
ES1324259-001	D01_051113_TC	EP071: C10 - C14 Fraction	----	640 mg/kg	76.0	----	73	137	----	----	
		EP071: C15 - C28 Fraction	----	3140 mg/kg	77.7	----	53	131	----	----	
		EP071: C29 - C36 Fraction	----	2860 mg/kg	73.4	----	52	132	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3152139)											
ES1324259-001	D01_051113_TC	EP071: >C10 - C16 Fraction	>C10_C16	850 mg/kg	100	----	73	137	----	----	
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	73.8	----	53	131	----	----	
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	58.5	----	52	132	----	----	
EP075(SIM)A: Phenolic Compounds (QCLot: 3152140)											
ES1324259-001	D01_051113_TC	EP075(SIM): Phenol	108-95-2	10 mg/kg	84.6	----	70	130	----	----	
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	85.9	----	70	130	----	----	
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	75.2	----	60	130	----	----	
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	81.2	----	70	130	----	----	
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	38.0	----	20	130	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3152140)											
ES1324259-001	D01_051113_TC	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	82.8	----	70	130	----	----	
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	86.9	----	70	130	----	----	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3153252)											
ES1324259-001	D01_051113_TC	EP080: C6 - C9 Fraction	----	32.5 mg/kg	98.6	----	70	130	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3153252)											
ES1324259-001	D01_051113_TC	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	92.7	----	70	130	----	----	
EP080: BTEXN (QCLot: 3153252)											
ES1324259-001	D01_051113_TC	EP080: Benzene	71-43-2	2.5 mg/kg	91.5	----	70	130	----	----	
		EP080: Toluene	108-88-3	2.5 mg/kg	89.7	----	70	130	----	----	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	84.9	----	70	130	----	----	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	87.9	----	70	130	----	----	
			106-42-3								
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	86.7	----	70	130	----	----	
EP080: Naphthalene	91-20-3	2.5 mg/kg	84.4	----	70	130	----	----			
EG005T: Total Metals by ICP-AES (QCLot: 3154082)											
ES1324259-001	D01_051113_TC	EG005T: Arsenic	7440-38-2	50 mg/kg	110	----	70	130	----	----	
		EG005T: Cadmium	7440-43-9	50 mg/kg	106	----	70	130	----	----	
		EG005T: Chromium	7440-47-3	50 mg/kg	110	----	70	130	----	----	
		EG005T: Copper	7440-50-8	125 mg/kg	112	----	70	130	----	----	

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 Work Order : ES1324259
 Client : ENVIRO RESOURCES MANAGEMENT
 Project : Project Symphony



Sub-Matrix: SOIL

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					MS	MSD	Low	High	Value	Control Limit
EG005T: Total Metals by ICP-AES (QCLot: 3154082) - continued										
ES1324259-001	D01_051113_TC	EG005T: Lead	7439-92-1	125 mg/kg	99.2	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	100	----	70	130	----	----
		EG005T: Zinc	7440-66-6	125 mg/kg	102	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3154083)										
ES1324259-001	D01_051113_TC	EG035T: Mercury	7439-97-6	5 mg/kg	95.7	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: ES1324259	Page	: 1 of 7
Client	: ENVIRO RESOURCES MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: JOHN EWING	Contact	: Barbara Hanna
Address	: GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: john.ewing@erm.com	E-mail	: Barbara.Hanna@alsglobal.com
Telephone	: +61 02 8584 8888	Telephone	: +61 2 8784 8555
Facsimile	: +61 02 8584 8800	Facsimile	: +61 2 8784 8555
Project	: Project Symphony	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: BAYSWATER	Date Samples Received	: 08-NOV-2013
C-O-C number	: ----	Issue Date	: 15-NOV-2013
Sampler	: ----	No. of samples received	: 20
Order number	: 0224193	No. of samples analysed	: 20
Quote number	: SY/794/13		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content								
Soil Glass Jar - Unpreserved (EA055-103) D01_051113_TC, BJ_SB03_0.2, BJ_MW01_0.2, BJ_SB04_0.2,	BJ_SB09_0.2, BJ_SB02_0.2, BJ_SB01_0.2, BJ_SB05_0.2	05-NOV-2013	----	----	----	12-NOV-2013	19-NOV-2013	✓
Soil Glass Jar - Unpreserved (EA055-103) BJ_SB07_1.6, BJ_SB12_2.4, BJ_SB16_1.9, BJ_SB09_0.4, BJ_SB02_1.6, BJ_SB04_0.7,	BJ_SB10_1.0, BJ_SB14_2.9, BJ_SB08_2.7, BJ_MW02_4.9, BJ_SB05_0.4, BJ_SB03_1.7	06-NOV-2013	----	----	----	12-NOV-2013	20-NOV-2013	✓
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Snap Lock Bag (EA200) BJ_SB09_0.2, BJ_SB02_0.2, BJ_SB01_0.2, BJ_SB05_0.2	BJ_SB03_0.2, BJ_MW01_0.2, BJ_SB04_0.2,	05-NOV-2013	---	04-MAY-2014	----	15-NOV-2013	14-MAY-2014	✓
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) D01_051113_TC, BJ_SB03_0.2, BJ_MW01_0.2, BJ_SB04_0.2,	BJ_SB09_0.2, BJ_SB02_0.2, BJ_SB01_0.2, BJ_SB05_0.2	05-NOV-2013	12-NOV-2013	04-MAY-2014	✓	13-NOV-2013	04-MAY-2014	✓
Soil Glass Jar - Unpreserved (EG005T) BJ_SB07_1.6, BJ_SB12_2.4, BJ_SB16_1.9, BJ_SB09_0.4, BJ_SB02_1.6, BJ_SB04_0.7,	BJ_SB10_1.0, BJ_SB14_2.9, BJ_SB08_2.7, BJ_MW02_4.9, BJ_SB05_0.4, BJ_SB03_1.7	06-NOV-2013	12-NOV-2013	05-MAY-2014	✓	13-NOV-2013	05-MAY-2014	✓



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) D01_051113_TC, BJ_SB09_0.2, BJ_SB03_0.2, BJ_SB02_0.2, BJ_MW01_0.2, BJ_SB01_0.2, BJ_SB04_0.2, BJ_SB05_0.2	05-NOV-2013	12-NOV-2013	03-DEC-2013	✓	13-NOV-2013	03-DEC-2013	✓
Soil Glass Jar - Unpreserved (EG035T) BJ_SB07_1.6, BJ_SB10_1.0, BJ_SB12_2.4, BJ_SB14_2.9, BJ_SB16_1.9, BJ_SB08_2.7, BJ_SB09_0.4, BJ_MW02_4.9, BJ_SB02_1.6, BJ_SB05_0.4, BJ_SB04_0.7, BJ_SB03_1.7	06-NOV-2013	12-NOV-2013	04-DEC-2013	✓	13-NOV-2013	04-DEC-2013	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013							
Soil Glass Jar - Unpreserved (EP071) D01_051113_TC, BJ_SB09_0.2, BJ_SB03_0.2, BJ_SB02_0.2, BJ_MW01_0.2, BJ_SB01_0.2, BJ_SB04_0.2, BJ_SB05_0.2	05-NOV-2013	12-NOV-2013	19-NOV-2013	✓	13-NOV-2013	22-DEC-2013	✓
Soil Glass Jar - Unpreserved (EP071) BJ_SB07_1.6, BJ_SB10_1.0, BJ_SB12_2.4, BJ_SB14_2.9, BJ_SB16_1.9, BJ_SB08_2.7, BJ_SB09_0.4, BJ_MW02_4.9, BJ_SB02_1.6, BJ_SB05_0.4, BJ_SB04_0.7, BJ_SB03_1.7	06-NOV-2013	12-NOV-2013	20-NOV-2013	✓	13-NOV-2013	22-DEC-2013	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM)) D01_051113_TC, BJ_SB09_0.2, BJ_SB03_0.2, BJ_SB02_0.2, BJ_MW01_0.2, BJ_SB01_0.2, BJ_SB04_0.2, BJ_SB05_0.2	05-NOV-2013	12-NOV-2013	19-NOV-2013	✓	13-NOV-2013	22-DEC-2013	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) BJ_SB07_1.6, BJ_SB10_1.0, BJ_SB12_2.4, BJ_SB14_2.9, BJ_SB16_1.9, BJ_SB08_2.7, BJ_SB09_0.4, BJ_MW02_4.9, BJ_SB02_1.6, BJ_SB05_0.4, BJ_SB04_0.7, BJ_SB03_1.7	06-NOV-2013	12-NOV-2013	20-NOV-2013	✓	13-NOV-2013	22-DEC-2013	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) D01_051113_TC, BJ_SB09_0.2, BJ_SB03_0.2, BJ_SB02_0.2, BJ_MW01_0.2, BJ_SB01_0.2, BJ_SB04_0.2, BJ_SB05_0.2	05-NOV-2013	12-NOV-2013	19-NOV-2013	✓	13-NOV-2013	22-DEC-2013	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) BJ_SB07_1.6, BJ_SB10_1.0, BJ_SB12_2.4, BJ_SB14_2.9, BJ_SB16_1.9, BJ_SB08_2.7, BJ_SB09_0.4, BJ_MW02_4.9, BJ_SB02_1.6, BJ_SB05_0.4, BJ_SB04_0.7, BJ_SB03_1.7	06-NOV-2013	12-NOV-2013	20-NOV-2013	✓	13-NOV-2013	22-DEC-2013	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) D01_051113_TC, BJ_SB09_0.2, BJ_SB03_0.2, BJ_SB02_0.2, BJ_MW01_0.2, BJ_SB01_0.2, BJ_SB04_0.2, BJ_SB05_0.2	05-NOV-2013	12-NOV-2013	19-NOV-2013	✓	12-NOV-2013	19-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP080) BJ_SB07_1.6, BJ_SB10_1.0, BJ_SB12_2.4, BJ_SB14_2.9, BJ_SB16_1.9, BJ_SB08_2.7, BJ_SB09_0.4, BJ_MW02_4.9, BJ_SB02_1.6, BJ_SB05_0.4, BJ_SB04_0.7, BJ_SB03_1.7	06-NOV-2013	12-NOV-2013	20-NOV-2013	✓	12-NOV-2013	20-NOV-2013	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) D01_051113_TC, BJ_SB09_0.2, BJ_SB03_0.2, BJ_SB02_0.2, BJ_MW01_0.2, BJ_SB01_0.2, BJ_SB04_0.2, BJ_SB05_0.2	05-NOV-2013	12-NOV-2013	19-NOV-2013	✓	12-NOV-2013	19-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP080) BJ_SB07_1.6, BJ_SB10_1.0, BJ_SB12_2.4, BJ_SB14_2.9, BJ_SB16_1.9, BJ_SB08_2.7, BJ_SB09_0.4, BJ_MW02_4.9, BJ_SB02_1.6, BJ_SB05_0.4, BJ_SB04_0.7, BJ_SB03_1.7	06-NOV-2013	12-NOV-2013	20-NOV-2013	✓	12-NOV-2013	20-NOV-2013	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	4	40	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Asbestos Identification in bulk solids	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (2013) Schedule B(3) (Method 506.1)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 501)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.



Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

- For all matrices, no Method Blank value outliers occur.
- For all matrices, no Duplicate outliers occur.
- For all matrices, no Laboratory Control outliers occur.
- For all matrices, no Matrix Spike outliers occur.

Regular Sample Surrogates

- For all regular sample matrices, no surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- No Quality Control Sample Frequency Outliers exist.
-

Becon Forward Lab / Split WO
Lab / Analysis: Asbestos Newcastle
Organised By / Date:

Relinquished By / Date:
Comnofer / Cairns
WO No. 2224193

CHAIN OF CUSTODY
Environmental
ALS Laboratory
CLIENT: ERM
OFFICE: Sydney
PROJECT: Project Symphony
ORDER NUMBER: 0224193
SAMPLER: S. Mulligan
CONTACT PH: BAYSWATER / LIDDELL
SAMPLER MOBILE: JOHN.SWING@erm.com
COC emailed to ALS: 1 YES / 0

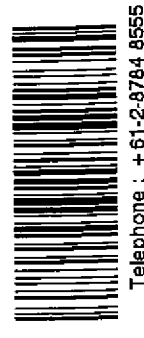
TURNAROUND REQUIREMENTS:
 Standard TAT (List due date):
 Non-Standard or urgent TAT (List due date):
ALS QUOTE NO.: SY79413
SITE: BAYSWATER / LIDDELL
RECEIVED BY: John Swing
DATE/TIME: 5/11/13 10:30
RELINQUISHED BY:
DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (codes below)	CONTAINER INFORMATION (refer to)	TOTAL CONTAINERS	ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to collect suite prices) (Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (filtered bottle required).)											Additional Information	
							92 Metals (As, Ba, Pb, Zn, Hg)	17 Metals (As, Ba, Cu, Cr, Ni, Mn, Ni, Pb, V, Zn, B, Mo, Ti, Se)	S-24 TRACE (Cd, Pb, Cr, Ni, Hg)	Phenols	VOC Target Scan	PCB	pH (1:5)	Exchangeable Cations (ED07)	PFOA/SFOA	Asbestos (absence/presence)	Particle (Sieve to 75µm)		Organic Matter plus Total Organic Carbon (EPO4)
1	BN_MW03_0.2	5/11/13	SOIL	1 Jar, 1 bag		2	X	X	X	X	X	X	X	X	X	X	X		
2	BN_MW02_0.2	5/11/13		" "		2	X	X	X	X	X	X	X	X	X	X	X		
3	BN_MW01_0.2	5/11/13		" "		2	X	X	X	X	X	X	X	X	X	X	X		
4	BK_SB01_0.2	5/11/13		1 Jar, 1 Bag		2	X	X	X	X	X	X	X	X	X	X	X		
5	BK_SB03_0.2	5/11/13		" "		2	X	X	X	X	X	X	X	X	X	X	X		
6	BK_SB03_1.5	6/11/13		1 Jar		1	X	X	X	X	X	X	X	X	X	X	X		HOLD
7	BK_SB04_0.2	6/11/13		1 Jar, 1 Bag		2	X	X	X	X	X	X	X	X	X	X	X		
8	BK_SB05_0.2	6/11/13		" "		2	X	X	X	X	X	X	X	X	X	X	X		
9	BK_SB02_0.2	6/11/13		" "		2	X	X	X	X	X	X	X	X	X	X	X		
10	BC_SB02_0.2	6/11/13		" "		2	X	X	X	X	X	X	X	X	X	X	X		
11	BC_SB01_0.2	6/11/13		" "		2	X	X	X	X	X	X	X	X	X	X	X		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORG = Nitric Preserved ORG; S = Sodium Hydroxide/Cid Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Air-tight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Air-tight Unpreserved Vial; SQ = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen Bottle; GP = Sulfuric Preserved Plastic; F = F = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
 Sydney
 Work Order
ES1324374



#137 1x medium bag - Particle size distribution 6-3.13 extra Sample Rec'd



CHAIN OF CUSTODY

DALE ALDE 21 Burns Road Prospect NSW 1505
Ph: 02 8359 0890 E: daleal@alsglobal.com

CHMAOKY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com

DUNEDIN 45 Ross Gum Road Wrenchback NSW 2304
Ph: 02 4928 3903 E: samples.nswcentral@alsglobal.com

DISVONEY 277289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8895 E: samples.sydney@alsglobal.com

DRIBSGARNE 32 Strand Street Stafford QLD 4653
Ph: 07 3243 7222 E: samples.qld@alsglobal.com

DIMELBOURNE 2-4 Westall Road Spangville VIC 3171
Ph: 03 8519 9600 E: samples.melbourne@alsglobal.com

DIMOWRA 4713 Garry Place North Nowra NSW 2541
Ph: 02 4423 2003 E: nowra@alsglobal.com

DWOLLOONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4228 3123 E: portmex@alsglobal.com

DWOLLOONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4228 3123 E: portmex@alsglobal.com

CLIENT: **ERM**

OFFICE: **Sydney**

PROJECT: **Project Symphony**

ORDER NUMBER: **0224193**

PROJECT MANAGER: **Joseph Ferring**

SAMPLER: **A. Morris**

TURNAROUND REQUIREMENTS:
 Standard TAT (List due date):
 Non Standard or urgent TAT (List due date):

ALS QUOTE NO.: SY79413

SITE: **BAYSWATER / LIDELL**

CONTACT PH: **02 34 18 1414**

SAMPLER MOBILE: **john.enery.com.com**

EDD FORMAT (or default):

COC emailed to ALS? (YES/NO)

Email Reports to (will default to PM if no other addresses are listed):

Email Invoice to (will default to PM if no other addresses are listed):

RECEIVED BY: **Stuart**

DATE/TIME: **8/11/13 10:50**

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE

SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)

CONTAINER INFORMATION

ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).

FOR LABORATORY USE ONLY (Circle)

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below	TOTAL CONTAINERS (refer to)	As Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Ti)	PAH PHENOLS (Total PAH, BTEX)	VOC Target Scan (BTEX)	Exchange (FOSPROA, CHS)	ED007	W-24 TRHC6 (C40) BYTEXN, PAH, Phenols	Asbestos	Additional Information
12	BT-SB01-0.1	5-11-13	Soil	1xSAR + 1xBag	2								X	HOLD
13	BT-SB01-1.0			1xSAR	1			X						HOLD
14	BT-SB01-1.5			"	1			X						HOLD
15	BT-SB02-0.1			1xSAR + 1xBag	2			X					X	HOLD
16	BT-SB02-1.0			1xSAR	1			X						HOLD
17	BT-SB02-1.5			1xSAR	1			X						HOLD
18	BK-MW01-0.1			1xSAR + 1xBag	2			X					X	HOLD
19	BK-MW01-1.5			1xSAR	1			X						HOLD
20	BK-MW02-0.1			1xSAR + 1xBag	2			X					X	HOLD
21	TAP SPIKE TS15			1xSAR	1			X						
22	TAP BLANK			1xSAR	1			X						
23	ROS1113		W	1x 50ml Amber 150x40mm ³ 1x 100ml Vial	3			X						
					TOTAL									

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Plastic
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag



CHAIN OF CUSTODY

CHADLADE 21 Burnie Road Burnie SA 9095
Ph: 08 838 0812 E: als@als.com.au

CIRIBANE 32 Strand Street Stafford QLD 4053
Ph: 07 343 7222 E: als@als.com.au

CHICKSON 1011 E. Colman Street Brisbane QLD 4000
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CHICKSON 1011 E. Colman Street Brisbane QLD 4000
Ph: 07 343 7222 E: als@als.com.au

CLIENT: ERM

OFFICE: Sydney

PROJECT: Project Sydney

ORDER NUMBER: 0224193

SAMPLER: A. Marks

SAMPLER MOBILE: 0937181910

CONTACT PH: _____

EDD FORMAT (or default): _____

COC emailed to ALS? (YES/NO) _____

Relinquished by: Johnsening Cam DATE/TIME: _____

Relinquished by: Stew DATE/TIME: 3/11/13 1030

Comments/Special Handling/Storage or Disposal: _____

TURNAROUND REQUIREMENTS:
 Standard TAT (List due date)
 Non Standard or urgent TAT (List due date)

ALS QUOTE NO.: SV78413

SITE: BAYSWATER / LIDELL

FOR LABORATORY USE ONLY (Brix)

Sample Size (litres): _____

Freeze (Freeze to be preserved upon receipt) Yes No

Random Sample (Random LID on Receipt) Yes No

Other Comments: _____

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below	CONTAINERS (relat to TOTAL)	ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (find filtered bottle required).											Additional Information	
						17 Metals (As, Ba, Pb, Zn, Hg)	5-2 Metals (As, Cd, Cr, Cu, Ni, Mn, Ni, Pb, V, Zn, B, Mo, Ti, Se)	S-24 TRHCs, CAOYBTEXN, PAH, Phenols	VOC Target Scan	BTEX	pH (1:5)	Exchangeable cations (ED07)	PFOS/PFOA	Asbestos (absence/presence)	Particle Sizing to 75um (Sieve)	Organic Matter plus Total Organic Carbon (EPO4)		
24	BK-MW03-0.1	6-11-13	s	1x Jar + 1x Bag	2	X	X	X	X	X	X	X	X	X	X	X		
25	BK-MW04-0.1				2	X	X	X	X	X	X	X	X	X	X	X		
26	BK-SB06-0.1				2	X	X	X	X	X	X	X	X	X	X	X		
27	BK-SB07-0.1				2	X	X	X	X	X	X	X	X	X	X	X		
28	BC-MW03-0.1			1x Jar + 2x Bag	3	X	X	X	X	X	X	X	X	X	X	X		
29	BC-MW05-0.1			1x Jar + 1x Bag	2	X	X	X	X	X	X	X	X	X	X	X		
30	BA-MW03-0.1			1x Jar + 1x Bag	2	X	X	X	X	X	X	X	X	X	X	X		
31	DUPOL-OS113-AM	5/11/13		1 Jar	1	X												
32	TRIP SPIKE TSG	6-11-13			1													
33	TRIP BLANK				1													
34	RO6 1113		W	1x Amber 1x 4003 plastic 1x Hill pool	3	X												
35	TSC1 TSC2																	
TOTAL																		

Water Containment Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airflight Unpreserved Plastic; V = VOA Vial -HI Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airflight Unpreserved Vial; AG = Sulfuric Preserved Amber Glass; H = HI Preserved Plastic; HS = HI Preserved Plastic; SP = Sulfuric Preserved Plastic; F = Formic Acid Preserved Plastic; Z = Zinc Acetate Preserved Plastic; E = EDTA Preserved Plastic; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

37 - Particle Size (medium size) - 6.3-13 (2x Jar sample Rec'd) - 1x Jar + 1x Bag

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : ES1324374	
Client : ENVIRO RESOURCES MANAGEMENT Contact : MR JOSEPH FERRING Address : GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Laboratory : Environmental Division Sydney Contact : Barbara Hanna Address : 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail : joseph.ferring@erm.com Telephone : +61 02 8584 8888 Facsimile : +61 02 8584 8800	E-mail : Barbara.Hanna@alsglobal.com Telephone : +61 2 8784 8555 Facsimile : +61 2 8784 8555
Project : Project Symphony Order number : 0224193 C-O-C number : ---- Site : BAYSWATER/LIDDELL Sampler : SM	Page : 1 of 4 Quote number : ES2013ENVRES0369 (SY/794/13) QC Level : NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received : 08-NOV-2013 Client Requested Due Date : 15-NOV-2013	Issue Date : 13-NOV-2013 11:54 Scheduled Reporting Date : 15-NOV-2013
--	--

Delivery Details

Mode of Delivery : Carrier No. of coolers/boxes : 7 HARD Security Seal : Intact.	Temperature : 5.7;C - Ice present No. of samples received : 37 No. of samples analysed : 31
---	--

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Asbestos and PSD analysis will be conducted by ALS Newcastle.**
- **Sample TS/TB/TSC does not mark any analysis on the COC, therefore Lab will conducted TPH C6-C9/BTEX analysis , Please confirm**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **All analysis will be reported on the scheduled due date 15/11/13, except for PSD analysis will be reported on 20/11/13**
- **Sample 37 received extra and placed on hold, please confirm**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (60 days) from date of completion of work order.



Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - S-27 TRH/BTEXN/PAH/Phenols/8Metals
ES1324374-004	06-NOV-2013 15:00	BK_SB01_0.2	✓
ES1324374-005	06-NOV-2013 15:00	BK_SB03_0.2	✓
ES1324374-007	06-NOV-2013 15:00	BK_SB04_0.2	✓
ES1324374-008	06-NOV-2013 15:00	BK_SB05_0.2	✓
ES1324374-009	06-NOV-2013 15:00	BK_SB02_0.2	✓
ES1324374-010	06-NOV-2013 15:00	BC_SB02_0.2	✓
ES1324374-011	06-NOV-2013 15:00	BC_SB01_0.2	✓
ES1324374-014	05-NOV-2013 15:00	BT_SB01_1.5	✓
ES1324374-015	05-NOV-2013 15:00	BT_SB02_0.1	✓
ES1324374-018	05-NOV-2013 15:00	BK_MW01_0.1	✓
ES1324374-020	05-NOV-2013 15:00	BK_MW02_0.1	✓
ES1324374-024	06-NOV-2013 15:00	BK_MW03_0.1	✓
ES1324374-025	06-NOV-2013 15:00	BK_MW04_0.1	✓
ES1324374-026	06-NOV-2013 15:00	BK_SB06_0.1	✓
ES1324374-027	06-NOV-2013 15:00	BK_SB07_0.1	✓

Matrix: **WATER**

Laboratory sample ID	Client sampling date / time	Client sample ID	WATER - W-02T 8 metals (Total)	WATER - W-18 TRH/C6 - C9/BTEXN
ES1324374-023	06-NOV-2013 15:00	R01_51113_SM	✓	✓
ES1324374-034	06-NOV-2013 15:00	R01_61113_SM	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

MR JOSEPH FERRING

- | | | |
|--|-------|------------------------|
| - *AU Certificate of Analysis - NATA (COA) | Email | joseph.ferring@erm.com |
| - *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) | Email | joseph.ferring@erm.com |
| - *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) | Email | joseph.ferring@erm.com |
| - A4 - AU Sample Receipt Notification - Environmental HT (SRN) | Email | joseph.ferring@erm.com |
| - Attachment - Report (SUBCO) | Email | joseph.ferring@erm.com |
| - Chain of Custody (CoC) (COC) | Email | joseph.ferring@erm.com |
| - EDI Format - ENMRG (ENMRG) | Email | joseph.ferring@erm.com |
| - EDI Format - EQUIS V5 ERM (EQUIS_V5_ERM) | Email | joseph.ferring@erm.com |
| - EDI Format - ESDAT (ESDAT) | Email | joseph.ferring@erm.com |
| - EDI Format - XTab (XTAB) | Email | joseph.ferring@erm.com |

THE ACCOUNTS PAYABLE

- | | | |
|-------------------------------|-------|---------------------|
| - A4 - AU Tax Invoice (INV) | Email | au.accounts@erm.com |
|-------------------------------|-------|---------------------|

CERTIFICATE OF ANALYSIS

Work Order	: ES1324374	Page	: 1 of 23
Client	: ENVIRO RESOURCES MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: MR JOSEPH FERRING	Contact	: Barbara Hanna
Address	: GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: joseph.ferring@erm.com	E-mail	: Barbara.Hanna@alsglobal.com
Telephone	: +61 02 8584 8888	Telephone	: +61 2 8784 8555
Facsimile	: +61 02 8584 8800	Facsimile	: +61 2 8784 8555
Project	: Project Symphony	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 0224193	Date Samples Received	: 08-NOV-2013
C-O-C number	: ----	Issue Date	: 18-NOV-2013
Sampler	: SM	No. of samples received	: 37
Site	: BAYSWATER/LIDDELL	No. of samples analysed	: 31
Quote number	: SY/794/13		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits



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

- **EA200 Legend**
- **EA200 'Am' Amosite (brown asbestos)**
- **EA200 'Ch' Chrysotile (white asbestos)**
- **EA200 'Cr' Crocidolite (blue asbestos)**
- **EA200 'Trace' - Asbestos fibres detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres**
- **EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.**
- **EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.**
- **EA200: Negative results for vinyl tiles should be confirmed by an independent analytical technique.**
- **EG020A-T: Positive results for sample ES1324374 # 023 have been confirmed**
- **EP080; The TRIP SPIKE and TRIP SPIKE CONTROL have been analysed for volatile TPH and BTEX only. The TRIP SPIKE and TRIP SPIKE CONTROL were prepared in the lab using reagent grade sand spiked with petrol. The TRIP SPIKE was dispatched from the lab and the TRIP SPIKE CONTROL retained. The spike samples were extracted and analysed concurrently with samples reported in this batch.**



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Christopher Owler	Team Leader - Asbestos	Newcastle - Asbestos
Hamish Murray	Supervisor - Soils	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BN_MW03_0.2	BN_MW02_0.2	BN_MW01_0.2	BK_SB01_0.2	BK_SB03_0.2
				05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-001	ES1324374-002	ES1324374-003	ES1324374-004	ES1324374-005
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	27.2	6.8	26.4	9.6	21.2
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos Type	1332-21-4	0.1	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	600	725	538	644	676
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	C.OWLER
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	26.5	6.0	31.1	----	----
Exchangeable Magnesium	----	0.1	meq/100g	4.0	4.8	1.3	----	----
Exchangeable Potassium	----	0.1	meq/100g	0.3	0.4	0.2	----	----
Exchangeable Sodium	----	0.1	meq/100g	0.2	0.3	<0.1	----	----
Cation Exchange Capacity	----	0.1	meq/100g	31.0	11.6	32.7	----	----
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	<0.1	----	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	10	7	6	----	----
Barium	7440-39-3	10	mg/kg	80	70	80	----	----
Beryllium	7440-41-7	1	mg/kg	1	<1	<1	----	----
Boron	7440-42-8	50	mg/kg	<50	<50	<50	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	2	----	----
Chromium	7440-47-3	2	mg/kg	14	6	17	----	----
Cobalt	7440-48-4	2	mg/kg	14	4	7	----	----
Copper	7440-50-8	5	mg/kg	16	<5	19	----	----
Lead	7439-92-1	5	mg/kg	10	5	33	----	----
Manganese	7439-96-5	5	mg/kg	480	76	259	----	----
Molybdenum	7439-98-7	2	mg/kg	<2	<2	<2	----	----
Nickel	7440-02-0	2	mg/kg	49	5	16	----	----
Selenium	7782-49-2	5	mg/kg	<5	<5	<5	----	----
Vanadium	7440-62-2	5	mg/kg	29	17	35	----	----
Zinc	7440-66-6	5	mg/kg	136	26	96	----	----
Thallium	7440-28-0	5	mg/kg	<5	<5	<5	----	----
Arsenic	7440-38-2	5	mg/kg	----	----	----	16	8
Cadmium	7440-43-9	1	mg/kg	----	----	----	<1	<1
Chromium	7440-47-3	2	mg/kg	----	----	----	24	19



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BN_MW03_0.2	BN_MW02_0.2	BN_MW01_0.2	BK_SB01_0.2	BK_SB03_0.2
				05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-001	ES1324374-002	ES1324374-003	ES1324374-004	ES1324374-005
EG005T: Total Metals by ICP-AES - Continued								
Copper	7440-50-8	5	mg/kg	----	----	----	20	12
Lead	7439-92-1	5	mg/kg	----	----	----	17	13
Nickel	7440-02-0	2	mg/kg	----	----	----	13	13
Zinc	7440-66-6	5	mg/kg	----	----	----	49	47
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	----	<0.1	<0.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BN_MW03_0.2	BN_MW02_0.2	BN_MW01_0.2	BK_SB01_0.2	BK_SB03_0.2
				05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-001	ES1324374-002	ES1324374-003	ES1324374-004	ES1324374-005
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	84.2	91.5	87.4	85.5	85.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BN_MW03_0.2	BN_MW02_0.2	BN_MW01_0.2	BK_SB01_0.2	BK_SB03_0.2
				05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-001	ES1324374-002	ES1324374-003	ES1324374-004	ES1324374-005
EP075(SIM)S: Phenolic Compound Surrogates - Continued								
2-Chlorophenol-D4	93951-73-6	0.1	%	92.3	101	96.1	93.4	92.1
2,4,6-Tribromophenol	118-79-6	0.1	%	95.0	96.2	99.1	96.2	97.4
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	92.6	95.2	96.5	94.4	95.0
Anthracene-d10	1719-06-8	0.1	%	88.2	91.5	88.8	88.4	90.4
4-Terphenyl-d14	1718-51-0	0.1	%	79.8	82.8	84.0	81.2	82.6
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	75.6	90.4	83.8	90.1	90.0
Toluene-D8	2037-26-5	0.1	%	90.3	110	91.8	98.6	97.2
4-Bromofluorobenzene	460-00-4	0.1	%	97.7	119	93.7	101	98.0



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BK_SB04_0.2	BK_SB05_0.2	BK_SB02_0.2	BC_SB02_0.2	BC_SB01_0.2
				06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-007	ES1324374-008	ES1324374-009	ES1324374-010	ES1324374-011
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	16.9	14.7	17.2	13.1	22.2
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos Type	1332-21-4	0.1	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	395	625	651	442	362
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	C.OWLER
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	16	9	12	8	7
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	26	8	19	19	19
Copper	7440-50-8	5	mg/kg	18	11	10	27	20
Lead	7439-92-1	5	mg/kg	17	13	14	16	14
Nickel	7440-02-0	2	mg/kg	13	9	10	14	18
Zinc	7440-66-6	5	mg/kg	43	72	29	61	68
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BK_SB04_0.2	BK_SB05_0.2	BK_SB02_0.2	BC_SB02_0.2	BC_SB01_0.2
				06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-007	ES1324374-008	ES1324374-009	ES1324374-010	ES1324374-011
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BK_SB04_0.2	BK_SB05_0.2	BK_SB02_0.2	BC_SB02_0.2	BC_SB01_0.2
				06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-007	ES1324374-008	ES1324374-009	ES1324374-010	ES1324374-011
EP080: BTEXN - Continued								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	82.7	76.2	87.1	85.2	83.5
2-Chlorophenol-D4	93951-73-6	0.1	%	90.8	85.1	95.8	93.2	93.1
2,4,6-Tribromophenol	118-79-6	0.1	%	96.4	86.1	99.7	94.0	95.7
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	93.8	85.5	97.1	93.9	93.6
Anthracene-d10	1719-06-8	0.1	%	89.3	81.2	91.1	87.6	87.8
4-Terphenyl-d14	1718-51-0	0.1	%	80.9	74.0	83.6	79.9	81.0
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	89.0	91.0	114	116	116
Toluene-D8	2037-26-5	0.1	%	95.9	96.0	121	114	112
4-Bromofluorobenzene	460-00-4	0.1	%	95.3	95.1	105	97.3	100



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BT_SB01_0.1	BT_SB01_1.5	BT_SB02_0.1	BK_MW01_0.1	BK_MW02_0.1
				05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-012	ES1324374-014	ES1324374-015	ES1324374-018	ES1324374-020
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	----	20.5	13.2	13.4	8.4
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	No	No	No
Asbestos Type	1332-21-4	0.1	--	-	----	-	-	-
Sample weight (dry)	----	0.01	g	366	----	442	573	432
APPROVED IDENTIFIER:	----	-	--	C.OWLER	----	C.OWLER	C.OWLER	C.OWLER
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	8	14	12	9
Cadmium	7440-43-9	1	mg/kg	----	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	----	10	5	34	15
Copper	7440-50-8	5	mg/kg	----	23	16	70	13
Lead	7439-92-1	5	mg/kg	----	16	7	82	11
Nickel	7440-02-0	2	mg/kg	----	12	4	22	11
Zinc	7440-66-6	5	mg/kg	----	63	56	574	50
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	<0.1	<0.1	<0.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	----	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BT_SB01_0.1	BT_SB01_1.5	BT_SB02_0.1	BK_MW01_0.1	BK_MW02_0.1
				05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-012	ES1324374-014	ES1324374-015	ES1324374-018	ES1324374-020
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	----	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	----	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	----	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	<10	<10	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg	----	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	----	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	----	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	<50	<50	<50
EP080: BTEXN								



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BT_SB01_0.1	BT_SB01_1.5	BT_SB02_0.1	BK_MW01_0.1	BK_MW02_0.1
				05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00	05-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-012	ES1324374-014	ES1324374-015	ES1324374-018	ES1324374-020
EP080: BTEXN - Continued								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	----	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	81.8	82.0	81.6	78.0
2-Chlorophenol-D4	93951-73-6	0.1	%	----	90.2	89.2	89.6	92.1
2,4,6-Tribromophenol	118-79-6	0.1	%	----	92.3	90.5	94.4	94.2
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	94.3	95.2	93.6	94.9
Anthracene-d10	1719-06-8	0.1	%	----	88.6	89.9	86.4	88.6
4-Terphenyl-d14	1718-51-0	0.1	%	----	81.3	81.9	79.6	80.1
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	----	128	128	87.4	92.0
Toluene-D8	2037-26-5	0.1	%	----	125	119	101	108
4-Bromofluorobenzene	460-00-4	0.1	%	----	114	106	97.2	106



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				TRIP SPIKE TS15	TRIP BLANK	BK_MW03_0.1	BK_MW04_0.1	BK_SB06_0.1
				05-NOV-2013 15:00	05-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
				ES1324374-021	ES1324374-022	ES1324374-024	ES1324374-025	ES1324374-026
Compound	CAS Number	LOR	Unit					
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	----	----	29.9	13.1	16.6
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	----	13	16	16
Cadmium	7440-43-9	1	mg/kg	----	----	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	----	----	19	24	24
Copper	7440-50-8	5	mg/kg	----	----	14	15	12
Lead	7439-92-1	5	mg/kg	----	----	15	15	17
Nickel	7440-02-0	2	mg/kg	----	----	14	10	10
Zinc	7440-66-6	5	mg/kg	----	----	57	34	43
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	----	<0.1	<0.1	<0.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	----	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	----	----	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	----	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				TRIP SPIKE TS15	TRIP BLANK	BK_MW03_0.1	BK_MW04_0.1	BK_SB06_0.1
				05-NOV-2013 15:00	05-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-021	ES1324374-022	ES1324374-024	ES1324374-025	ES1324374-026
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	----	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	----	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	----	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	41	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	----	----	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	----	----	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	----	----	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	----	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	48	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	30	<10	<10	<10	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg	----	----	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	----	----	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	----	----	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	----	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	----	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	8.2	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	1.2	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	6.0	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	2.4	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				TRIP SPIKE TS15	TRIP BLANK	BK_MW03_0.1	BK_MW04_0.1	BK_SB06_0.1
				05-NOV-2013 15:00	05-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-021	ES1324374-022	ES1324374-024	ES1324374-025	ES1324374-026
EP080: BTEXN - Continued								
^ Sum of BTEX	----	0.2	mg/kg	17.8	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	8.4	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	75.9	82.3	83.8
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	90.7	89.8	91.0
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	95.4	94.7	94.3
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	92.0	92.6	93.4
Anthracene-d10	1719-06-8	0.1	%	----	----	85.9	88.2	88.2
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	78.8	80.0	80.4
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	85.1	123	114	133	106
Toluene-D8	2037-26-5	0.1	%	101	106	98.3	109	127
4-Bromofluorobenzene	460-00-4	0.1	%	97.7	99.8	91.6	106	98.6



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				BK_SB07_0.1	BC_MW03_0.1	BC_MW05_0.1	BA_MW03_0.1	D01_051113_AM
				06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	05-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-027	ES1324374-028	ES1324374-029	ES1324374-030	ES1324374-031

Client sampling date / time

EA150: Particle Sizing

+75µm	----	1	%	----	76	----	----	----
+150µm	----	1	%	----	72	----	----	----
+300µm	----	1	%	----	69	----	----	----
+425µm	----	1	%	----	66	----	----	----
+600µm	----	1	%	----	64	----	----	----
+1180µm	----	1	%	----	60	----	----	----
+2.36mm	----	1	%	----	55	----	----	----
+4.75mm	----	1	%	----	48	----	----	----
+9.5mm	----	1	%	----	35	----	----	----
+19.0mm	----	1	%	----	<1	----	----	----
+37.5mm	----	1	%	----	<1	----	----	----
+75.0mm	----	1	%	----	<1	----	----	----

EA055: Moisture Content

Moisture Content (dried @ 103°C)	----	1.0	%	13.6	21.6	24.0	5.9	17.9
----------------------------------	------	-----	---	------	------	------	-----	------

EA150: Soil Classification based on Particle Size

Fines (<75 µm)	----	1	%	----	24	----	----	----
Sand (>75 µm)	----	1	%	----	21	----	----	----
Gravel (>2mm)	----	1	%	----	55	----	----	----
Cobbles (>6cm)	----	1	%	----	<1	----	----	----

ED007: Exchangeable Cations

Exchangeable Calcium	----	0.1	meq/100g	----	----	----	11.6	----
Exchangeable Magnesium	----	0.1	meq/100g	----	----	----	3.0	----
Exchangeable Potassium	----	0.1	meq/100g	----	----	----	0.3	----
Exchangeable Sodium	----	0.1	meq/100g	----	----	----	<0.1	----
Cation Exchange Capacity	----	0.1	meq/100g	----	----	----	15.0	----
Exchangeable Aluminium	----	0.1	meq/100g	----	----	----	<0.1	----

EG005T: Total Metals by ICP-AES

Arsenic	7440-38-2	5	mg/kg	----	----	----	8	----
Barium	7440-39-3	10	mg/kg	----	----	----	80	----
Beryllium	7440-41-7	1	mg/kg	----	----	----	<1	----
Boron	7440-42-8	50	mg/kg	----	----	----	<50	----
Cadmium	7440-43-9	1	mg/kg	----	----	----	<1	----
Chromium	7440-47-3	2	mg/kg	----	----	----	12	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BK_SB07_0.1	BC_MW03_0.1	BC_MW05_0.1	BA_MW03_0.1	D01_051113_AM
				06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	05-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-027	ES1324374-028	ES1324374-029	ES1324374-030	ES1324374-031
EG005T: Total Metals by ICP-AES - Continued								
Cobalt	7440-48-4	2	mg/kg	----	----	----	9	----
Copper	7440-50-8	5	mg/kg	----	----	----	11	----
Lead	7439-92-1	5	mg/kg	----	----	----	13	----
Manganese	7439-96-5	5	mg/kg	----	----	----	251	----
Molybdenum	7439-98-7	2	mg/kg	----	----	----	<2	----
Nickel	7440-02-0	2	mg/kg	----	----	----	12	----
Selenium	7782-49-2	5	mg/kg	----	----	----	<5	----
Vanadium	7440-62-2	5	mg/kg	----	----	----	35	----
Zinc	7440-66-6	5	mg/kg	----	----	----	54	----
Thallium	7440-28-0	5	mg/kg	----	----	----	<5	----
Arsenic	7440-38-2	5	mg/kg	17	8	<5	----	6
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	----	<1
Chromium	7440-47-3	2	mg/kg	17	16	12	----	10
Copper	7440-50-8	5	mg/kg	11	26	14	----	20
Lead	7439-92-1	5	mg/kg	18	22	9	----	16
Nickel	7440-02-0	2	mg/kg	13	13	8	----	11
Zinc	7440-66-6	5	mg/kg	74	215	64	----	54
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	----	<0.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	----	<1	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	<0.5	----
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	<0.5	----
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	<0.5	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	<0.5	----
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	<0.5	----
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	<0.5	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	----	<2	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BK_SB07_0.1	BC_MW03_0.1	BC_MW05_0.1	BA_MW03_0.1	D01_051113_AM
				06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	05-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-027	ES1324374-028	ES1324374-029	ES1324374-030	ES1324374-031
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
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	----
Benz(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)fluoranthene	205-99-2	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								
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	>C10_C16	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	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				BK_SB07_0.1	BC_MW03_0.1	BC_MW05_0.1	BA_MW03_0.1	D01_051113_AM
				06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	06-NOV-2013 15:00	05-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324374-027	ES1324374-028	ES1324374-029	ES1324374-030	ES1324374-031
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 - Continued								
^ >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	----
^ 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	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	80.5	----	----	83.5	----
2-Chlorophenol-D4	93951-73-6	0.1	%	88.7	----	----	92.9	----
2,4,6-Tribromophenol	118-79-6	0.1	%	89.8	----	----	94.4	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	89.4	----	----	93.8	----
Anthracene-d10	1719-06-8	0.1	%	83.5	----	----	87.4	----
4-Terphenyl-d14	1718-51-0	0.1	%	76.6	----	----	80.1	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	113	----	----	83.5	----
Toluene-D8	2037-26-5	0.1	%	101	----	----	88.3	----
4-Bromofluorobenzene	460-00-4	0.1	%	95.5	----	----	88.2	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				TRIP SPIKE TS6	TRIP BLANK	TSC15	TSC6	----
				06-NOV-2013 15:00	06-NOV-2013 15:00	05-NOV-2013 15:00	06-NOV-2013 15:00	----
Compound	CAS Number	LOR	Unit	ES1324374-032	ES1324374-033	ES1324374-035	ES1324374-036	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	62	<10	59	70	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	66	<10	64	74	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	45	<10	43	50	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	0.5	<0.2	0.3	0.5	----
Toluene	108-88-3	0.5	mg/kg	11.2	<0.5	10.3	12.1	----
Ethylbenzene	100-41-4	0.5	mg/kg	1.2	<0.5	1.2	1.4	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	6.1	<0.5	6.5	6.9	----
ortho-Xylene	95-47-6	0.5	mg/kg	2.4	<0.5	2.5	2.7	----
^ Sum of BTEX	----	0.2	mg/kg	21.4	<0.2	20.8	23.6	----
^ Total Xylenes	1330-20-7	0.5	mg/kg	8.5	<0.5	9.0	9.6	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	86.9	96.6	93.5	93.3	----
Toluene-D8	2037-26-5	0.1	%	102	95.6	87.9	87.8	----
4-Bromofluorobenzene	460-00-4	0.1	%	102	92.6	90.1	87.6	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)

Client sample ID

				R01_51113_SM	R01_61113_SM	---	---	---
				06-NOV-2013 15:00	06-NOV-2013 15:00	---	---	---
Compound	CAS Number	LOR	Unit	ES1324374-023	ES1324374-034	---	---	---
EG020T: Total Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	---	---	---
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	---	---	---
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	---	---	---
Copper	7440-50-8	0.001	mg/L	0.001	<0.001	---	---	---
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	---	---	---
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	---	---	---
Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	---	---	---
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	---	---	---
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	---	---	---
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	---	---	---
C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	---	---	---
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	---	---	---
Toluene	108-88-3	2	µg/L	<2	<2	---	---	---
Ethylbenzene	100-41-4	2	µg/L	<2	<2	---	---	---
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	---	---	---
ortho-Xylene	95-47-6	2	µg/L	<2	<2	---	---	---
Total Xylenes	1330-20-7	2	µg/L	<2	<2	---	---	---
Sum of BTEX	----	1	µg/L	<1	<1	---	---	---
Naphthalene	91-20-3	5	µg/L	<5	<5	---	---	---
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	111	111	---	---	---
Toluene-D8	2037-26-5	0.1	%	100	101	---	---	---
4-Bromofluorobenzene	460-00-4	0.1	%	94.7	95.6	---	---	---



Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

<i>Method: Compound</i>	<i>Client sample ID - Client sampling date / time</i>	<i>Analytical Results</i>
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	BN_MW03_0.2 - 05-NOV-2013 15:00	Mid brown clay soil with some brown rocks plus some quartz grains and a trace of vegetation
EA200: Description	BN_MW02_0.2 - 05-NOV-2013 15:00	Pale cream-brown sandy soil with some grey and brown rocks plus a trace of vegetation
EA200: Description	BN_MW01_0.2 - 05-NOV-2013 15:00	Pale brown clay soil with some quartz grains plus a trace of vegetation
EA200: Description	BK_SB01_0.2 - 06-NOV-2013 15:00	Mid red-brown clay soil with some small red rocks plus a trace of vegetation
EA200: Description	BK_SB03_0.2 - 06-NOV-2013 15:00	Mid brown clay soil with some small brown rocks plus some quartz grains and some vegetation
EA200: Description	BK_SB04_0.2 - 06-NOV-2013 15:00	Mid red-brown clay soil with some small red rocks plus some quartz and coal grains plus a trace of vegetation
EA200: Description	BK_SB05_0.2 - 06-NOV-2013 15:00	Pale brown clay soil with some small brown rocks plus some quartz grains and a trace of vegetation
EA200: Description	BK_SB02_0.2 - 06-NOV-2013 15:00	Mid red-brown clay soil with a trace of vegetation
EA200: Description	BC_SB02_0.2 - 06-NOV-2013 15:00	Mid brown clay soil plus a trace of vegetatiopn
EA200: Description	BC_SB01_0.2 - 06-NOV-2013 15:00	Mid red-brown clay soil with a trace of vegetation
EA200: Description	BT_SB01_0.1 - 05-NOV-2013 15:00	Mid grey-brown clay soil with some quartz grains plus a trace of vegetation
EA200: Description	BT_SB02_0.1 - 05-NOV-2013 15:00	Pale brown clay soil with plenty of quartz grains plus a trace of vegetation
EA200: Description	BK_MW01_0.1 - 05-NOV-2013 15:00	Pale red-brown clay soil with some small red rocks plus some quartz and coal grains plus a trace of vegetation
EA200: Description	BK_MW02_0.1 - 05-NOV-2013 15:00	Pale red-brown clay soil with some small red rocks plus some quartz grains plus a trace of vegetation



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
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	72.8	133.2
Toluene-D8	2037-26-5	73.9	132.1
4-Bromofluorobenzene	460-00-4	71.6	130.0

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

Certificate of Analysis

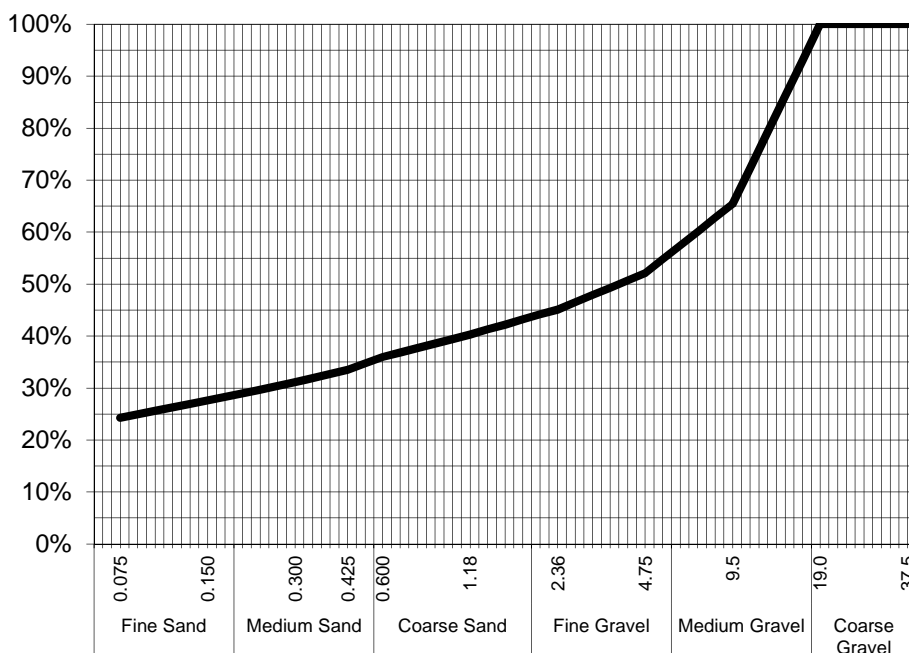
ALS Laboratory Group Pty Ltd
 5 Rosegum Road
 Warabrook, NSW 2304
 pH 02 4968 9433
 fax 02 4968 0349
 samples.newcastle@alsenviro.com

ALS Environmental
Newcastle, NSW



CLIENT: Joseph Ferring **DATE REPORTED:** 18-Nov-2013
COMPANY: Enviro Resources Management **DATE RECEIVED:** 8-Nov-2013
ADDRESS: Ground Floor **REPORT NO:** ES1324374-028 / PSD
 33 Saunders Street, Pyrmont
 NSW 2009
PROJECT: Project Symphony **SAMPLE ID:** BC_MW03_0.1

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.5	65%
4.75	52%
2.36	45%
1.18	40%
0.600	36%
0.425	34%
0.300	31%
0.150	28%
0.075	24%

Samples analysed as received.

Median Particle Size (mm)	2.360
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Sample Comments:

Analysed: 14-Nov-13

Loss on Pretreatment: NA

Limit of Reporting: 1%

Sample Description: Gravel, fines and sand

Test Method: AS1289.3.6.1

Hamish Murray
 Laboratory Supervisor, Newcastle
Authorised Signatory

NATA Accreditation: 825 Site: Newcastle
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QUALITY CONTROL REPORT

Work Order	: ES1324374	Page	: 1 of 18
Client	: ENVIRO RESOURCES MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: MR JOSEPH FERRING	Contact	: Barbara Hanna
Address	: GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: joseph.ferring@erm.com	E-mail	: Barbara.Hanna@alsglobal.com
Telephone	: +61 02 8584 8888	Telephone	: +61 2 8784 8555
Facsimile	: +61 02 8584 8800	Facsimile	: +61 2 8784 8555
Project	: Project Symphony	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: BAYSWATER/LIDDELL	Date Samples Received	: 08-NOV-2013
C-O-C number	: ----	Issue Date	: 18-NOV-2013
Sampler	: SM	No. of samples received	: 37
Order number	: 0224193	No. of samples analysed	: 31
Quote number	: SY/794/13		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

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



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.

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



NATA Accredited
Laboratory 825

Accredited for
compliance with
ISO/IEC 17025.

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Christopher Owler	Team Leader - Asbestos	Newcastle - Asbestos
Hamish Murray	Supervisor - Soils	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics



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: 3156929)									
ES1324374-001	BN_MW03_0.2	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	27.2	28.8	5.8	0% - 20%
ES1324374-015	BT_SB02_0.1	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	13.2	13.3	0.8	0% - 50%
EA055: Moisture Content (QC Lot: 3156930)									
ES1324374-030	BA_MW03_0.1	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	5.9	6.2	5.1	No Limit
ES1324393-010	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	44.4	44.8	0.9	0% - 20%
ED007: Exchangeable Cations (QC Lot: 3156108)									
ES1324119-001	Anonymous	ED007: Exchangeable Calcium	----	0.1	meq/100g	3.4	3.3	0.0	0% - 20%
		ED007: Exchangeable Magnesium	----	0.1	meq/100g	4.2	4.0	2.6	0% - 20%
		ED007: Exchangeable Potassium	----	0.1	meq/100g	0.2	0.2	0.0	0% - 20%
		ED007: Exchangeable Sodium	----	0.1	meq/100g	0.9	0.9	0.0	0% - 20%
		ED007: Cation Exchange Capacity	----	0.1	meq/100g	8.7	8.5	2.0	0% - 20%
		ED007: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	0.0	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 3157664)									
ES1324374-004	BK_SB01_0.2	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	180	170	0.0	0% - 50%
		EG005T: Chromium	7440-47-3	2	mg/kg	24	23	0.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	7	6	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	13	12	9.9	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	16	19	11.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	20	17	14.3	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	21	21.8	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	190	162	15.4	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	50	52	4.2	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	49	48	0.0	No Limit
		EG005T: Thallium	7440-28-0	5	mg/kg	<5	<5	0.0	No Limit
EG005T: Boron	7440-42-8	50	mg/kg	<50	<50	0.0	No Limit		
ES1324374-020	BK_MW02_0.1	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	40	50	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	15	12	21.3	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	8	8	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	11	12	0.0	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: 3157664) - continued									
ES1324374-020	BK_MW02_0.1	EG005T: Arsenic	7440-38-2	5	mg/kg	9	8	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	13	12	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	10	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	219	228	4.2	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	32	28	11.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	50	49	0.0	No Limit
		EG005T: Thallium	7440-28-0	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Boron	7440-42-8	50	mg/kg	<50	<50	0.0	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 3158836)									
ES1324374-031	D01_051113_AM	EG005T: Beryllium	7440-41-7	1	mg/kg	2	2	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	260	280	8.0	0% - 20%
		EG005T: Chromium	7440-47-3	2	mg/kg	10	9	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	14	14	7.2	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	11	10	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	20	18	9.1	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	16	14	10.4	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	245	235	4.1	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	29	27	7.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	54	51	5.4	0% - 50%
		EG005T: Thallium	7440-28-0	5	mg/kg	<5	<5	0.0	No Limit
				EG005T: Boron	7440-42-8	50	mg/kg	<50	<50
ES1324470-025	Anonymous	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	40	40	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	4	4	0.0	No Limit
		EG005T: Cobalt	7440-48-4	2	mg/kg	5	5	0.0	No Limit
		EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	17	16	7.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	<5	31.8	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	9	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	13	12	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	171	149	13.8	0% - 20%
		EG005T: Selenium	7782-49-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Vanadium	7440-62-2	5	mg/kg	8	8	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	43	36	17.7	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: 3158836) - continued									
ES1324470-025	Anonymous	EG005T: Thallium	7440-28-0	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Boron	7440-42-8	50	mg/kg	<50	<50	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3157665)									
ES1324374-004	BK_SB01_0.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1324374-020	BK_MW02_0.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3158837)									
ES1324374-031	D01_051113_AM	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1324470-025	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 3153728)									
ES1324374-001	BN_MW03_0.2	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
		ES1324374-014	BT_SB01_1.5	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5
EP075(SIM): 2-Chlorophenol	95-57-8			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2-Methylphenol	95-48-7			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2-Nitrophenol	88-75-5			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2.4-Dimethylphenol	105-67-9			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2.4-Dichlorophenol	120-83-2			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2.6-Dichlorophenol	87-65-0			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 3- & 4-Methylphenol	1319-77-3			1	mg/kg	<1	<1	0.0	No Limit
EP075(SIM): Pentachlorophenol	87-86-5			2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3153728)									
ES1324374-001	BN_MW03_0.2	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	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: 3153728) - continued									
ES1324374-001	BN_MW03_0.2	EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		ES1324374-014	BT_SB01_1.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5
EP075(SIM): Acenaphthylene	208-96-8			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Acenaphthene	83-32-9			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Fluorene	86-73-7			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Phenanthrene	85-01-8			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Anthracene	120-12-7			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Fluoranthene	206-44-0			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Pyrene	129-00-0			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Benz(a)anthracene	56-55-3			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Chrysene	218-01-9			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Benzo(b)fluoranthene	205-99-2			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Benzo(k)fluoranthene	207-08-9			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Benzo(a)pyrene	50-32-8			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Dibenz(a.h)anthracene	53-70-3			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Benzo(g.h.i)perylene	191-24-2			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Benzo(a)pyrene TEQ (zero)	----			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3153727)									
ES1324374-001	BN_MW03_0.2	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1324374-014	BT_SB01_1.5	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit

EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3155545)



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 (%)	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3155545) - continued										
ES1324374-001	BN_MW03_0.2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit	
ES1324374-014	BT_SB01_1.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3155620)										
ES1324261-002	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit	
ES1324261-014	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3153727)										
ES1324374-001	BN_MW03_0.2	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.0	No Limit	
ES1324374-014	BT_SB01_1.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.0	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3155545)										
ES1324374-001	BN_MW03_0.2	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
ES1324374-014	BT_SB01_1.5	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3155620)										
ES1324261-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
ES1324261-014	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
EP080: BTEXN (QC Lot: 3155545)										
ES1324374-001	BN_MW03_0.2	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
ES1324374-014	BT_SB01_1.5	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit	
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit			
EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit			
EP080: BTEXN (QC Lot: 3155620)										
ES1324261-002	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							



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: 3155620) - continued										
ES1324261-002	Anonymous	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit	
ES1324261-014	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit	
Sub-Matrix: WATER										
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)	
EG020T: Total Metals by ICP-MS (QC Lot: 3155573)										
ES1324366-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit	
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit	
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit	
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.001	0.001	0.0	No Limit	
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit	
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.004	0.004	0.0	No Limit	
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.019	0.021	6.2	No Limit	
ES1324457-002	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit	
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.006	0.004	42.4	No Limit	
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit	
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.001	0.001	0.0	No Limit	
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.002	0.001	0.0	No Limit	
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.002	0.002	0.0	No Limit	
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.011	0.009	11.7	No Limit	
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3153318)										
ES1324238-001	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit	
ES1324374-023	R01_51113_SM	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3156433)										
ES1324258-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit	
ES1324296-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3156433)										
ES1324258-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit	
ES1324296-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit	
EP080: BTEXN (QC Lot: 3156433)										
ES1324258-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit	
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit	



Sub-Matrix: WATER				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: 3156433) - continued									
ES1324258-001	Anonymous	EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	<2	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
ES1324296-001	Anonymous	EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
		EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	<2	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	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 Sample (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

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
ED007: Exchangeable Cations (QCLot: 3156108)									
ED007: Exchangeable Calcium	----	0.1	meq/100g	<0.1	----	----	----	----	
ED007: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	----	----	----	----	
ED007: Exchangeable Potassium	----	0.1	meq/100g	<0.1	----	----	----	----	
ED007: Exchangeable Sodium	----	0.1	meq/100g	<0.1	----	----	----	----	
ED007: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	----	----	----	----	
ED007: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	----	----	----	----	
EG005T: Total Metals by ICP-AES (QCLot: 3157664)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	109	87	129	
EG005T: Barium	7440-39-3	10	mg/kg	<10	143 mg/kg	108	83	129	
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.63 mg/kg	111	88	130	
EG005T: Boron	7440-42-8	50	mg/kg	<50	----	----	----	----	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	99.9	80	122	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	105	71	133	
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	16.0 mg/kg	99.9	84	128	
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	125	86	128	
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	94.5	81	123	
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	109	85	127	
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	7.9 mg/kg	106	70	130	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	101	84	130	
EG005T: Selenium	7782-49-2	5	mg/kg	<5	5.37 mg/kg	92.6	75	131	
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	29.6 mg/kg	109	95	129	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	93.4	81	133	
EG005T: Thallium	7440-28-0	5	mg/kg	<5	5.96 mg/kg	92.8	70	130	
EG005T: Total Metals by ICP-AES (QCLot: 3158836)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	102	87	129	
EG005T: Barium	7440-39-3	10	mg/kg	<10	143 mg/kg	106	83	129	
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	5.63 mg/kg	101	88	130	
EG005T: Boron	7440-42-8	50	mg/kg	<50	----	----	----	----	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	96.8	80	122	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	105	71	133	
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	16.0 mg/kg	97.0	84	128	
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	108	86	128	
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	98.4	81	123	
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	101	85	127	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EG005T: Total Metals by ICP-AES (QCLot: 3158836) - continued									
EG005T: Molybdenum	7439-98-7	2	mg/kg	<2	7.9 mg/kg	105	70	130	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	107	84	130	
EG005T: Selenium	7782-49-2	5	mg/kg	<5	5.37 mg/kg	99.6	75	131	
EG005T: Vanadium	7440-62-2	5	mg/kg	<5	29.6 mg/kg	102	95	129	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	94.8	81	133	
EG005T: Thallium	7440-28-0	5	mg/kg	<5	5.96 mg/kg	92.9	70	130	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3157665)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	78.8	66	112	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3158837)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	84.6	66	112	
EP075(SIM)A: Phenolic Compounds (QCLot: 3153728)									
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	96.5	74	116	
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	101	74	116	
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	100	72	116	
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1	8 mg/kg	103	69	123	
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	82.6	60.3	117	
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	97.1	69	117	
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	86.7	68	112	
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	95.3	73	117	
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	84.1	76.4	114	
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	87.8	57	111	
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	82.7	68.9	112	
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1	8 mg/kg	47.9	3.9	57	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3153728)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	101	80	124	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	110	77	123	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	106	79	123	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	111	77	123	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	110	79	123	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	112	79	123	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	109	79	123	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	111	79	125	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	97.3	73	121	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	102	81	123	
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	91.9	70	118	
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	112	77	123	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	107	76	122	
EP075(SIM): Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	104	71	113	



Sub-Matrix: **SOIL**

Method Blank (MB) Report				Laboratory Control Spike (LCS) Report				
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit		Result	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3153728) - continued								
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	106	71.7	113
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	99.8	72.4	114
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3153727)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	113	71	131
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	112	74	138
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	93.6	64	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3155545)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	119	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3155620)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	90.8	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3153727)								
EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	250 mg/kg	106	70	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	108	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
		50	mg/kg	----	150 mg/kg	70.1	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3155545)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	120	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3155620)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	87.5	68.4	128
EP080: BTEXN (QCLot: 3155545)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	107	62	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	109	62	128
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	107	58	118
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	101	60	120
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	108	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	105	62	138
EP080: BTEXN (QCLot: 3155620)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	70.4	62	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	81.6	62	128
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	80.6	58	118
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	84.6	60	120
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	84.8	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	86.8	62	138

Sub-Matrix: **WATER**

Method Blank (MB) Report				Laboratory Control Spike (LCS) Report				
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit		Result	LCS	Low	High



Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
						LCS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3155573)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	95.2	79	121
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	96.2	82	114
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	97.1	83	115
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	96.2	83	117
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	98.0	85	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	100	83	117
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	94.7	76	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3153318)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	91.4	77	115
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3156433)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	90.4	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3156433)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	89.6	75	127
EP080: BTEXN (QCLot: 3156433)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	104	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	101	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	97.8	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	96.5	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	93.0	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	105	70	124

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**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery(%)	Recovery Limits (%)	
					MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 3157664)							
ES1324374-004	BK_SB01_0.2	EG005T: Arsenic	7440-38-2	50 mg/kg	92.1	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.1	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	95.0	70	130
		EG005T: Copper	7440-50-8	125 mg/kg	105	70	130
		EG005T: Lead	7439-92-1	125 mg/kg	91.8	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	89.4	70	130
		EG005T: Selenium	7782-49-2	50 mg/kg	92.7	70	130
		EG005T: Zinc	7440-66-6	125 mg/kg	84.9	70	130



Sub-Matrix: SOIL

				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 3158836)							
ES1324374-031	D01_051113_AM	EG005T: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	92.8	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	97.4	70	130
		EG005T: Copper	7440-50-8	125 mg/kg	112	70	130
		EG005T: Lead	7439-92-1	125 mg/kg	93.4	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.5	70	130
		EG005T: Selenium	7782-49-2	50 mg/kg	98.2	70	130
		EG005T: Zinc	7440-66-6	125 mg/kg	84.0	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3157665)							
ES1324374-004	BK_SB01_0.2	EG035T: Mercury	7439-97-6	5 mg/kg	107	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3158837)							
ES1324374-031	D01_051113_AM	EG035T: Mercury	7439-97-6	5 mg/kg	97.6	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 3153728)							
ES1324374-001	BN_MW03_0.2	EP075(SIM): Phenol	108-95-2	10 mg/kg	91.3	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	87.3	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	91.7	60	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	79.6	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	89.8	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3153728)							
ES1324374-001	BN_MW03_0.2	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	92.8	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	103	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3153727)							
ES1324374-001	BN_MW03_0.2	EP071: C10 - C14 Fraction	----	640 mg/kg	84.7	73	137
		EP071: C15 - C28 Fraction	----	3140 mg/kg	79.6	53	131
		EP071: C29 - C36 Fraction	----	2860 mg/kg	67.9	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3155545)							
ES1324374-001	BN_MW03_0.2	EP080: C6 - C9 Fraction	----	32.5 mg/kg	113	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3155620)							
ES1324261-002	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	92.8	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3153727)							
ES1324374-001	BN_MW03_0.2	EP071: >C10 - C16 Fraction	>C10_C16	850 mg/kg	103	73	137
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	72.4	53	131
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	52.6	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3155545)							
ES1324374-001	BN_MW03_0.2	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	113	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3155620)							



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%)	
						Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3155620) - continued							
ES1324261-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	88.2	70	130
EP080: BTEXN (QCLot: 3155545)							
ES1324374-001	BN_MW03_0_2	EP080: Benzene	71-43-2	2.5 mg/kg	91.2	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	98.0	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	96.3	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	93.5	70	130
		EP080: ortho-Xylene	106-42-3	2.5 mg/kg	93.3	70	130
		EP080: Naphthalene	95-47-6	2.5 mg/kg	81.3	70	130
EP080: BTEXN (QCLot: 3155620)							
ES1324261-002	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	93.6	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	80.2	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	83.8	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	85.7	70	130
		EP080: ortho-Xylene	106-42-3	2.5 mg/kg	90.6	70	130
		EP080: Naphthalene	95-47-6	2.5 mg/kg	91.5	70	130
Sub-Matrix: WATER				Matrix Spike (MS) Report			
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%)	
						Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3155573)							
ES1324366-002	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	111	70	130
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	109	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	110	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	112	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	118	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	105	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	110	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3153318)							
ES1324374-034	R01_61113_SM	EG035T: Mercury	7439-97-6	0.010 mg/L	87.3	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3156433)							
ES1324258-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	107	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3156433)							
ES1324258-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	105	70	130
EP080: BTEXN (QCLot: 3156433)							
ES1324258-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	104	70	130
		EP080: Toluene	108-88-3	25 µg/L	100	70	130



Sub-Matrix: **WATER**

				Matrix Spike (MS) Report				
				Spike	Spike Recovery(%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EP080: BTEXN (QCLot: 3156433) - continued								
ES1324258-001	Anonymous	EP080: Ethylbenzene	100-41-4	25 µg/L	97.2	70	130	
		EP080: meta- & para-Xylene	108-38-3	25 µg/L	96.2	70	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	25 µg/L	98.0	70	130	
		EP080: Naphthalene	91-20-3	25 µg/L	97.2	70	130	

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are 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) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3153727)										
ES1324374-001	BN_MW03_0.2	EP071: C10 - C14 Fraction	----	640 mg/kg	84.7	----	73	137	----	----
		EP071: C15 - C28 Fraction	----	3140 mg/kg	79.6	----	53	131	----	----
		EP071: C29 - C36 Fraction	----	2860 mg/kg	67.9	----	52	132	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3153727)										
ES1324374-001	BN_MW03_0.2	EP071: >C10 - C16 Fraction	>C10_C16	850 mg/kg	103	----	73	137	----	----
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	72.4	----	53	131	----	----
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	52.6	----	52	132	----	----
EP075(SIM)A: Phenolic Compounds (QCLot: 3153728)										
ES1324374-001	BN_MW03_0.2	EP075(SIM): Phenol	108-95-2	10 mg/kg	91.3	----	70	130	----	----
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	87.3	----	70	130	----	----
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	91.7	----	60	130	----	----
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	79.6	----	70	130	----	----
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	89.8	----	20	130	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3153728)										
ES1324374-001	BN_MW03_0.2	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	92.8	----	70	130	----	----
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	103	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3155545)										
ES1324374-001	BN_MW03_0.2	EP080: C6 - C9 Fraction	----	32.5 mg/kg	113	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3155545)										
ES1324374-001	BN_MW03_0.2	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	113	----	70	130	----	----
EP080: BTEXN (QCLot: 3155545)										
ES1324374-001	BN_MW03_0.2	EP080: Benzene	71-43-2	2.5 mg/kg	91.2	----	70	130	----	----
		EP080: Toluene	108-88-3	2.5 mg/kg	98.0	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	96.3	----	70	130	----	----



Sub-Matrix: SOIL

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					MS	MSD	Low	High	Value	Control Limit
EP080: BTEXN (QCLot: 3155545) - continued										
ES1324374-001	BN_MW03_0.2	EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	93.5	----	70	130	----	----
			106-42-3							
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	93.3	----	70	130	----	----
		EP080: Naphthalene	91-20-3	2.5 mg/kg	81.3	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3155620)										
ES1324261-002	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	92.8	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3155620)										
ES1324261-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	88.2	----	70	130	----	----
EP080: BTEXN (QCLot: 3155620)										
ES1324261-002	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	93.6	----	70	130	----	----
		EP080: Toluene	108-88-3	2.5 mg/kg	80.2	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	83.8	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	85.7	----	70	130	----	----
			106-42-3							
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	90.6	----	70	130	----	----
		EP080: Naphthalene	91-20-3	2.5 mg/kg	91.5	----	70	130	----	----
EG005T: Total Metals by ICP-AES (QCLot: 3157664)										
ES1324374-004	BK_SB01_0.2	EG005T: Arsenic	7440-38-2	50 mg/kg	92.1	----	70	130	----	----
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.1	----	70	130	----	----
		EG005T: Chromium	7440-47-3	50 mg/kg	95.0	----	70	130	----	----
		EG005T: Copper	7440-50-8	125 mg/kg	105	----	70	130	----	----
		EG005T: Lead	7439-92-1	125 mg/kg	91.8	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	89.4	----	70	130	----	----
		EG005T: Selenium	7782-49-2	50 mg/kg	92.7	----	70	130	----	----
		EG005T: Zinc	7440-66-6	125 mg/kg	84.9	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3157665)										
ES1324374-004	BK_SB01_0.2	EG035T: Mercury	7439-97-6	5 mg/kg	107	----	70	130	----	----
EG005T: Total Metals by ICP-AES (QCLot: 3158836)										
ES1324374-031	D01_051113_AM	EG005T: Arsenic	7440-38-2	50 mg/kg	101	----	70	130	----	----
		EG005T: Cadmium	7440-43-9	50 mg/kg	92.8	----	70	130	----	----
		EG005T: Chromium	7440-47-3	50 mg/kg	97.4	----	70	130	----	----
		EG005T: Copper	7440-50-8	125 mg/kg	112	----	70	130	----	----
		EG005T: Lead	7439-92-1	125 mg/kg	93.4	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	95.5	----	70	130	----	----
		EG005T: Selenium	7782-49-2	50 mg/kg	98.2	----	70	130	----	----
		EG005T: Zinc	7440-66-6	125 mg/kg	84.0	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3158837)										
ES1324374-031	D01_051113_AM	EG035T: Mercury	7439-97-6	5 mg/kg	97.6	----	70	130	----	----



Sub-Matrix: WATER

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)		
					MS	MSD	Low	High	Value	Control Limit	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3153318)											
ES1324374-034	R01_61113_SM	EG035T: Mercury	7439-97-6	0.010 mg/L	87.3	----	70	130	----	----	
EG020T: Total Metals by ICP-MS (QCLot: 3155573)											
ES1324366-002	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	111	----	70	130	----	----	
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	109	----	70	130	----	----	
		EG020A-T: Chromium	7440-47-3	1 mg/L	110	----	70	130	----	----	
		EG020A-T: Copper	7440-50-8	1 mg/L	112	----	70	130	----	----	
		EG020A-T: Lead	7439-92-1	1 mg/L	118	----	70	130	----	----	
		EG020A-T: Nickel	7440-02-0	1 mg/L	105	----	70	130	----	----	
		EG020A-T: Zinc	7440-66-6	1 mg/L	110	----	70	130	----	----	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3156433)											
ES1324258-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	107	----	70	130	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3156433)											
ES1324258-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	105	----	70	130	----	----	
EP080: BTEXN (QCLot: 3156433)											
ES1324258-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	104	----	70	130	----	----	
		EP080: Toluene	108-88-3	25 µg/L	100	----	70	130	----	----	
		EP080: Ethylbenzene	100-41-4	25 µg/L	97.2	----	70	130	----	----	
		EP080: meta- & para-Xylene	108-38-3	25 µg/L	96.2	----	70	130	----	----	
			106-42-3								
		EP080: ortho-Xylene	95-47-6	25 µg/L	98.0	----	70	130	----	----	
	91-20-3	EP080: Naphthalene		25 µg/L	97.2	----	70	130	----	----	

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: ES1324374	Page	: 1 of 11
Client	: ENVIRO RESOURCES MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: MR JOSEPH FERRING	Contact	: Barbara Hanna
Address	: GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: joseph.ferring@erm.com	E-mail	: Barbara.Hanna@alsglobal.com
Telephone	: +61 02 8584 8888	Telephone	: +61 2 8784 8555
Facsimile	: +61 02 8584 8800	Facsimile	: +61 2 8784 8555
Project	: Project Symphony	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: BAYSWATER/LIDDELL	Date Samples Received	: 08-NOV-2013
C-O-C number	: ----	Issue Date	: 18-NOV-2013
Sampler	: SM	No. of samples received	: 37
Order number	: 0224193	No. of samples analysed	: 31
Quote number	: SY/794/13		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content								
Soil Glass Jar - Unpreserved (EA055-103) BN_MW03_0.2, BN_MW01_0.2, BT_SB02_0.1, BK_MW02_0.1,	BN_MW02_0.2, BT_SB01_1.5, BK_MW01_0.1, D01_051113_AM	05-NOV-2013	----	----	----	14-NOV-2013	19-NOV-2013	✓
Soil Glass Jar - Unpreserved (EA055-103) BK_SB01_0.2, BK_SB04_0.2, BK_SB02_0.2, BC_SB01_0.2, BK_MW04_0.1, BK_SB07_0.1, BC_MW05_0.1,	BK_SB03_0.2, BK_SB05_0.2, BC_SB02_0.2, BK_MW03_0.1, BK_SB06_0.1, BC_MW03_0.1, BA_MW03_0.1	06-NOV-2013	----	----	----	14-NOV-2013	20-NOV-2013	✓
EA150: Particle Sizing								
Snap Lock Bag (EA150) BC_MW03_0.1		06-NOV-2013	---	05-MAY-2014	----	18-NOV-2013	14-MAY-2014	✓
EA150: Soil Classification based on Particle Size								
Snap Lock Bag (EA150) BC_MW03_0.1		06-NOV-2013	---	05-MAY-2014	----	18-NOV-2013	14-MAY-2014	✓
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Snap Lock Bag (EA200) BN_MW03_0.2, BN_MW01_0.2, BT_SB02_0.1, BK_MW02_0.1	BN_MW02_0.2, BT_SB01_0.1, BK_MW01_0.1,	05-NOV-2013	---	04-MAY-2014	----	16-NOV-2013	15-MAY-2014	✓
Snap Lock Bag (EA200) BK_SB01_0.2, BK_SB04_0.2, BK_SB02_0.2, BC_SB01_0.2	BK_SB03_0.2, BK_SB05_0.2, BC_SB02_0.2,	06-NOV-2013	---	05-MAY-2014	----	16-NOV-2013	15-MAY-2014	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
ED007: Exchangeable Cations								
Soil Glass Jar - Unpreserved (ED007) BN_MW03_0.2, BN_MW01_0.2	BN_MW02_0.2	05-NOV-2013	13-NOV-2013	03-DEC-2013	✓	14-NOV-2013	03-DEC-2013	✓
Soil Glass Jar - Unpreserved (ED007) BA_MW03_0.1		06-NOV-2013	13-NOV-2013	04-DEC-2013	✓	14-NOV-2013	04-DEC-2013	✓
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) BN_MW03_0.2, BN_MW01_0.2, BT_SB02_0.1, BK_MW02_0.1	BN_MW02_0.2, BT_SB01_1.5, BK_MW01_0.1	05-NOV-2013	14-NOV-2013	04-MAY-2014	✓	14-NOV-2013	04-MAY-2014	✓
Soil Glass Jar - Unpreserved (EG005T) D01_051113_AM		05-NOV-2013	14-NOV-2013	04-MAY-2014	✓	15-NOV-2013	04-MAY-2014	✓
Soil Glass Jar - Unpreserved (EG005T) BK_SB01_0.2, BK_SB04_0.2, BK_SB02_0.2, BC_SB01_0.2, BK_MW04_0.1, BK_SB07_0.1, BC_MW05_0.1	BK_SB03_0.2, BK_SB05_0.2, BC_SB02_0.2, BK_MW03_0.1, BK_SB06_0.1, BC_MW03_0.1	06-NOV-2013	14-NOV-2013	05-MAY-2014	✓	14-NOV-2013	05-MAY-2014	✓
Soil Glass Jar - Unpreserved (EG005T) BA_MW03_0.1		06-NOV-2013	14-NOV-2013	05-MAY-2014	✓	15-NOV-2013	05-MAY-2014	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) BT_SB01_1.5, BK_MW01_0.1, D01_051113_AM	BT_SB02_0.1, BK_MW02_0.1	05-NOV-2013	14-NOV-2013	03-DEC-2013	✓	15-NOV-2013	03-DEC-2013	✓
Soil Glass Jar - Unpreserved (EG035T) BK_SB01_0.2, BK_SB04_0.2, BK_SB02_0.2, BC_SB01_0.2, BK_MW04_0.1, BK_SB07_0.1, BC_MW05_0.1	BK_SB03_0.2, BK_SB05_0.2, BC_SB02_0.2, BK_MW03_0.1, BK_SB06_0.1, BC_MW03_0.1	06-NOV-2013	14-NOV-2013	04-DEC-2013	✓	15-NOV-2013	04-DEC-2013	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP071) BN_MW03_0.2, BN_MW01_0.2, BT_SB02_0.1, BK_MW02_0.1	BN_MW02_0.2, BT_SB01_1.5, BK_MW01_0.1	05-NOV-2013	14-NOV-2013	19-NOV-2013	✓	14-NOV-2013	24-DEC-2013	✓
Soil Glass Jar - Unpreserved (EP071) BK_SB01_0.2, BK_SB04_0.2, BK_SB02_0.2, BC_SB01_0.2, BK_MW04_0.1, BK_SB07_0.1	BK_SB03_0.2, BK_SB05_0.2, BC_SB02_0.2, BK_MW03_0.1, BK_SB06_0.1, BA_MW03_0.1	06-NOV-2013	14-NOV-2013	20-NOV-2013	✓	14-NOV-2013	24-DEC-2013	✓
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM)) BN_MW03_0.2, BN_MW01_0.2, BT_SB02_0.1, BK_MW02_0.1	BN_MW02_0.2, BT_SB01_1.5, BK_MW01_0.1	05-NOV-2013	14-NOV-2013	19-NOV-2013	✓	14-NOV-2013	24-DEC-2013	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) BK_SB01_0.2, BK_SB04_0.2, BK_SB02_0.2, BC_SB01_0.2, BK_MW04_0.1, BK_SB07_0.1	BK_SB03_0.2, BK_SB05_0.2, BC_SB02_0.2, BK_MW03_0.1, BK_SB06_0.1, BA_MW03_0.1	06-NOV-2013	14-NOV-2013	20-NOV-2013	✓	14-NOV-2013	24-DEC-2013	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM)) BN_MW03_0.2, BN_MW01_0.2, BT_SB02_0.1, BK_MW02_0.1	BN_MW02_0.2, BT_SB01_1.5, BK_MW01_0.1	05-NOV-2013	14-NOV-2013	19-NOV-2013	✓	14-NOV-2013	24-DEC-2013	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) BK_SB01_0.2, BK_SB04_0.2, BK_SB02_0.2, BC_SB01_0.2, BK_MW04_0.1, BK_SB07_0.1	BK_SB03_0.2, BK_SB05_0.2, BC_SB02_0.2, BK_MW03_0.1, BK_SB06_0.1, BA_MW03_0.1	06-NOV-2013	14-NOV-2013	20-NOV-2013	✓	14-NOV-2013	24-DEC-2013	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080) TSC15	05-NOV-2013	13-NOV-2013	19-NOV-2013	✓	13-NOV-2013	19-NOV-2013	✓	
Soil Glass Jar - Unpreserved (EP080) BN_MW03_0.2, BN_MW01_0.2, BT_SB02_0.1, BK_MW02_0.1, TRIP BLANK	BN_MW02_0.2, BT_SB01_1.5, BK_MW01_0.1, TRIP SPIKE TS15,	05-NOV-2013	13-NOV-2013	19-NOV-2013	✓	15-NOV-2013	19-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP080) BA_MW03_0.1, TRIP BLANK,	TRIP SPIKE TS6, TSC6	06-NOV-2013	13-NOV-2013	20-NOV-2013	✓	13-NOV-2013	20-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP080) BK_SB01_0.2, BK_SB04_0.2, BK_SB02_0.2, BC_SB01_0.2, BK_MW04_0.1, BK_SB07_0.1	BK_SB03_0.2, BK_SB05_0.2, BC_SB02_0.2, BK_MW03_0.1, BK_SB06_0.1,	06-NOV-2013	13-NOV-2013	20-NOV-2013	✓	15-NOV-2013	20-NOV-2013	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080) TSC15	05-NOV-2013	13-NOV-2013	19-NOV-2013	✓	13-NOV-2013	19-NOV-2013	✓	
Soil Glass Jar - Unpreserved (EP080) BN_MW03_0.2, BN_MW01_0.2, BT_SB02_0.1, BK_MW02_0.1, TRIP BLANK	BN_MW02_0.2, BT_SB01_1.5, BK_MW01_0.1, TRIP SPIKE TS15,	05-NOV-2013	13-NOV-2013	19-NOV-2013	✓	15-NOV-2013	19-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP080) BA_MW03_0.1, TRIP BLANK,	TRIP SPIKE TS6, TSC6	06-NOV-2013	13-NOV-2013	20-NOV-2013	✓	13-NOV-2013	20-NOV-2013	✓
Soil Glass Jar - Unpreserved (EP080) BK_SB01_0.2, BK_SB04_0.2, BK_SB02_0.2, BC_SB01_0.2, BK_MW04_0.1, BK_SB07_0.1	BK_SB03_0.2, BK_SB05_0.2, BC_SB02_0.2, BK_MW03_0.1, BK_SB06_0.1,	06-NOV-2013	13-NOV-2013	20-NOV-2013	✓	15-NOV-2013	20-NOV-2013	✓

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation



Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG020A-T) R01_61113_SM	06-NOV-2013	13-NOV-2013	05-MAY-2014	✓	13-NOV-2013	05-MAY-2014	✓
Clear Plastic Bottle - Nitric Acid; Unspecified (EG020A-T) R01_51113_SM	06-NOV-2013	13-NOV-2013	05-MAY-2014	✓	13-NOV-2013	05-MAY-2014	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035T) R01_61113_SM	06-NOV-2013	----	----	----	12-NOV-2013	04-DEC-2013	✓
Clear Plastic Bottle - Nitric Acid; Unspecified (EG035T) R01_51113_SM	06-NOV-2013	----	----	----	12-NOV-2013	04-DEC-2013	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) R01_51113_SM , R01_61113_SM	06-NOV-2013	14-NOV-2013	20-NOV-2013	✓	14-NOV-2013	20-NOV-2013	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013							
Amber VOC Vial - Sulfuric Acid (EP080) R01_51113_SM , R01_61113_SM	06-NOV-2013	14-NOV-2013	20-NOV-2013	✓	14-NOV-2013	20-NOV-2013	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL** Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Exchangeable Cations	ED007	1	5	20.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	4	40	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	19	10.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	4	37	10.8	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	4	40	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	19	10.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	4	38	10.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Exchangeable Cations	ED007	1	5	20.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	37	5.4	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	38	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Exchangeable Cations	ED007	1	5	20.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	37	5.4	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	38	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	37	5.4	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	38	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER** Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Total Mercury by FIMS	EG035T	2	18	11.1	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	14	14.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							



Matrix: **WATER** Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Control Samples (LCS) - Continued							
Total Mercury by FIMS	EG035T	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Total Mercury by FIMS	EG035T	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Total Mercury by FIMS	EG035T	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis (Sieving)	EA150	SOIL	Particle Size Analysis by Sieving according to AS1289.3.6.1 - 2009
Asbestos Identification in bulk solids	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples
Exchangeable Cations	ED007	SOIL	Rayment & Lyons (2011) Method 15A1. Cations are exchanged from the sample by contact with Ammonium Chloride. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil. This method is compliant with NEPM (2013) Schedule B(3) (Method 301)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TPH - Semivolatle Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (2013) Schedule B(3) (Method 506.1)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 501)
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Appdx. 2)
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with NEPM (2013) Schedule B(3) (Appdx. 2)



<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Exchangeable Cations Preparation Method	ED007PR	SOIL	Rayment & Higginson (1992) method 15A1. A 1M NH ₄ Cl extraction by end over end tumbling at a ratio of 1:20. There is no pretreatment for soluble salts. Extracts can be run by ICP for cations.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3) (Appdx. 2)



Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

- For all matrices, no Method Blank value outliers occur.
- For all matrices, no Duplicate outliers occur.
- For all matrices, no Laboratory Control outliers occur.
- For all matrices, no Matrix Spike outliers occur.

Regular Sample Surrogates

Sub-Matrix: SOIL

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP080S: TPH(V)/BTEX Surrogates	ES1324374-025	BK_MW04_0.1	1,2-Dichloroethane-D4	17060-07-0	133 %	72.8-133.2 %	Recovery greater than upper data quality objective

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- No Quality Control Sample Frequency Outliers exist.

ERM



CHAIN OF CUSTODY

DAVIDLADE 21 Burns Road, Pottsville SA 5095
Ph: 08 9379 0090 E: davidla@als.com.au

BERKSHIRE 32 Shand Street, Sturtford QLD 4053
Ph: 07 5543 2323 E: samples.berkshire@als.com.au

CHICKENBURG 1000 E. Chickensburg Drive, Chino, CA 91708
Ph: 07 747 5600 E: greg.stone@als.com.au

DMA CLAY 76 Hecaton Road, Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@als.com.au

DIMBLEBOURNE 24 Westall Road, Springvale VIC 3171
Ph: 03 8549 8600 E: samples.melbourne@als.com.au

LAWDICE 27 Sydney Road, Mudgee NSW 2850
Ph: 02 63 5135 E: mudgee@als.com.au

DNEWCASTLE 5 Ross Gum Road, Warbrook NSW 2304
Ph: 02 4959 9433 E: samples.newcastle@als.com.au

CHOMRA 4113 Gateway Place, North Nowra NSW 2541
Ph: 02 4428 2893 E: nowra@als.com.au

DEPERRI 16 Had Way, Mudgee WA 6090
Ph: 08 0209 8652 E: samples.perth@als.com.au

USYDNEY 277-289 Woodpark Road, Smithfield NSW 2164
Ph: 02 8754 8935 E: samples.usydney@als.com.au

OTTOFINSVILLE 14-15 Dorrance Court, Balke QLD 4818
Ph: 07 4750 0000 E: toowoomba@als.com.au

DWOLLONGONG 09 Kenny Street, Wallerawang NSW 2500
Ph: 02 4233 3125 E: perth@als.com.au

CLIENT: **ERM**

OFFICE: **Sydney**

PROJECT: **Project Symphony**

ORDER NUMBER: **0224193**

PROJECT MANAGER: **Joseph Fering**

SAMPLER: **S. Mulligan**

COC emailed to ALS? (YES / NO)

CONTACT PH: **John.ewing@erm.com**

SAMPLER MOBILE: **02 9211 1111**

EDD FORMAT (or default): **ALS**

ALS QUOTE NO.: **SY78413**

SITE: **BAYSWATER / LIDWELL**

TURNAROUND REQUIREMENTS: Standard TAT (List due date); Non Standard or urgent TAT (List due date);

Standard TAT may be longer for some tests e.g. Ultra Trace Organics

FOR LABORATORY USE ONLY (COCs)	
Analysis/Result	Pass/Fail
Asbestos	Pass
Lead	Pass
Cadmium	Pass
Chromium	Pass
Mercury	Pass
Other	Pass

RECEIVED BY:	
NAME: John.ewing	DATE/TIME: 8/11/13 1700
DATE/TIME: 11/11/13 1700	RECEIVED BY: Ravines

RELINQUISHED BY:	
NAME: T. ARNAN	DATE/TIME: 8/11/13 1700

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (codes below)	(refer to CONTAINERS INFORMATION)	TOTAL CONTAINERS	17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Tl, Se)	S-2 TRHGs (C40)BTEXN, PAH, Phenols	VOC Target Scan	PCB	pH (1:5) / CR	Exchangeable Cations (ED07)	PFOS/PFOA	Asbestos (absence/presence)	Particle String to 75µm (Stev)	Organic Matter plus Total Organic Carbon (EP04)	Additional Information	
1	BH-MW04-0.25	8/11/13	S	1 Jar + 1 Bag	2	X		X				X		X				
2	BH-SB03-0.2	8/11/13	S	1 Jar + 1 Bag	2	X		X				X		X				
3	BH-SB03-1.0	8/11/13	S	1 Jar	1													
4	BH-SB04-0.3	8/11/13	S	1 Jar + 1 Bag	2	X		X				X		X				
5	BH-MW06-0.2	8/11/13	S	" "	2	X		X				X		X				
6	BH-MW05-0.2	8/11/13	S	" "	2	X		X				X		X				
7	BH-MW08-0.2	8/11/13	S	" "	2	X		X				X		X				
TOTAL																		

ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite prices). Where Metals are required, specify Total (unfiltered bottles required) or Disurbed (field filtered bottle required).

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (codes below)	(refer to CONTAINERS INFORMATION)	TOTAL CONTAINERS	17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, B, Mo, Tl, Se)	S-2 TRHGs (C40)BTEXN, PAH, Phenols	VOC Target Scan	PCB	pH (1:5) / CR	Exchangeable Cations (ED07)	PFOS/PFOA	Asbestos (absence/presence)	Particle String to 75µm (Stev)	Organic Matter plus Total Organic Carbon (EP04)	Additional Information	
1	BH-MW04-0.25	8/11/13	S	1 Jar + 1 Bag	2	X		X				X		X				
2	BH-SB03-0.2	8/11/13	S	1 Jar + 1 Bag	2	X		X				X		X				
3	BH-SB03-1.0	8/11/13	S	1 Jar	1													
4	BH-SB04-0.3	8/11/13	S	1 Jar + 1 Bag	2	X		X				X		X				
5	BH-MW06-0.2	8/11/13	S	" "	2	X		X				X		X				
6	BH-MW05-0.2	8/11/13	S	" "	2	X		X				X		X				
7	BH-MW08-0.2	8/11/13	S	" "	2	X		X				X		X				
TOTAL																		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved; S = Sodium Hydroxide Preserved Plastic; AG = V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Air-tight Unpreserved Vial; SG = Sulfuric Preserved Amber Glass; H = HCl pres; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Stainless Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Sydney
Work Order
ES1324458



Telephone : + 61-2-8784 8555

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : ES1324458	
Client : ENVIRO RESOURCES MANAGEMENT Contact : MR JOSEPH FERRING Address : GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Laboratory : Environmental Division Sydney Contact : Barbara Hanna Address : 277-289 Woodpark Road Smithfield NSW Australia 2164 E-mail : joseph.ferring@erm.com Telephone : +61 02 8584 8888 Facsimile : +61 02 8584 8800 Project : Project Symphony Order number : 0224193 C-O-C number : ---- Site : BAYSWATER Sampler : SM
E-mail : joseph.ferring@erm.com Telephone : +61 02 8584 8888 Facsimile : +61 02 8584 8800 Project : Project Symphony Order number : 0224193 C-O-C number : ---- Site : BAYSWATER Sampler : SM	E-mail : Barbara.Hanna@alsglobal.com Telephone : +61 2 8784 8555 Facsimile : +61 2 8784 8555 Page : 1 of 2 Quote number : ES2013ENVRES0369 (SY/794/13) QC Level : NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received : 08-NOV-2013 Client Requested Due Date : 18-NOV-2013	Issue Date : 13-NOV-2013 09:38 Scheduled Reporting Date : 18-NOV-2013
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Delivery Details

Mode of Delivery : Carrier No. of coolers/boxes : 1 HARD Security Seal : Intact.	Temperature : 4.6° C - Ice present No. of samples received : 7 No. of samples analysed : 6
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General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Asbestos analysis will be conducted by ALS Newcastle.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (60 days) from date of completion of work order.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default to 15:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory for processing purposes and will be shown bracketed without a time component.

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	(On Hold) SOIL No analysis requested	SOIL - EA200 Asbestos Identification in Soils	SOIL - ED007 CEC / Exchangeable Cations (ED007) -All	SOIL - S-27 TRH/TEXNI/PAH/Phenols/6Metals
ES1324458-001	08-NOV-2013 15:00	BH_MW04_0.25		✓	✓	✓
ES1324458-002	08-NOV-2013 15:00	BH_SB03_0.2		✓	✓	✓
ES1324458-003	08-NOV-2013 15:00	BH_SB03_1.0	✓			
ES1324458-004	08-NOV-2013 15:00	BH_SB04_0.3		✓	✓	✓
ES1324458-005	08-NOV-2013 15:00	BH_MW06_0.2		✓	✓	✓
ES1324458-006	08-NOV-2013 15:00	BH_MW05_0.2		✓	✓	✓
ES1324458-007	08-NOV-2013 15:00	BH_MW08_0.2		✓	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

JOHN EWING

- *AU Certificate of Analysis - NATA (COA)	Email	john.ewing@erm.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	john.ewing@erm.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	john.ewing@erm.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	john.ewing@erm.com
- Chain of Custody (CoC) (COC)	Email	john.ewing@erm.com
- EDI Format - ENMRG (ENMRG)	Email	john.ewing@erm.com
- EDI Format - EQUIS V5 ERM (EQUIS_V5_ERM)	Email	john.ewing@erm.com
- EDI Format - ESDAT (ESDAT)	Email	john.ewing@erm.com
- EDI Format - XTab (XTAB)	Email	john.ewing@erm.com

MR JOSEPH FERRING

- *AU Certificate of Analysis - NATA (COA)	Email	joseph.ferring@erm.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	joseph.ferring@erm.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	joseph.ferring@erm.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	joseph.ferring@erm.com
- Chain of Custody (CoC) (COC)	Email	joseph.ferring@erm.com
- EDI Format - ENMRG (ENMRG)	Email	joseph.ferring@erm.com
- EDI Format - EQUIS V5 ERM (EQUIS_V5_ERM)	Email	joseph.ferring@erm.com
- EDI Format - ESDAT (ESDAT)	Email	joseph.ferring@erm.com
- EDI Format - XTab (XTAB)	Email	joseph.ferring@erm.com

THE ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	au.accounts@erm.com
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CERTIFICATE OF ANALYSIS

Work Order	: ES1324458	Page	: 1 of 10
Client	: ENVIRO RESOURCES MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: MR JOSEPH FERRING	Contact	: Barbara Hanna
Address	: GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: joseph.ferring@erm.com	E-mail	: Barbara.Hanna@alsglobal.com
Telephone	: +61 02 8584 8888	Telephone	: +61 2 8784 8555
Facsimile	: +61 02 8584 8800	Facsimile	: +61 2 8784 8555
Project	: Project Symphony	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 0224193	Date Samples Received	: 08-NOV-2013
C-O-C number	: ----	Issue Date	: 18-NOV-2013
Sampler	: SM	No. of samples received	: 7
Site	: BAYSWATER	No. of samples analysed	: 6
Quote number	: SY/794/13		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits



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

- **EA200 Legend**
- **EA200 'Am' Amosite (brown asbestos)**
- **EA200 'Ch' Chrysotile (white asbestos)**
- **EA200 'Cr' Crocidolite (blue asbestos)**
- **EA200 'Trace' - Asbestos fibres detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres**
- **EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.**
- **EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.**
- **EA200: Negative results for vinyl tiles should be confirmed by an independent analytical technique.**



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Christopher Owler	Team Leader - Asbestos	Newcastle - Asbestos
Pabi Subba	Senior Organic Chemist	Sydney Organics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BH_MW04_0.25	BH_SB03_0.2	BH_SB04_0.3	BH_MW06_0.2	BH_MW05_0.2
				08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324458-001	ES1324458-002	ES1324458-004	ES1324458-005	ES1324458-006
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	9.1	13.1	16.6	7.4	11.2
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	No	No	No
Asbestos Type	1332-21-4	0.1	--	-	-	-	-	-
Sample weight (dry)	----	0.01	g	453	392	400	489	534
APPROVED IDENTIFIER:	----	-	--	C.OWLER	C.OWLER	C.OWLER	C.OWLER	C.OWLER
ED007: Exchangeable Cations								
Exchangeable Calcium	----	0.1	meq/100g	6.7	11.6	23.0	6.0	7.4
Exchangeable Magnesium	----	0.1	meq/100g	1.2	5.4	7.2	8.4	6.3
Exchangeable Potassium	----	0.1	meq/100g	0.2	1.6	0.3	0.6	0.4
Exchangeable Sodium	----	0.1	meq/100g	0.2	0.2	0.1	0.4	0.6
Cation Exchange Capacity	----	0.1	meq/100g	8.3	18.8	30.7	15.5	14.7
Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	<0.1	<0.1	<0.1
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	15	15	12	11
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	13	33	12	22	38
Copper	7440-50-8	5	mg/kg	14	22	124	13	13
Lead	7439-92-1	5	mg/kg	<5	21	19	14	14
Nickel	7440-02-0	2	mg/kg	21	25	38	12	22
Zinc	7440-66-6	5	mg/kg	28	72	114	44	25
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.1	<0.1	<0.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BH_MW04_0.25	BH_SB03_0.2	BH_SB04_0.3	BH_MW06_0.2	BH_MW05_0.2
				08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324458-001	ES1324458-002	ES1324458-004	ES1324458-005	ES1324458-006
EP075(SIM)A: Phenolic Compounds - Continued								
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BH_MW04_0.25	BH_SB03_0.2	BH_SB04_0.3	BH_MW06_0.2	BH_MW05_0.2
				08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324458-001	ES1324458-002	ES1324458-004	ES1324458-005	ES1324458-006
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 - Continued								
>C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	112	111	110	110	112
2-Chlorophenol-D4	93951-73-6	0.1	%	105	105	108	104	108
2,4,6-Tribromophenol	118-79-6	0.1	%	60.3	61.4	63.0	63.9	64.9
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	95.2	97.9	100	95.4	98.0
Anthracene-d10	1719-06-8	0.1	%	82.0	83.3	84.5	81.8	84.2
4-Terphenyl-d14	1718-51-0	0.1	%	73.2	75.2	75.8	76.4	78.3
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	86.9	86.0	73.6	79.3	78.5
Toluene-D8	2037-26-5	0.1	%	94.7	99.2	83.9	92.2	92.0
4-Bromofluorobenzene	460-00-4	0.1	%	104	102	82.0	95.9	87.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

BH_MW08_0.2

Client sampling date / time

08-NOV-2013 15:00

Compound	CAS Number	LOR	Unit	ES1324458-007	---	---	---	---
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EA055: Moisture Content

Moisture Content (dried @ 103°C)	---	1.0	%	13.4	---	---	---	---
----------------------------------	-----	-----	---	------	-----	-----	-----	-----

EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples

Asbestos Detected	1332-21-4	0.1	g/kg	No	---	---	---	---
Asbestos Type	1332-21-4	0.1	--	-	---	---	---	---
Sample weight (dry)	---	0.01	g	440	---	---	---	---
APPROVED IDENTIFIER:	---	-	--	C.OWLER	---	---	---	---

ED007: Exchangeable Cations

Exchangeable Calcium	---	0.1	meq/100g	39.4	---	---	---	---
Exchangeable Magnesium	---	0.1	meq/100g	0.6	---	---	---	---
Exchangeable Potassium	---	0.1	meq/100g	0.3	---	---	---	---
Exchangeable Sodium	---	0.1	meq/100g	0.2	---	---	---	---
Cation Exchange Capacity	---	0.1	meq/100g	40.6	---	---	---	---
Exchangeable Aluminium	---	0.1	meq/100g	<0.1	---	---	---	---

EG005T: Total Metals by ICP-AES

Arsenic	7440-38-2	5	mg/kg	<5	---	---	---	---
Cadmium	7440-43-9	1	mg/kg	<1	---	---	---	---
Chromium	7440-47-3	2	mg/kg	10	---	---	---	---
Copper	7440-50-8	5	mg/kg	10	---	---	---	---
Lead	7439-92-1	5	mg/kg	<5	---	---	---	---
Nickel	7440-02-0	2	mg/kg	19	---	---	---	---
Zinc	7440-66-6	5	mg/kg	20	---	---	---	---

EG035T: Total Recoverable Mercury by FIMS

Mercury	7439-97-6	0.1	mg/kg	<0.1	---	---	---	---
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EP075(SIM)A: Phenolic Compounds

Phenol	108-95-2	0.5	mg/kg	<0.5	---	---	---	---
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	---	---	---	---
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	---	---	---	---
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	---	---	---	---
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	---	---	---	---
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	---	---	---	---
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	---	---	---	---
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	---	---	---	---
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	---	---	---	---



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

BH_MW08_0.2

Client sampling date / time

08-NOV-2013 15:00

Compound	CAS Number	LOR	Unit	ES1324458-007	---	---	---	---
EP075(SIM)A: Phenolic Compounds - Continued								
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	---	---	---	---
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	---	---	---	---
Pentachlorophenol	87-86-5	2	mg/kg	<2	---	---	---	---
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	---	---	---	---
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	---	---	---	---
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	---	---	---	---
Fluorene	86-73-7	0.5	mg/kg	<0.5	---	---	---	---
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	---	---	---	---
Anthracene	120-12-7	0.5	mg/kg	<0.5	---	---	---	---
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	---	---	---	---
Pyrene	129-00-0	0.5	mg/kg	<0.5	---	---	---	---
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	---	---	---	---
Chrysene	218-01-9	0.5	mg/kg	<0.5	---	---	---	---
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	---	---	---	---
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	---	---	---	---
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	---	---	---	---
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg	<0.5	---	---	---	---
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	---	---	---	---
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	---	---	---	---
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	---	---	---	---
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	---	---	---	---
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	---	---	---	---
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	---	---	---	---
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	---	---	---	---
C10 - C14 Fraction	----	50	mg/kg	<50	---	---	---	---
C15 - C28 Fraction	----	100	mg/kg	<100	---	---	---	---
C29 - C36 Fraction	----	100	mg/kg	<100	---	---	---	---
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	---	---	---	---
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	---	---	---	---
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	---	---	---	---



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

BH_MW08_0.2

Client sampling date / time

08-NOV-2013 15:00

Compound	CAS Number	LOR	Unit	ES1324458-007	---	---	---	---
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EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 - Continued

>C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	---	---	---	---
>C16 - C34 Fraction	----	100	mg/kg	<100	---	---	---	---
>C34 - C40 Fraction	----	100	mg/kg	<100	---	---	---	---
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	---	---	---	---
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	---	---	---	---

EP080: BTEXN

Benzene	71-43-2	0.2	mg/kg	<0.2	---	---	---	---
Toluene	108-88-3	0.5	mg/kg	<0.5	---	---	---	---
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	---	---	---	---
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	---	---	---	---
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	---	---	---	---
^ Sum of BTEX	----	0.2	mg/kg	<0.2	---	---	---	---
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	---	---	---	---
Naphthalene	91-20-3	1	mg/kg	<1	---	---	---	---

EP075(SIM)S: Phenolic Compound Surrogates

Phenol-d6	13127-88-3	0.1	%	115	---	---	---	---
2-Chlorophenol-D4	93951-73-6	0.1	%	109	---	---	---	---
2,4,6-Tribromophenol	118-79-6	0.1	%	51.6	---	---	---	---

EP075(SIM)T: PAH Surrogates

2-Fluorobiphenyl	321-60-8	0.1	%	94.8	---	---	---	---
Anthracene-d10	1719-06-8	0.1	%	82.0	---	---	---	---
4-Terphenyl-d14	1718-51-0	0.1	%	75.8	---	---	---	---

EP080S: TPH(V)/BTEX Surrogates

1,2-Dichloroethane-D4	17060-07-0	0.1	%	75.3	---	---	---	---
Toluene-D8	2037-26-5	0.1	%	85.5	---	---	---	---
4-Bromofluorobenzene	460-00-4	0.1	%	89.6	---	---	---	---



Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

<i>Method: Compound</i>	<i>Client sample ID - Client sampling date / time</i>	<i>Analytical Results</i>
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	BH_MW04_0.25 - 08-NOV-2013 15:00	Mid red clay soil with some red rocks plus some quartz grains and a trace of vegetation
EA200: Description	BH_SB03_0.2 - 08-NOV-2013 15:00	Mid brown clay soil with some vegetation
EA200: Description	BH_SB04_0.3 - 08-NOV-2013 15:00	Mid brown clay soil with some vegetation
EA200: Description	BH_MW06_0.2 - 08-NOV-2013 15:00	Mid orange-brown clay soil with some small red rocks plus a trace of vegetation
EA200: Description	BH_MW05_0.2 - 08-NOV-2013 15:00	Mid brown clay soil with some vegetation
EA200: Description	BH_MW08_0.2 - 08-NOV-2013 15:00	Pale cream-brown clay soil with some quartz grains plus a trace of vegetation



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
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	72.8	133.2
Toluene-D8	2037-26-5	73.9	132.1
4-Bromofluorobenzene	460-00-4	71.6	130.0

QUALITY CONTROL REPORT

Work Order	: ES1324458	Page	: 1 of 11
Client	: ENVIRO RESOURCES MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: MR JOSEPH FERRING	Contact	: Barbara Hanna
Address	: GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: joseph.ferring@erm.com	E-mail	: Barbara.Hanna@alsglobal.com
Telephone	: +61 02 8584 8888	Telephone	: +61 2 8784 8555
Facsimile	: +61 02 8584 8800	Facsimile	: +61 2 8784 8555
Project	: Project Symphony	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: BAYSWATER	Date Samples Received	: 08-NOV-2013
C-O-C number	: ----	Issue Date	: 18-NOV-2013
Sampler	: SM	No. of samples received	: 7
Order number	: 0224193	No. of samples analysed	: 6
Quote number	: SY/794/13		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

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



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.

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



NATA Accredited
Laboratory 825

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compliance with
ISO/IEC 17025.

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Christopher Owler	Team Leader - Asbestos	Newcastle - Asbestos
Pabi Subba	Senior Organic Chemist	Sydney Organics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics



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: 3161255)									
ES1324458-004	BH_SB04_0.3	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	16.6	17.9	7.6	0% - 50%
ES1324460-008	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	21.0	20.0	4.8	0% - 20%
ED007: Exchangeable Cations (QC Lot: 3161476)									
ES1324458-001	BH_MW04_0.25	ED007: Exchangeable Calcium	----	0.1	meq/100g	6.7	6.3	5.9	0% - 20%
		ED007: Exchangeable Magnesium	----	0.1	meq/100g	1.2	1.2	0.0	0% - 20%
		ED007: Exchangeable Potassium	----	0.1	meq/100g	0.2	0.2	0.0	0% - 20%
		ED007: Exchangeable Sodium	----	0.1	meq/100g	0.2	0.2	0.0	0% - 20%
		ED007: Cation Exchange Capacity	----	0.1	meq/100g	8.3	7.9	5.1	0% - 20%
		ED007: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	<0.1	0.0	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 3158769)									
ES1324458-001	BH_MW04_0.25	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	13	18	31.8	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	21	16	25.0	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	14	16	17.3	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	28	40	33.4	No Limit
ES1324459-005	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	9	10	15.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	57	62	9.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	6	15.9	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	44	44	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	20	24	18.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	100	109	8.5	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3158770)									
ES1324458-001	BH_MW04_0.25	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1324459-005	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 3155826)									
ES1324458-001	BH_MW04_0.25	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	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)A: Phenolic Compounds (QC Lot: 3155826) - continued									
ES1324458-001	BH_MW04_0.25	EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
ES1324470-031	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
		EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3155826)							
ES1324458-001	BH_MW04_0.25	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1324470-031	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	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: 3155826) - continued									
ES1324470-031	Anonymous	EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3155825)									
ES1324458-001	BH_MW04_0.25	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1324470-031	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3156994)									
ES1324458-001	BH_MW04_0.25	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1324459-005	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3155825)									
ES1324458-001	BH_MW04_0.25	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.0	No Limit
ES1324470-031	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3156994)									
ES1324458-001	BH_MW04_0.25	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
ES1324459-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 3156994)									
ES1324458-001	BH_MW04_0.25	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	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 (%)
EP080: BTEXN (QC Lot: 3156994) - continued									
ES1324458-001	BH_MW04_0.25	EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
ES1324459-005	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	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 Sample (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**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
ED007: Exchangeable Cations (QCLot: 3161476)									
ED007: Exchangeable Calcium	----	0.1	meq/100g	<0.1	----	----	----	----	
ED007: Exchangeable Magnesium	----	0.1	meq/100g	<0.1	----	----	----	----	
ED007: Exchangeable Potassium	----	0.1	meq/100g	<0.1	----	----	----	----	
ED007: Exchangeable Sodium	----	0.1	meq/100g	<0.1	----	----	----	----	
ED007: Cation Exchange Capacity	----	0.1	meq/100g	<0.1	----	----	----	----	
ED007: Exchangeable Aluminium	----	0.1	meq/100g	<0.1	----	----	----	----	
EG005T: Total Metals by ICP-AES (QCLot: 3158769)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	107	87	129	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	100	80	122	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	103	71	133	
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	116	86	128	
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	99.0	81	123	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	108	84	130	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	104	81	133	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3158770)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	101	66	112	
EP075(SIM)A: Phenolic Compounds (QCLot: 3155826)									
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	96.6	74	116	
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	88.1	74	116	
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	87.6	72	116	
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1	8 mg/kg	96.9	69	123	
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	82.1	60.3	117	
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	97.0	69	117	
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	83.5	68	112	
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	85.7	73	117	
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	83.0	76.4	114	
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	92.6	57	111	
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	85.6	68.9	112	
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1	8 mg/kg	19.8	3.9	57	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3155826)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	112	80	124	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	101	77	123	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	108	79	123	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	109	77	123	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
					Concentration	LCS	Low	High	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3155826) - continued									
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	110	79	123	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	109	79	123	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	109	79	123	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	113	79	125	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	88.7	73	121	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	103	81	123	
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	81.8	70	118	
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	103	77	123	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	104	76	122	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	93.6	71	113	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	93.0	71.7	113	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	84.5	72.4	114	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3155825)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	107	71	131	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	115	74	138	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	104	64	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3156994)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	90.4	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3155825)									
EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	250 mg/kg	101	70	130	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	116	74	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----	
		50	mg/kg	----	150 mg/kg	101	63	131	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3156994)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	93.8	68.4	128	
EP080: BTEXN (QCLot: 3156994)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	94.6	62	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	90.9	62	128	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	87.4	58	118	
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	89.0	60	120	
	106-42-3								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	86.4	60	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	89.4	62	138	

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 Concentration	Spike Recovery(%) MS	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 3158769)							
ES1324458-001	BH_MW04_0.25	EG005T: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	101	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	102	70	130
		EG005T: Copper	7440-50-8	125 mg/kg	106	70	130
		EG005T: Lead	7439-92-1	125 mg/kg	101	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	90.9	70	130
		EG005T: Zinc	7440-66-6	125 mg/kg	96.2	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3158770)							
ES1324458-001	BH_MW04_0.25	EG035T: Mercury	7439-97-6	5 mg/kg	115	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 3155826)							
ES1324458-001	BH_MW04_0.25	EP075(SIM): Phenol	108-95-2	10 mg/kg	98.6	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	97.4	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	75.7	60	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	73.9	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	53.6	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3155826)							
ES1324458-001	BH_MW04_0.25	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	94.6	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	110	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3155825)							
ES1324458-001	BH_MW04_0.25	EP071: C10 - C14 Fraction	----	640 mg/kg	77.0	73	137
		EP071: C15 - C28 Fraction	----	3140 mg/kg	79.8	53	131
		EP071: C29 - C36 Fraction	----	2860 mg/kg	64.7	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3156994)							
ES1324458-001	BH_MW04_0.25	EP080: C6 - C9 Fraction	----	32.5 mg/kg	75.9	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3155825)							
ES1324458-001	BH_MW04_0.25	EP071: >C10 - C16 Fraction	>C10_C16	850 mg/kg	98.0	73	137
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	71.2	53	131
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	54.0	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3156994)							
ES1324458-001	BH_MW04_0.25	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	78.0	70	130
EP080: BTEXN (QCLot: 3156994)							
ES1324458-001	BH_MW04_0.25	EP080: Benzene	71-43-2	2.5 mg/kg	78.0	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	74.8	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	74.0	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	74.8	70	130
		EP080: ortho-Xylene	106-42-3	2.5 mg/kg	73.6	70	130



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 3156994) - continued							
ES1324458-001	BH_MW04_0.25	EP080: Naphthalene	91-20-3	2.5 mg/kg	72.3	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are 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) and Matrix Spike Duplicate (MSD) Report							
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)		
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3155825)											
ES1324458-001	BH_MW04_0.25	EP071: C10 - C14 Fraction	----	640 mg/kg	77.0	----	73	137	----	----	
		EP071: C15 - C28 Fraction	----	3140 mg/kg	79.8	----	53	131	----	----	
		EP071: C29 - C36 Fraction	----	2860 mg/kg	64.7	----	52	132	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3155825)											
ES1324458-001	BH_MW04_0.25	EP071: >C10 - C16 Fraction	>C10_C16	850 mg/kg	98.0	----	73	137	----	----	
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	71.2	----	53	131	----	----	
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	54.0	----	52	132	----	----	
EP075(SIM)A: Phenolic Compounds (QCLot: 3155826)											
ES1324458-001	BH_MW04_0.25	EP075(SIM): Phenol	108-95-2	10 mg/kg	98.6	----	70	130	----	----	
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	97.4	----	70	130	----	----	
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	75.7	----	60	130	----	----	
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	73.9	----	70	130	----	----	
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	53.6	----	20	130	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3155826)											
ES1324458-001	BH_MW04_0.25	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	94.6	----	70	130	----	----	
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	110	----	70	130	----	----	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3156994)											
ES1324458-001	BH_MW04_0.25	EP080: C6 - C9 Fraction	----	32.5 mg/kg	75.9	----	70	130	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3156994)											
ES1324458-001	BH_MW04_0.25	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	78.0	----	70	130	----	----	
EP080: BTEXN (QCLot: 3156994)											
ES1324458-001	BH_MW04_0.25	EP080: Benzene	71-43-2	2.5 mg/kg	78.0	----	70	130	----	----	
		EP080: Toluene	108-88-3	2.5 mg/kg	74.8	----	70	130	----	----	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	74.0	----	70	130	----	----	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	74.8	----	70	130	----	----	
			106-42-3								
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	73.6	----	70	130	----	----	
		EP080: Naphthalene	91-20-3	2.5 mg/kg	72.3	----	70	130	----	----	



Sub-Matrix: SOIL

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					MS	MSD	Low	High	Value	Control Limit
EG005T: Total Metals by ICP-AES (QCLot: 3158769)										
ES1324458-001	BH_MW04_0.25	EG005T: Arsenic	7440-38-2	50 mg/kg	101	----	70	130	----	----
		EG005T: Cadmium	7440-43-9	50 mg/kg	101	----	70	130	----	----
		EG005T: Chromium	7440-47-3	50 mg/kg	102	----	70	130	----	----
		EG005T: Copper	7440-50-8	125 mg/kg	106	----	70	130	----	----
		EG005T: Lead	7439-92-1	125 mg/kg	101	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	90.9	----	70	130	----	----
		EG005T: Zinc	7440-66-6	125 mg/kg	96.2	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3158770)										
ES1324458-001	BH_MW04_0.25	EG035T: Mercury	7439-97-6	5 mg/kg	115	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: ES1324458	Page	: 1 of 6
Client	: ENVIRO RESOURCES MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: MR JOSEPH FERRING	Contact	: Barbara Hanna
Address	: GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: joseph.ferring@erm.com	E-mail	: Barbara.Hanna@alsglobal.com
Telephone	: +61 02 8584 8888	Telephone	: +61 2 8784 8555
Facsimile	: +61 02 8584 8800	Facsimile	: +61 2 8784 8555
Project	: Project Symphony	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: BAYSWATER	Date Samples Received	: 08-NOV-2013
C-O-C number	: ----	Issue Date	: 18-NOV-2013
Sampler	: SM	No. of samples received	: 7
Order number	: 0224193	No. of samples analysed	: 6
Quote number	: SY/794/13		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content								
Soil Glass Jar - Unpreserved (EA055-103) BH_MW04_0.25, BH_SB04_0.3, BH_MW05_0.2,	BH_SB03_0.2, BH_MW06_0.2, BH_MW08_0.2	08-NOV-2013	----	----	----	15-NOV-2013	22-NOV-2013	✓
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Snap Lock Bag (EA200) BH_MW04_0.25, BH_SB04_0.3, BH_MW05_0.2,	BH_SB03_0.2, BH_MW06_0.2, BH_MW08_0.2	08-NOV-2013	---	07-MAY-2014	----	18-NOV-2013	17-MAY-2014	✓
ED007: Exchangeable Cations								
Soil Glass Jar - Unpreserved (ED007) BH_MW04_0.25, BH_SB04_0.3, BH_MW05_0.2,	BH_SB03_0.2, BH_MW06_0.2, BH_MW08_0.2	08-NOV-2013	15-NOV-2013	06-DEC-2013	✓	18-NOV-2013	06-DEC-2013	✓
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) BH_MW04_0.25, BH_SB04_0.3, BH_MW05_0.2,	BH_SB03_0.2, BH_MW06_0.2, BH_MW08_0.2	08-NOV-2013	14-NOV-2013	07-MAY-2014	✓	15-NOV-2013	07-MAY-2014	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) BH_MW04_0.25, BH_SB04_0.3, BH_MW05_0.2,	BH_SB03_0.2, BH_MW06_0.2, BH_MW08_0.2	08-NOV-2013	14-NOV-2013	06-DEC-2013	✓	18-NOV-2013	06-DEC-2013	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
Soil Glass Jar - Unpreserved (EP071) BH_MW04_0.25, BH_SB04_0.3, BH_MW05_0.2,	BH_SB03_0.2, BH_MW06_0.2, BH_MW08_0.2	08-NOV-2013	15-NOV-2013	22-NOV-2013	✓	15-NOV-2013	25-DEC-2013	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM)) BH_MW04_0.25, BH_SB04_0.3, BH_MW05_0.2	BH_SB03_0.2, BH_MW06_0.2, BH_MW08_0.2	08-NOV-2013	15-NOV-2013	22-NOV-2013	✓	15-NOV-2013	25-DEC-2013	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM)) BH_MW04_0.25, BH_SB04_0.3, BH_MW05_0.2	BH_SB03_0.2, BH_MW06_0.2, BH_MW08_0.2	08-NOV-2013	15-NOV-2013	22-NOV-2013	✓	15-NOV-2013	25-DEC-2013	✓
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080) BH_MW04_0.25, BH_SB04_0.3, BH_MW05_0.2	BH_SB03_0.2, BH_MW06_0.2, BH_MW08_0.2	08-NOV-2013	14-NOV-2013	22-NOV-2013	✓	14-NOV-2013	22-NOV-2013	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080) BH_MW04_0.25, BH_SB04_0.3, BH_MW05_0.2	BH_SB03_0.2, BH_MW06_0.2, BH_MW08_0.2	08-NOV-2013	14-NOV-2013	22-NOV-2013	✓	14-NOV-2013	22-NOV-2013	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Exchangeable Cations	ED007	1	6	16.7	10.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	2	20	10.0	10.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	20	10.0	10.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	10.0	10.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	19	10.5	10.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	20	10.0	10.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	10.0	10.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Exchangeable Cations	ED007	1	6	16.7	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.0	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	19	5.3	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Exchangeable Cations	ED007	1	6	16.7	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.0	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	19	5.3	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.0	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	19	5.3	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✔	NEPM 2013 Schedule B(3) and ALS QCS3 requirement



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Asbestos Identification in bulk solids	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples
Exchangeable Cations	ED007	SOIL	Rayment & Lyons (2011) Method 15A1. Cations are exchanged from the sample by contact with Ammonium Chloride. They are then quantitated in the final solution by ICPAES and reported as meq/100g of original soil. This method is compliant with NEPM (2013) Schedule B(3) (Method 301)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TPH - Semivolatle Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (2013) Schedule B(3) (Method 506.1)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 501)

Preparation Methods	Method	Matrix	Method Descriptions
Exchangeable Cations Preparation Method	ED007PR	SOIL	Rayment & Higginson (1992) method 15A1. A 1M NH ₄ Cl extraction by end over end tumbling at a ratio of 1:20. There is no pretreatment for soluble salts. Extracts can be run by ICP for cations.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.



Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

- For all matrices, no Method Blank value outliers occur.
- For all matrices, no Duplicate outliers occur.
- For all matrices, no Laboratory Control outliers occur.
- For all matrices, no Matrix Spike outliers occur.

Regular Sample Surrogates

- For all regular sample matrices, no surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- No Quality Control Sample Frequency Outliers exist.
-

Edm 2



CHAIN OF CUSTODY
ALS Laboratory:
please tick →

DADELAIDE 21 Burma Road Ploreska, VIC 3006
Ph: 03 8250 0900 E: adelaide@alsglobal.com
CURRSBANE 92 Spence Street St Leonards QLD 4063
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 45 Callenderdun Drive Clifton QLD 4880
Ph: 07 4747 5000 E: gladstone@alsglobal.com

DIMACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
DUNDELBOROUGH 2-4 Westall Road Springvale VIC 3171
Ph: 03 9510 0600 E: emerald.melbourne@alsglobal.com
DUNDIGEE 27 Sydney Road Dundee NSW 2850
Ph: 02 6372 6735 E: mudgee.mel@alsglobal.com

DNEWCASTLE 55 Rose Gum Road Warabook NSW 2304
Ph: 02 4908 5433 E: samples.newcastle@alsglobal.com
DNDOWNS 4/13 Geany Place North Downs NSW 2641
Ph: 024423 2693 E: newcastle@alsglobal.com
DPERTH 10 Hill Way Melaka WA 6000
Ph: 08 9200 7605 E: samples.perth@alsglobal.com

DSYDNEY 277-289 Woodpark Road Smithfield NSW 2104
Ph: 02 8704 8555 E: samples.sydney@alsglobal.com
DTCOWNSVILLE 14-15 Deane Court Bohle QLD 4318
Ph: 07 4795 0600 E: townsville.environment@alsglobal.com
DWINNONGONG 89 Kenny Street Wellingong NSW 2560
Ph: 02 4225 3125 E: post@alsglobal.com

CLIENT: _____

OFFICE: _____

PROJECT: Project Symphony

ORDER NUMBER: _____

PROJECT MANAGER: Joe Esaring

SAMPLER: Tom Cuthbert

CONTACT PH: _____

SAMPLER MOBILE: _____

EDD FORMAT (or default): John.Cuthbert@cm.com

COC emailed to ALS? (YES / NO) _____

Email Reports to (will default to PM if no other addresses are listed): _____

Email Invoice to (will default to PM if no other addresses are listed): _____

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: _____

TURNAROUND REQUIREMENTS:
 Standard TAT (List due date):
 Non Standard or urgent TAT (List due date):


ALTS QUOTE NO.: SY794/13

SITE: BAYSWATER LAUREL

RECEIVED BY: Joe Esaring
DATE/TIME: 8/11/13 17:00

RELINQUISHED BY: Tom Cuthbert
DATE/TIME: 8/11/13

RECEIVED BY: Samirah
DATE/TIME: 11/11/13 19:00

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below	CONTAINERS (refer to)	ANALYSIS REQUIRED	Additional Information
1	BJ-MW03-1.7		soil			W-2 Metals (As, Ba, Pb, Zn, Hg) 17 Metals (As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, V, Zn, Bi, Mo, Tl) Selenium (ORC) VOC Target Scan PCB PFOS/PFOA W-24 TRH(C6-Phenols) C40/BTEXN, PAH	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
2	BJ-MW04-1.1						
3	BS-SB01-2.6						
4	BS-SB02-2.8						
5	BS-MW01-2.7						
6	D01-08/113-TC						
X	D02-08/113-TC						Forward to Envirolab
					CONTAINER INFORMATION Environmental Division Sydney Work Order ES1324459  Telephone : + 61-2-8784 8555		
					SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)		
					ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).		
					FOR LABORATORY USE ONLY (CFC69) Custody Seal Intact? [X] Yes [] No Free Ice / frozen ice bricks present upon receipt? [X] Yes [] No Random Sample Temperature on Receipt: 4/10 Outer container: [X] Yes [] No		
					Additional Information Forward to Envirolab		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass; Unpreserved Plastic; AP = Airtight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial; SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag.

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : ES1324459

<p>Client : ENVIRO RESOURCES MANAGEMENT</p> <p>Contact : MR JOSEPH FERRING</p> <p>Address : GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007</p>	<p>Laboratory : Environmental Division Sydney</p> <p>Contact : Barbara Hanna</p> <p>Address : 277-289 Woodpark Road Smithfield NSW Australia 2164</p>
---	--

<p>E-mail : joseph.ferring@erm.com</p> <p>Telephone : +61 02 8584 8888</p> <p>Facsimile : +61 02 8584 8800</p>	<p>E-mail : Barbara.Hanna@alsglobal.com</p> <p>Telephone : +61 2 8784 8555</p> <p>Facsimile : +61 2 8784 8555</p>
---	--

<p>Project : Project Symphony</p> <p>Order number : ----</p> <p>C-O-C number : ----</p> <p>Site : BAYSWATER</p> <p>Sampler : TC</p>	<p>Page : 1 of 2</p> <p>Quote number : ES2013ENVRES0369 (SY/794/13)</p> <p>QC Level : NEPM 2013 Schedule B(3) and ALS QCS3 requirement</p>
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Dates

<p>Date Samples Received : 08-NOV-2013</p> <p>Client Requested Due Date : 18-NOV-2013</p>	<p>Issue Date : 13-NOV-2013 10:00</p> <p>Scheduled Reporting Date : 18-NOV-2013</p>
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Delivery Details

<p>Mode of Delivery : Carrier</p> <p>No. of coolers/boxes : 1 HARD</p> <p>Security Seal : Intact.</p>	<p>Temperature : 4.6° C - Ice present</p> <p>No. of samples received : 6</p> <p>No. of samples analysed : 6</p>
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General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Sample D02_081113_TC will be forwarded to Envirolab as per COC.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (60 days) from date of completion of work order.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default to 15:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory for processing purposes and will be shown bracketed without a time component.

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - S-27 TRHIB/TEXNI/PAH/Phenols/6Metals
ES1324459-001	08-NOV-2013 15:00	BJ_MW03_1.6	✓
ES1324459-002	08-NOV-2013 15:00	BJ_MW04_1.1	✓
ES1324459-003	08-NOV-2013 15:00	BS_SB01_2.6	✓
ES1324459-004	08-NOV-2013 15:00	BS_SB02_2.8	✓
ES1324459-005	08-NOV-2013 15:00	BS_MW01_2.7	✓
ES1324459-006	08-NOV-2013 15:00	D01_081113_TC	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

JOHN EWING

- *AU Certificate of Analysis - NATA (COA) Email john.ewing@erm.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email john.ewing@erm.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email john.ewing@erm.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email john.ewing@erm.com
- Chain of Custody (CoC) (COC) Email john.ewing@erm.com
- EDI Format - ENMRG (ENMRG) Email john.ewing@erm.com
- EDI Format - EQUIS V5 ERM (EQUIS_V5_ERM) Email john.ewing@erm.com
- EDI Format - ESDAT (ESDAT) Email john.ewing@erm.com
- EDI Format - XTab (XTAB) Email john.ewing@erm.com

MR JOSEPH FERRING

- *AU Certificate of Analysis - NATA (COA) Email joseph.ferring@erm.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email joseph.ferring@erm.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email joseph.ferring@erm.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email joseph.ferring@erm.com
- Chain of Custody (CoC) (COC) Email joseph.ferring@erm.com
- EDI Format - ENMRG (ENMRG) Email joseph.ferring@erm.com
- EDI Format - EQUIS V5 ERM (EQUIS_V5_ERM) Email joseph.ferring@erm.com
- EDI Format - ESDAT (ESDAT) Email joseph.ferring@erm.com
- EDI Format - XTab (XTAB) Email joseph.ferring@erm.com

THE ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV) Email au.accounts@erm.com

CERTIFICATE OF ANALYSIS

Work Order : ES1324459 Client : ENVIRO RESOURCES MANAGEMENT Contact : MR JOSEPH FERRING Address : GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007 E-mail : joseph.ferring@erm.com Telephone : +61 02 8584 8888 Facsimile : +61 02 8584 8800 Project : Project Symphony Order number : ---- C-O-C number : ---- Sampler : TC Site : BAYSWATER Quote number : SY/794/13	Page : 1 of 9 Laboratory : Environmental Division Sydney Contact : Barbara Hanna Address : 277-289 Woodpark Road Smithfield NSW Australia 2164 E-mail : Barbara.Hanna@alsglobal.com Telephone : +61 2 8784 8555 Facsimile : +61 2 8784 8555 QC Level : NEPM 2013 Schedule B(3) and ALS QCS3 requirement Date Samples Received : 08-NOV-2013 Issue Date : 18-NOV-2013 No. of samples received : 6 No. of samples analysed : 6
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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics



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

- **EA200 Legend**
- **EA200 'Am' Amosite (brown asbestos)**
- **EA200 'Ch' Chrysotile (white asbestos)**
- **EA200 'Cr' Crocidolite (blue asbestos)**
- **EA200 'Trace' - Asbestos fibres detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres**
- **EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.**
- **EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.**
- **EA200: Negative results for vinyl tiles should be confirmed by an independent analytical technique.**



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_MW03_1.6	BJ_MW04_1.1	BS_SB01_2.6	BS_SB02_2.8	BS_MW01_2.7
				08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324459-001	ES1324459-002	ES1324459-003	ES1324459-004	ES1324459-005
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	7.1	9.3	9.0	13.1	16.6
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	15	8	13	<5	7
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	15	8	8	10	9
Copper	7440-50-8	5	mg/kg	16	18	19	15	44
Lead	7439-92-1	5	mg/kg	14	16	12	10	20
Nickel	7440-02-0	2	mg/kg	20	21	14	5	57
Zinc	7440-66-6	5	mg/kg	34	75	50	40	100
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	<1	<1	<1
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	<2	<2	<2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				BJ_MW03_1.6	BJ_MW04_1.1	BS_SB01_2.6	BS_SB02_2.8	BS_MW01_2.7
				08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324459-001	ES1324459-002	ES1324459-003	ES1324459-004	ES1324459-005
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				BJ_MW03_1.6	BJ_MW04_1.1	BS_SB01_2.6	BS_SB02_2.8	BS_MW01_2.7
				08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00	08-NOV-2013 15:00
Compound	CAS Number	LOR	Unit	ES1324459-001	ES1324459-002	ES1324459-003	ES1324459-004	ES1324459-005
EP080: BTEXN - Continued								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	92.4	91.1	109	92.5	96.0
2-Chlorophenol-D4	93951-73-6	0.1	%	90.1	88.3	105	88.7	88.8
2.4.6-Tribromophenol	118-79-6	0.1	%	46.8	45.3	41.1	44.6	42.4
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	85.5	82.6	85.0	84.6	84.5
Anthracene-d10	1719-06-8	0.1	%	73.6	71.4	73.4	72.5	73.5
4-Terphenyl-d14	1718-51-0	0.1	%	71.7	69.7	71.8	71.3	72.5
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	99.6	107	102	97.2	93.4
Toluene-D8	2037-26-5	0.1	%	123	108	120	97.2	108
4-Bromofluorobenzene	460-00-4	0.1	%	110	103	107	93.5	103



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

D01_081113_TC

Client sampling date / time

08-NOV-2013 15:00

Compound	CAS Number	LOR	Unit	ES1324459-006	---	---	---	---
----------	------------	-----	------	---------------	-----	-----	-----	-----

EA055: Moisture Content

Moisture Content (dried @ 103°C)	---	1.0	%	12.6	---	---	---	---
----------------------------------	-----	-----	---	------	-----	-----	-----	-----

EG005T: Total Metals by ICP-AES

Arsenic	7440-38-2	5	mg/kg	6	---	---	---	---
Cadmium	7440-43-9	1	mg/kg	<1	---	---	---	---
Chromium	7440-47-3	2	mg/kg	12	---	---	---	---
Copper	7440-50-8	5	mg/kg	18	---	---	---	---
Lead	7439-92-1	5	mg/kg	37	---	---	---	---
Nickel	7440-02-0	2	mg/kg	7	---	---	---	---
Zinc	7440-66-6	5	mg/kg	59	---	---	---	---

EG035T: Total Recoverable Mercury by FIMS

Mercury	7439-97-6	0.1	mg/kg	<0.1	---	---	---	---
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EP075(SIM)A: Phenolic Compounds

Phenol	108-95-2	0.5	mg/kg	<0.5	---	---	---	---
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	---	---	---	---
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	---	---	---	---
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	---	---	---	---
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	---	---	---	---
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	---	---	---	---
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	---	---	---	---
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	---	---	---	---
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	---	---	---	---
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	---	---	---	---
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	---	---	---	---
Pentachlorophenol	87-86-5	2	mg/kg	<2	---	---	---	---

EP075(SIM)B: Polynuclear Aromatic Hydrocarbons

Naphthalene	91-20-3	0.5	mg/kg	<0.5	---	---	---	---
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	---	---	---	---
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	---	---	---	---
Fluorene	86-73-7	0.5	mg/kg	<0.5	---	---	---	---
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	---	---	---	---
Anthracene	120-12-7	0.5	mg/kg	<0.5	---	---	---	---
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	---	---	---	---
Pyrene	129-00-0	0.5	mg/kg	<0.5	---	---	---	---



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

D01_081113_TC

Client sampling date / time

08-NOV-2013 15:00

Compound	CAS Number	LOR	Unit	ES1324459-006				
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	0.6	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	1.2	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	----	----	----	----
>C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	----	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	<100	----	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	----	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

D01_081113_TC

Client sampling date / time

08-NOV-2013 15:00

Compound	CAS Number	LOR	Unit	ES1324459-006	----	----	----	----
EP080: BTEXN - Continued								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	----	----	----	----
Naphthalene	91-20-3	1	mg/kg	<1	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	91.7	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	97.2	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.1	%	43.6	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	84.5	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	72.2	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	71.2	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	98.7	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	112	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	107	----	----	----	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
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	72.8	133.2
Toluene-D8	2037-26-5	73.9	132.1
4-Bromofluorobenzene	460-00-4	71.6	130.0

QUALITY CONTROL REPORT

Work Order	: ES1324459	Page	: 1 of 11
Client	: ENVIRO RESOURCES MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: MR JOSEPH FERRING	Contact	: Barbara Hanna
Address	: GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: joseph.ferring@erm.com	E-mail	: Barbara.Hanna@alsglobal.com
Telephone	: +61 02 8584 8888	Telephone	: +61 2 8784 8555
Facsimile	: +61 02 8584 8800	Facsimile	: +61 2 8784 8555
Project	: Project Symphony	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: BAYSWATER	Date Samples Received	: 08-NOV-2013
C-O-C number	: ----	Issue Date	: 18-NOV-2013
Sampler	: TC	No. of samples received	: 6
Order number	: ----	No. of samples analysed	: 6
Quote number	: SY/794/13		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

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



NATA Accredited
Laboratory 825

Accredited for
compliance with
ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics



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.

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: 3161255)									
ES1324458-004	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	16.6	17.9	7.6	0% - 50%
ES1324460-008	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	21.0	20.0	4.8	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 3158769)									
ES1324458-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	13	18	31.8	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	21	16	25.0	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	14	16	17.3	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	28	40	33.4	No Limit
ES1324459-005	BS_MW01_2.7	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	9	10	15.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	57	62	9.0	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	6	15.9	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	44	44	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	20	24	18.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	100	109	8.5	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3158770)									
ES1324458-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1324459-005	BS_MW01_2.7	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 3155974)									
ES1324459-001	BJ_MW03_1.6	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
		ES1324460-014	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5
EP075(SIM): 2-Chlorophenol	95-57-8			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2-Methylphenol	95-48-7			0.5	mg/kg	<0.5	<0.5	0.0	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)A: Phenolic Compounds (QC Lot: 3155974) - continued									
ES1324460-014	Anonymous	EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3155974)									
ES1324459-001	BJ_MW03_1.6	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
				EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5
ES1324460-014	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	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: 3155974) - continued										
ES1324460-014	Anonymous	EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3155973)										
ES1324459-001	BJ_MW03_1.6	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit	
ES1324460-014	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3156994)										
ES1324458-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit	
ES1324459-005	BS_MW01_2.7	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3155973)										
ES1324459-001	BJ_MW03_1.6	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.0	No Limit	
ES1324460-014	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit	
		EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	<50	0.0	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QC Lot: 3156994)										
ES1324458-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
ES1324459-005	BS_MW01_2.7	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit	
EP080: BTEXN (QC Lot: 3156994)										
ES1324458-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
ES1324459-005	BS_MW01_2.7	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit	
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	

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 Work Order : ES1324459
 Client : ENVIRO RESOURCES MANAGEMENT
 Project : Project Symphony



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: 3156994) - continued									
ES1324459-005	BS_MW01_2.7	EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	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 Sample (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

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
				Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EG005T: Total Metals by ICP-AES (QCLot: 3158769)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	107	87	129	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	100	80	122	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	103	71	133	
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	116	86	128	
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	99.0	81	123	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	108	84	130	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	104	81	133	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3158770)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	101	66	112	
EP075(SIM)A: Phenolic Compounds (QCLot: 3155974)									
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	109	74	116	
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	106	74	116	
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	104	72	116	
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1	8 mg/kg	105	69	123	
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	85.9	60.3	117	
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	105	69	117	
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	81.8	68	112	
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	83.2	73	117	
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	85.6	76.4	114	
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	86.1	57	111	
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	90.3	68.9	112	
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1	8 mg/kg	30.2	3.9	57	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3155974)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	99.6	80	124	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	99.9	77	123	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	112	79	123	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	110	77	123	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	113	79	123	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	110	79	123	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	109	79	123	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	113	79	125	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	91.4	73	121	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	112	81	123	
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	87.0	70	118	



Sub-Matrix: SOIL

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
						LCS	Low	High	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3155974) - continued									
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	114	77	123	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	104	76	122	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	96.8	71	113	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	97.6	71.7	113	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	86.0	72.4	114	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3155973)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	115	71	131	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	129	74	138	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	95.4	64	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3156994)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	90.4	68.4	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3155973)									
EP071: >C10 - C16 Fraction	>C10_C16	50	mg/kg	<50	250 mg/kg	110	70	130	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	123	74	138	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----	
		50	mg/kg	----	150 mg/kg	68.3	63	131	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3156994)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	93.8	68.4	128	
EP080: BTEXN (QCLot: 3156994)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	94.6	62	116	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	90.9	62	128	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	87.4	58	118	
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	89.0	60	120	
	106-42-3								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	86.4	60	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	89.4	62	138	

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report				
				Spike Concentration	Spike Recovery(%)		Recovery Limits (%)	
					MS	Low	High	
EG005T: Total Metals by ICP-AES (QCLot: 3158769)								
ES1324458-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	101	70	130	
		EG005T: Cadmium	7440-43-9	50 mg/kg	101	70	130	
		EG005T: Chromium	7440-47-3	50 mg/kg	102	70	130	



Sub-Matrix: SOIL

				Matrix Spike (MS) Report				
				Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High	
EG005T: Total Metals by ICP-AES (QCLot: 3158769) - continued								
ES1324458-001	Anonymous	EG005T: Copper	7440-50-8	125 mg/kg	106	70	130	
		EG005T: Lead	7439-92-1	125 mg/kg	101	70	130	
		EG005T: Nickel	7440-02-0	50 mg/kg	90.9	70	130	
		EG005T: Zinc	7440-66-6	125 mg/kg	96.2	70	130	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3158770)								
ES1324458-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	115	70	130	
EP075(SIM)A: Phenolic Compounds (QCLot: 3155974)								
ES1324459-001	BJ_MW03_1.6	EP075(SIM): Phenol	108-95-2	10 mg/kg	104	70	130	
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	96.4	70	130	
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	81.8	60	130	
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	73.9	70	130	
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	65.3	20	130	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3155974)								
ES1324459-001	BJ_MW03_1.6	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	97.5	70	130	
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	99.7	70	130	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3155973)								
ES1324459-001	BJ_MW03_1.6	EP071: C10 - C14 Fraction	----	640 mg/kg	81.0	73	137	
		EP071: C15 - C28 Fraction	----	3140 mg/kg	82.5	53	131	
		EP071: C29 - C36 Fraction	----	2860 mg/kg	72.2	52	132	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3156994)								
ES1324458-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	75.9	70	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3155973)								
ES1324459-001	BJ_MW03_1.6	EP071: >C10 - C16 Fraction	>C10_C16	850 mg/kg	103	73	137	
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	75.9	53	131	
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	55.3	52	132	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3156994)								
ES1324458-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	78.0	70	130	
EP080: BTEXN (QCLot: 3156994)								
ES1324458-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	78.0	70	130	
		EP080: Toluene	108-88-3	2.5 mg/kg	74.8	70	130	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	74.0	70	130	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	74.8	70	130	
			106-42-3					
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	73.6	70	130	
EP080: Naphthalene	91-20-3	2.5 mg/kg	72.3	70	130			



Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are 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) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)		
				Concentration	MS	MSD	Low	High	Value	Control Limit	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3155973)											
ES1324459-001	BJ_MW03_1.6	EP071: C10 - C14 Fraction	----	640 mg/kg	81.0	----	73	137	----	----	
		EP071: C15 - C28 Fraction	----	3140 mg/kg	82.5	----	53	131	----	----	
		EP071: C29 - C36 Fraction	----	2860 mg/kg	72.2	----	52	132	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3155973)											
ES1324459-001	BJ_MW03_1.6	EP071: >C10 - C16 Fraction	>C10_C16	850 mg/kg	103	----	73	137	----	----	
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	75.9	----	53	131	----	----	
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	55.3	----	52	132	----	----	
EP075(SIM)A: Phenolic Compounds (QCLot: 3155974)											
ES1324459-001	BJ_MW03_1.6	EP075(SIM): Phenol	108-95-2	10 mg/kg	104	----	70	130	----	----	
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	96.4	----	70	130	----	----	
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	81.8	----	60	130	----	----	
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	73.9	----	70	130	----	----	
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	65.3	----	20	130	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3155974)											
ES1324459-001	BJ_MW03_1.6	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	97.5	----	70	130	----	----	
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	99.7	----	70	130	----	----	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3156994)											
ES1324458-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	75.9	----	70	130	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 (QCLot: 3156994)											
ES1324458-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	78.0	----	70	130	----	----	
EP080: BTEXN (QCLot: 3156994)											
ES1324458-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	78.0	----	70	130	----	----	
		EP080: Toluene	108-88-3	2.5 mg/kg	74.8	----	70	130	----	----	
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	74.0	----	70	130	----	----	
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	74.8	----	70	130	----	----	
			106-42-3								
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	73.6	----	70	130	----	----	
	91-20-3	EP080: Naphthalene		2.5 mg/kg	72.3	----	70	130	----	----	
EG005T: Total Metals by ICP-AES (QCLot: 3158769)											
ES1324458-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	101	----	70	130	----	----	
		EG005T: Cadmium	7440-43-9	50 mg/kg	101	----	70	130	----	----	
		EG005T: Chromium	7440-47-3	50 mg/kg	102	----	70	130	----	----	
		EG005T: Copper	7440-50-8	125 mg/kg	106	----	70	130	----	----	

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 Client : ENVIRO RESOURCES MANAGEMENT
 Project : Project Symphony



Sub-Matrix: SOIL

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					MS	MSD	Low	High	Value	Control Limit
EG005T: Total Metals by ICP-AES (QCLot: 3158769) - continued										
ES1324458-001	Anonymous	EG005T: Lead	7439-92-1	125 mg/kg	101	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	90.9	----	70	130	----	----
		EG005T: Zinc	7440-66-6	125 mg/kg	96.2	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3158770)										
ES1324458-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	115	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

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Client	: ENVIRO RESOURCES MANAGEMENT	Laboratory	: Environmental Division Sydney
Contact	: MR JOSEPH FERRING	Contact	: Barbara Hanna
Address	: GROUND FLOOR 33 SAUNDERS STREET, PYRMONT NSW 2009 LOCKED BAG 24 BROADWAY NSW, AUSTRALIA 2007	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: joseph.ferring@erm.com	E-mail	: Barbara.Hanna@alsglobal.com
Telephone	: +61 02 8584 8888	Telephone	: +61 2 8784 8555
Facsimile	: +61 02 8584 8800	Facsimile	: +61 2 8784 8555
Project	: Project Symphony	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: BAYSWATER	Date Samples Received	: 08-NOV-2013
C-O-C number	: ----	Issue Date	: 18-NOV-2013
Sampler	: TC	No. of samples received	: 6
Order number	: ----	No. of samples analysed	: 6
Quote number	: SY/794/13		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content								
Soil Glass Jar - Unpreserved (EA055-103) BJ_MW03_1.6, BS_SB01_2.6, BS_MW01_2.7,	BJ_MW04_1.1, BS_SB02_2.8, D01_081113_TC	08-NOV-2013	----	----	----	15-NOV-2013	22-NOV-2013	✓
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) BJ_MW03_1.6, BS_SB01_2.6, BS_MW01_2.7,	BJ_MW04_1.1, BS_SB02_2.8, D01_081113_TC	08-NOV-2013	14-NOV-2013	07-MAY-2014	✓	15-NOV-2013	07-MAY-2014	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T) BJ_MW03_1.6, BS_SB01_2.6, BS_MW01_2.7,	BJ_MW04_1.1, BS_SB02_2.8, D01_081113_TC	08-NOV-2013	14-NOV-2013	06-DEC-2013	✓	18-NOV-2013	06-DEC-2013	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP071) BJ_MW03_1.6, BS_SB01_2.6, BS_MW01_2.7,	BJ_MW04_1.1, BS_SB02_2.8, D01_081113_TC	08-NOV-2013	15-NOV-2013	22-NOV-2013	✓	15-NOV-2013	25-DEC-2013	✓
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM)) BJ_MW03_1.6, BS_SB01_2.6, BS_MW01_2.7,	BJ_MW04_1.1, BS_SB02_2.8, D01_081113_TC	08-NOV-2013	15-NOV-2013	22-NOV-2013	✓	15-NOV-2013	25-DEC-2013	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM)) BJ_MW03_1.6, BS_SB01_2.6, BS_MW01_2.7,	BJ_MW04_1.1, BS_SB02_2.8, D01_081113_TC	08-NOV-2013	15-NOV-2013	22-NOV-2013	✓	15-NOV-2013	25-DEC-2013	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080) BJ_MW03_1.6, BS_SB01_2.6, BS_MW01_2.7,	BJ_MW04_1.1, BS_SB02_2.8, D01_081113_TC	08-NOV-2013	14-NOV-2013	22-NOV-2013	✓	14-NOV-2013	22-NOV-2013	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080) BJ_MW03_1.6, BS_SB01_2.6, BS_MW01_2.7,	BJ_MW04_1.1, BS_SB02_2.8, D01_081113_TC	08-NOV-2013	14-NOV-2013	22-NOV-2013	✓	14-NOV-2013	22-NOV-2013	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Reaular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	19	10.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (2013) Schedule B(3) (Method 506.1)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 501)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.



Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

- For all matrices, no Method Blank value outliers occur.
- For all matrices, no Duplicate outliers occur.
- For all matrices, no Laboratory Control outliers occur.
- For all matrices, no Matrix Spike outliers occur.

Regular Sample Surrogates

- For all regular sample matrices, no surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- No Quality Control Sample Frequency Outliers exist.
-

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : **ES1324590**

Client : **ENVIRO RESOURCES MANAGEMENT** **Laboratory** : Environmental Division Sydney

Contact : MR JOSEPH FERRING **Contact** : Barbara Hanna
Address : GROUND FLOOR **Address** : 277-289 Woodpark Road Smithfield
33 SAUNDERS STREET, PYRMONT NSW Australia 2164
NSW 2009
LOCKED BAG 24
BROADWAY NSW, AUSTRALIA 2007

E-mail : joseph.ferring@erm.com **E-mail** : Barbara.Hanna@alsglobal.com
Telephone : +61 02 8584 8888 **Telephone** : +61 2 8784 8555
Facsimile : +61 02 8584 8800 **Facsimile** : +61 2 8784 8555

Project : Project Symphony **Page** : 1 of 3
Order number : 0224193
C-O-C number : ---- **Quote number** : ES2013ENVRES0369 (SY/794/13)
Site : LIDDELL
Sampler : AM **QC Level** : NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received : 08-NOV-2013 **Issue Date** : 13-NOV-2013 10:39
Client Requested Due Date : 18-NOV-2013 **Scheduled Reporting Date** : **18-NOV-2013**

Delivery Details

Mode of Delivery : Carrier **Temperature** : 4.6°C SYD - Ice present
No. of coolers/boxes : 1 HARD **No. of samples received** : 17
Security Seal : Intact. **No. of samples analysed** : 14

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- Sample containers do not comply to pretreatment / preservation standards (AS, APHA, USEPA). Please refer to the Sample Container(s)/Preservation Non-Compliance Log at the end of this report for details.
- Sample BH_MW04_0.3_8/11/13 was received extra and placed on hold.
- **Sample containers do not comply to pretreatment / preservation standards (AS, APHA, USEPA). Please refer to the Sample Container(s)/Preservation Non-Compliance Log at the end of this report for details.**
- **Asbestos and Particle Sizing analysis will be conducted by ALS Newcastle.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Breaches in recommended extraction / analysis holding times may occur. Please refer to the 'Proactive Holding Time Report' below for further details. Please contact ALS if further information is required.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (60 days) from date of completion of work order.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

Method Client sample ID	Sample Container Received	Preferred Sample Container for Analysis
EP071 : TPH - Semivolatile Fraction		
BH_MW03_0.3	- Snap Lock Bag	- Soil Glass Jar - Unpreserved
EP075(SIM) : PAH/Phenols (SIM)		
BH_MW03_0.3	- Snap Lock Bag	- Soil Glass Jar - Unpreserved
EP080 : TPH Volatiles/BTEX		
BH_MW03_0.3	- Snap Lock Bag	- Soil Glass Jar - Unpreserved

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default to 15:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory for processing purposes and will be shown bracketed without a time component.

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	(On Hold) SOIL No analysis requested	SOIL - EA002 pH (1:5)	SOIL - EA150* Particle Size Analysis by Sieving (Default sieves from SOIL - EA200	Asbestos Identification in Soils SOIL - ED007	CEC / Exchangeable Cations (ED007) - All	SOIL - S-18 (NO MOIST)	TRH(C6-c9)/BTEXN with No Moisture for TBs SOIL - S-27	TRH/BTEXN/PAH/Phenols/6Metals
ES1324590-001	08-NOV-2013 15:00	BH_MW01_0.1		✓	✓	✓	✓		✓	
ES1324590-002	08-NOV-2013 15:00	BH_MW02_0.1				✓				
ES1324590-003	08-NOV-2013 15:00	BH_MW02_0.5		✓	✓		✓		✓	
ES1324590-004	08-NOV-2013 15:00	BH_MW02_1.0		✓			✓		✓	
ES1324590-005	08-NOV-2013 15:00	BH_MW03_0.3		✓			✓		✓	
ES1324590-006	08-NOV-2013 15:00	BH_MW03_1.0	✓							
ES1324590-007	08-NOV-2013 15:00	BH_SB08_0.3	✓							
ES1324590-008	08-NOV-2013 15:00	BH_SB08_0.5		✓		✓	✓		✓	
ES1324590-009	08-NOV-2013 15:00	BE_MW09_0.1				✓			✓	
ES1324590-010	08-NOV-2013 15:00	BE_MW03_0.1				✓			✓	
ES1324590-011	08-NOV-2013 15:00	DUP20131108_01				✓			✓	
ES1324590-012	08-NOV-2013 15:00	DUP20131108_02				✓			✓	
ES1324590-014	05-NOV-2013 15:00	TRIP SPIKE 04						✓		
ES1324590-015	08-NOV-2013 15:00	BLANK						✓		
ES1324590-016	05-NOV-2013 15:00	TSC						✓		
ES1324590-017	08-NOV-2013 15:00	BH_MW04_0.3	✓							



Matrix: **WATER**

Laboratory sample ID	Client sampling date / time	Client sample ID	WATER - W-02T 6 metals (Total)	WATER - W-18 TRH(C6 - C9)/BTXN
ES1324590-013	08-NOV-2013 15:00	R20131108_AM	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

JOHN EWING

- *AU Certificate of Analysis - NATA (COA) Email john.ewing@erm.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email john.ewing@erm.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email john.ewing@erm.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email john.ewing@erm.com
- Attachment - Report (SUBCO) Email john.ewing@erm.com
- Chain of Custody (CoC) (COC) Email john.ewing@erm.com
- EDI Format - ENMRG (ENMRG) Email john.ewing@erm.com
- EDI Format - EQUIS V5 ERM (EQUIS_V5_ERM) Email john.ewing@erm.com
- EDI Format - ESDAT (ESDAT) Email john.ewing@erm.com
- EDI Format - XTab (XTAB) Email john.ewing@erm.com

MR JOSEPH FERRING

- *AU Certificate of Analysis - NATA (COA) Email joseph.ferring@erm.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI) Email joseph.ferring@erm.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC) Email joseph.ferring@erm.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN) Email joseph.ferring@erm.com
- Attachment - Report (SUBCO) Email joseph.ferring@erm.com
- Chain of Custody (CoC) (COC) Email joseph.ferring@erm.com
- EDI Format - ENMRG (ENMRG) Email joseph.ferring@erm.com
- EDI Format - EQUIS V5 ERM (EQUIS_V5_ERM) Email joseph.ferring@erm.com
- EDI Format - ESDAT (ESDAT) Email joseph.ferring@erm.com
- EDI Format - XTab (XTAB) Email joseph.ferring@erm.com

THE ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV) Email au.accounts@erm.com