Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 22/11/13	Time: arrive 9:40AM depart 10:20AM
Project Name: Symphony	Project Number: 224198
Site Location: Liddell	Sampler: JH
Well ID: LS_EW_MW01	Weather: Overcast - forming to a slight shower

Equipment

Water quality equipment description: YSI - 11K101262. Interface probe number: SWD 3983 30m

Purging equipment (please circle): Bailer type: **Plastic** **Teflon** PID reading = 0.0.

Pump type: **Peristaltic** **Submersible** **Micro-purge** **Amazon** **Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 5.915 m (-) Water level 2.033 m (=) Water Column 3.882 m

Water Column 3.882 m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume 7.61 L

Depth to product: — m Product Thickness: — m Verified with Bailer: Y (N)

Water Quality Parameters

Beginning purge time: 9:18AM Ending purge time: Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1	9:20	7.16	22.4	4.6	5.5	390.8	2.565	light brown turbidity - faint sulfurous odour
2	9.25	7.28	20.8	8.9	4.26	426.8	2.875	As above - turbidity clearing
3	9.30	7.27	20.5	11.1	4.60	149.3	3.230	As above
4	9.35	7.18	20.4	32.3	4.62	208.0	3.50	As above
5.0	9.41	7.10	20.3	33.0	4.5	223	3.718	As above

*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

Flow rate mL/minute

Sample time 9.50 Containers used 6

Did field parameters stabilise? Y N NA Was the well dry purged? Y (N)

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	(Y) N	
Was pre-cleaning sampling equipment properly protected from contamination?	(Y) N	
Was documentation of equipment conducted?	(Y) N NA	
Were air bubbles present in vials at time of collection?	Y (N) NA	
Was sample for metals field filtered prior to preservations?	(Y) N NA	
Duplicate sample collected?	Y (N)	Duplicate sample ID _____
Rinsate blank collected?	Y (N)	Rinsate blank ID _____

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 22/11/13	Time: arrive 10:20 depart 11:30.
Project Name: Symphony	Project Number: 0224198
Site Location: Liddell	Sampler: TH
Well ID: LS_EW-MW02	Weather: light shower

Equipment

Water quality equipment description: YSI-11K101262 Interface probe number: SMD 3983 30m.

PID = 0.0.

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
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 7.653 m (-) Water level 2.050 m (=) Water Column 5.603 m

Water Column 5.603 m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume 10.98 L

Depth to product: — m Product Thickness: — m Verified with Bailer: Y / N

Water Quality Parameters

Beginning purge time: 10:46 Ending purge time: 11:08 Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond µS/cm	DO mg/L ppm	Redox mV	Drawdown <10cm	Comments
1.0	10:50	7.18	20.6	28.9	4.21	-21.1	2.49	No odour, light brown cloudy.
2.0	10:55	6.99	20.5	28.9	4.68	10.4	2.80	As above.
3.0	11:01	6.94	20.5	29.0	4.44	51.8	3.065	As above.
4.0	11:06	6.92	20.6	29.2	4.49	55.8	3.292	As above.

*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

Flow rate mL/minute

Sample time 11:12. Containers used 6.

Did field parameters stabilise? Y / N / NA

Was the well dry purged? Y / N

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	Y	N	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	Duplicate sample ID
Rinsate blank collected?	Y	N	Rinsate blank ID

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 22/11/13.	Time: arrive 11:30 depart 1PM
Project Name: Symphony	Project Number: 224198.
Site Location: Liddell	Sampler: TH
Well ID: LS_EW_MW03.	Weather: Overcast

Equipment

Water quality equipment description: YSI - 11K101262 Interface probe number: 540 3983 30M

Purging equipment (please cirlce): Bailer type: **Plastic** **Teflon** PID = 0.0.

Pump type: **Peristaltic** **Submersible** **Micro-purge** **Amazon** **Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 7.470 m (-) Water level 1.788 m (=) Water Column 5.682 m (very silty at bottom of well)

Water Column 5.682 m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume 11.14 L

Depth to product: ✓ m Product Thickness: — m Verified with Bailer: ~~Y~~ N

Water Quality Parameters

Beginning purge time: 11:59. Ending purge time: 12:36. Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond µS/cm	DO mg/L ppm	Redox mV	Drawdown <10cm	Comments
1.0	12:03	6.93	24.5	35.0	1.45	53.1	2.02	No Odour, brown very turbidity
2.0	12:09	6.53	22.7	35.3	1.52	81.7	2.085	Odour, brown very turbidity
3.0	12:13	6.37	22.2	36.1	1.43	100.4	2.11	Odour, brown very turbidity
4.0	12:25	6.46	23.4	37.6	1.14	123.6	2.075	pump ceased for 8mins, brown turbid
5.0	12:30	6.36	22.5	35.9	1.30	121.4	2.05	intake lifted slightly (30cm) no odour turbidity decreased. No odour.
6.0	12:36	6.37	22.5	35.3	1.25	107.2	1.99	No odour, brown turbid.

*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

6 **Total Well Volume** Actual amount of water prior to sampling

Flow rate mL/minute

Sample time 12:40 PM Containers used 12.

Did field parameters stabilise? Y ~~N~~ ~~NA~~ Was the well dry purged? ~~Y~~ N

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	Y	N		
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N		
Was documentation of equipment conducted?	Y	N	NA	
Were air bubbles present in vials at time of collection?	~~Y~~	N	NA	
Was sample for metals field filtered prior to preservations?	~~Y~~	N	NA	
~~Duplicate~~ Triplicate sample collected?	Y	N		~~Duplicate~~ sample ID TO1_221113_TH
Rinsate blank collected?	Y	N		Rinsate blank ID RINSATE_221113TH.

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 12/12/13	Time: arrive 0830 depart 0925
Project Name: Symphony	Project Number: 0224198
Site Location: Liddell	Sampler: Sean Penza
Well ID: LS_MW01	Weather: Fine

Equipment

Water quality equipment description: 90FCMV U5443 Interface probe number: Geotech Interface meter 30m 3978

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
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 6.718 m (-) Water level 1.171 m (=) Water Column _____ m

Water Column _____ m (x) Conversion Factor _____ (=) Litres per 1 Well Volume _____ L

Depth to product: — m Product Thickness: — m Verified with Bailer: Y / N

Water Quality Parameters

Beginning purge time: 0839 Ending purge time: 0904 Pump Intake Depth (mbtoc): ~5.5

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
0.5	0844	4.71	21.8	16.44	4.08	333	1.52	Clear, no sheen, no odour
1.0	0849	4.67	22.5	17.19	3.47	349	1.67	As above
1.5	0854	4.66	22.9	17.76	3.05	368	1.90	As above
2.0	0859	4.65	22.7	17.85	3.10	373	2.03	As above
2.5	0904	4.64	22.8	17.95	3.12	377	2.16	As above
								Sampled at 0914
								(allow 10mins for recharge)

*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

2.5L **Total Well Volume** Actual amount of water prior to sampling

100 **Flow rate** mL/minute

Sample time 0914 Containers used 1 amber, 3 vials, 1 Ultra trace metals

Did field parameters stabilise? Y / N / NA

Was the well dry purged? Y / N

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	Y	N		
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N		
Was documentation of equipment conducted?	Y	N	NA	Final Water Level: 2.362
Were air bubbles present in vials at time of collection?	Y	N	NA	
Was sample for metals field filtered prior to preservations?	Y	N	NA	
Duplicate sample collected?	Y	N		Duplicate sample ID _____
Rinsate blank collected?	Y	N		Rinsate blank ID _____

Groundwater - Well Sampling Data Form

ERM

Job Information

Date:	16.12.13	Time: arrive 1345	depart 1425
Project Name:	Symphony Lidell	Project Number:	0224198
Site Location:		Sampler:	J. Grant
Well ID:	LSMW02	Weather:	Fine

Equipment

Water quality equipment description: /

Interface probe number: Sydney 3454 60m

Purging equipment: (please cirlce)

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
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

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

Total Well Depth (-) Water level (=) Water Column

4.320 m (-) 3.360 m (=) 1.46 m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume

1.46 m (x) 1.96 (=) ~2.5 L

Depth to product: / m Product Thickness: / m Verified with Bailer: (Y) N

Water Quality Parameters

Beginning purge time: Ending purge time: VOL 0.1

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1L	1420	4.60	23.5	27.2	7.17	251	/	No parameters taken due to lack of water. Bailer used to collect water.
								Parameters taken after Samples collected due to lack of water
								Bailer used

After Sampling

*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

/ **Total Well Volume** Actual amount of water prior to sampling

Sample time 1400 Containers used 7

/ **Flow rate** mL/minute

Did field parameters stabilise? Y N (NA)

Was the well dry purged? (Y) N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	(Y)	N	
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	N	
Was documentation of equipment conducted?	(Y)	N	NA
Were air bubbles present in vials at time of collection?	Y	(N)	NA
Was sample for metals field filtered prior to preservations?	(Y)	N	NA
Duplicate sample collected?	Y	(N)	Duplicate sample ID
Rinsate blank collected?	(Y)	N	Rinsate blank ID RB1-161213-JG

7/
4.82
3.36
1.46

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 25/11/13	Time: arrive 3:45pm depart 5pm
Project Name: Symphony.	Project Number: 224198.
Site Location: Liddell_LT.	Sampler: T Maydon.
Well ID: LT_MW01.	Weather: Overcast, light showers

Equipment

Water quality equipment description: YSI - 11K101262 Interface probe number: Geotech IP4261 30m

Purging equipment: (please cirlce)
Bailer type: **Plastic** **Teflon** PID = 0.1
Pump type: **Peristaltic** **Submersible** **Micro-purge** **Amazon** **Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 6.983. m (-) Water level 3.738 m (=) Water Column 3.245. m

Water Column 3.245. m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume 6.36 L

Depth to product: — m Product Thickness: — m Verified with Bailer: ~~Y~~ (N)

Water Quality Parameters

Beginning purge time: 16:05 Ending purge time: 16:40 Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond µS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1.0	1606	6.92	21.4	388	0.04	77.1	3.785	Light brown turbidity - no odour.
2.0	16:12:00	6.84	21.4	4102.	0.02	65.6	3.795	" " "
3.0	16.17.30	6.83	21.4	4188	0.01	59.2	3.800	" " "
4.0	16:23.00	6.82	21.5	4223	0.04	56.0	3.800	" " "
5.0	16:29.00	6.81	21.6	4399	0.02	52.7	3.800	"
6.0	16:33	6.09	21.9	50.0	0.76	56.6	3.800	- Air released from cell. (comment as above)
7.0	16:40.	6.88	22.2	41.0	0.95	71.6	3.800	Light brown turbidity - no odour.

ISSUES WITH EC STABILISATION.

*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

7.0 **Total Well Volume** Actual amount of water prior to sampling

Flow rate mL/minute

Sample time 16:45. Containers used 13

Did field parameters stabilise? Y N NA

Was the well dry purged? ~~Y~~ (N)

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	(Y)	~~N~~	
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	~~N~~	
Was documentation of equipment conducted?	(Y)	~~N~~	~~NA~~
Were air bubbles present in vials at time of collection?	~~Y~~	(N)	~~NA~~
Was sample for metals field filtered prior to preservations?	(Y)	~~N~~	~~NA~~
Duplicate sample collected?	~~Y~~	(N)	Duplicate sample ID —
Rinsate blank collected?	(Y)	~~N~~	Rinsate blank ID RINSATE_251113_TM

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 26/11/13	Time: arrive 8:05. depart 10AM
Project Name: Symphony.	Project Number: 0224198
Site Location: Liddell - LT.	Sampler: TH.
Well ID: LT_MW02	Weather: OVERCAST.

Equipment

Water quality equipment description: 451 - 11C100752 Interface probe number: Geotech IP #4261 30m.

Purging equipment: (please cirlce) Bailer type: Plastic Teflon PID Reak. = 4.1

Pump type: Peristaltic Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 7.533 m (-) Water level 3.851 m (=) Water Column 3.682 m

Water Column 3.682 m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume 7.22 L

Depth to product: — m Product Thickness: — m Verified with Bailer: Y / N

Water Quality Parameters

Beginning purge time: ~~8:52~~ 8:53 Ending purge time: 9:24 Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond µS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1.0	8:55	6.59	21.4	6251	0.20	167.8	3.935	Brown turbidity, odour.
2.0	8:59	6.54	21.6	6085	1.16	154.3	3.910	" " "
3.0	9:05:30	6.56	21.7	5841	4.04	143.6	3.905	Brown turbidity, odour.
4.0	9:11:15	6.57	21.7	5630	4.39	137.1	3.920	Brown turbidity, odour.
5.0	9:16:00	6.61	21.6	5362	4.31	130.4	3.930	" " "
6.0	9:20:45	6.63	21.6	5086	4.15	124.2	3.932	" " "
6.5	9:24:00	6.64	21.6	5024	4.04	120.0	3.910	" " "

*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

6.5. **Total Well Volume** Actual amount of water prior to sampling

Flow rate mL/minute

Sample time 9:30AM. Containers used 7

Did field parameters stabilise? Y ~~N~~ ~~NA~~ Was the well dry purged? ~~Y~~ N

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	Y	N		
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N		
Was documentation of equipment conducted?	Y	N	NA	
Were air bubbles present in vials at time of collection?	~~Y~~	N	~~NA~~	
Was sample for metals field filtered prior to preservations?	Y	~~N~~	~~NA~~	
Duplicate sample collected?	~~Y~~	N		Duplicate sample ID —
Rinsate blank collected?	~~Y~~	N		Rinsate blank ID ✓

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 26/11/13	Time: arrive 10:15 AM depart 11:20 AM.
Project Name: Symphony	Project Number: 224198
Site Location: WIDELL - LT.	Sampler: TM.
Well ID: LT_MW03	Weather: FINE - WINDY.

Equipment

Water quality equipment description: ~~YSI-556~~ YSI-IIC100752. Interface probe number: Geotech IP. #4261

Purging equipment (please cirlce): Bailer type: Plastic Teflon

Pump type: Peristaltic Submersible Micro-purge Amazon Other:

PID peak = 0.7 (when well first opened).

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 7.215 m (-) Water level 3.053 m (=) Water Column 4.162 m

Water Column 4.162 m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume 8.16 L

Depth to product: — m Product Thickness: — m Verified with Bailer: Y / ~~N~~

Water Quality Parameters

Beginning purge time: 10:24:15 Ending purge time: 10.52. Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1.0.	10:28:30	5.64	21.7	51.2	9.97	-33.8	3.730	Brown turbidity, slight odour
2.0	10:33:30	5.61	21.4	4811	0.08	-26.2	3990	Brown turbidity slight odour
3.0	10:39:00	5.60	21.4	4732	0.42	-97.8	4245	As Above.
4.0.	10:43:15	5.57	21.3	4561	2.04	-167.8	4455	As above.
5.0	10:48:00	5.57	21.5.	4361	2.71	-216	4585.	As above.
5.5.	10:51:00	5.56.	21.4	4303	3.00	-227.2	4.570	As above.

*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

5.5. **Total Well Volume** Actual amount of water prior to sampling

Flow rate mL/minute

Sample time 11AM Containers used 7

Did field parameters stabilise? Y / ~~N~~ / ~~NA~~ Was the well dry purged? ~~Y~~ / N

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	Y	~~N~~	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	~~N~~	
Was documentation of equipment conducted?	Y	~~N~~	~~NA~~
Were air bubbles present in vials at time of collection?	~~Y~~	N	~~NA~~
Was sample for metals field filtered prior to preservations?	Y	~~N~~	~~NA~~
Duplicate sample collected?	~~Y~~	N	Duplicate sample ID —
Rinsate blank collected?	~~Y~~	N	Rinsate blank ID —

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 25/11/13	Time: arrive 2:05pm depart 3:15.
Project Name: Symphony	Project Number: 224198
Site Location: LT-Liddell	Sampler: JH
Well ID: LT_MW04	Weather: Overcast.

Equipment

Water quality equipment description: 451-1K101262. Interface probe number: Geotech IP 4261 30m

Purging equipment: (please circle) Bailer type: Plastic Teflon PID = 0.0

Pump type: (Peristaltic) Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.49	(1.96)	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 5.839 m (-) Water level 1.976 m (=) Water Column _____ m

Water Column _____ m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume _____ L

Depth to product: — m Product Thickness: — m Verified with Bailer: ~~Y~~ (N)

Water Quality Parameters

Beginning purge time: 14:26:00. Ending purge time: 2:48pm. Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond µS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1.0	14:31	7.07	28.4	0.1	5.11	318.3	2.00	light brown turbidity, odour.
2.0	14:36	7.05	21.9	3597	0.20	23.6	2.05	" " ; hydrocarbo odour
3.0	14:40	6.97	21.6	3605	0.09	37.8	2.05	clear, odour.
4.0	14:44	6.94	21.3	3599	0.03	38.3	2.055	clear, odour
5.0	14:49	6.95	21.3	3609	—	37.0	2.025	clear, slight odour
								Ultra trace metals.
								sample also taken given
								high EC.

*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

5.0 **Total Well Volume** Actual amount of water prior to sampling

Flow rate mL/minute

Sample time 2:50pm Containers used 7

Did field parameters stabilise? Y N ~~NA~~ Was the well dry purged? ~~Y~~ (N)

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	(Y)	N	
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	~~N~~	
Was documentation of equipment conducted?	(Y)	~~N~~	~~NA~~
Were air bubbles present in vials at time of collection?	~~Y~~	(N)	~~NA~~
Was sample for metals field filtered prior to preservations?	(Y)	~~N~~	~~NA~~ Ultra trace also
Duplicate sample collected?	Y	(N)	Duplicate sample ID —
Rinsate blank collected?	Y	(N)	Rinsate blank ID —

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 17/12/13	Time: arrive 8:45. depart 9:45.
Project Name: LIDDELL	Project Number: 0224198
Site Location: SYMPHONY.	Sampler: TM
Well ID: LL_MW02.	Weather: wet & CLEAR

Equipment

Water quality equipment description: 90 FLMS U5443. Interface probe number: Geotech # 4261 30m

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
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 11.995 m (-) Water level 1.543 m (=) Water Column _____ m

Water Column _____ m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume _____ L

Depth to product: — m Product Thickness: — m Verified with Bailer: ~~Y~~ (N)

Water Quality Parameters

Beginning purge time: 9:05:30 Ending purge time: Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond mS/cm	DO ~~mg/L~~ %	Redox mV	Drawdown <10cm	Comments
1L	9:10:30	7.12	22.3	7.79	1.06	84	2.09.	no odour clear.
2L.	9:16.00	7.13	22.1	7.79	0.76	72	2.075.	As above.
3L.	9:22:00	7.15	22.8	7.76	0.52	33.	2.110	As above. - pumping stopped to backwash pump
4L.	9:30.00	7.11	23.0	7.83	0.39	42	2.005	no odour clear.

*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

Total Well Volume Actual amount of water prior to sampling

Flow rate mL/minute

Sample time 9:30+1- Containers used 5.

Did field parameters stabilise? (Y) ~~N~~ ~~NA~~ Was the well dry purged? Y (N)

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	(Y)	N	
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	N	
Was documentation of equipment conducted?	(Y)	N	NA
Were air bubbles present in vials at time of collection?	Y	(N)	NA
Was sample for metals field filtered prior to preservations?	(Y)	N	NA
Duplicate sample collected?	Y	(N)	Duplicate sample ID _____
Rinsate blank collected?	Y	(N)	Rinsate blank ID _____

Groundwater - Well Sampling Data Form

ERM

Job Information

Date:	10/12/13	Time: arrive	1525 depart 1622
Project Name:	Symphony	Project Number:	0224198
Site Location:	Geldert	Sampler:	Sean Penzo
Well ID:	LD-MW03	Weather:	Fine, Windy

Equipment

Water quality equipment description: 90FLMV 15443 Interface probe number: Geotech Interface Meter 30m 3978

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
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 12.965 m (-) Water level 1.685 m (=) Water Column _____ m

Water Column _____ m (x) Conversion Factor (=) Litres per 1 Well Volume _____ L

Depth to product: — m Product Thickness: — m Verified with Bailer: Y / N

Water Quality Parameters

Beginning purge time: 1541 Ending purge time: 1606 Pump Intake Depth (mbtoc): 11.5

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1.0	1546	6.97	28.5	7.23	1.43	74	1.85	Clear, no sheen, no odour
2.0	1551	6.94	28.2	7.30	0.79	53	1.85	As above
3.0	1556	6.94	28.2	7.35	0.56	40	1.85	As above
4.0	1601	6.95	28.2	7.40	0.49	37	1.85	As above
5.0	1606	6.94	28.3	7.42	0.48	33	1.85	As above
								Sampled at 1607

*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

5.0L **Total Well Volume** Actual amount of water prior to sampling

200 **Flow rate** mL/minute

Sample time 1607 Containers used 3 amber 3 HNO3 preserved metals

Did field parameters stabilise? Y / N / NA

Was the well dry purged? Y / N

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	Y	N	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	
Rinsate blank collected?	Y	N	

Final Water Level: 1.861

Duplicate sample ID _____

Rinsate blank ID _____

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 20-12-13	Time: arrive 16:00 depart
Project Name: Project Symphony.	Project Number: 0224198
Site Location: Liddell	Sampler: HC
Well ID: LV_MW03	Weather: Very hot

Equipment

Water quality equipment description: YSI S/N 11K101262 Interface probe number: MIM-191

Purging equipment: (please circle)
Bailer type: Plastic Teflon
Pump type: Peristaltic Submersible Micro-purge Amazon Other:

developing

Well Gauging and Purge Volume Calculations

asing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
ersion Factor ne in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

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

Total Well Depth (-) Water level (=) Water Column
8.669 m (-) 4.255 m (=) 4.414 m

30L removed with submersible

BTOC.

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
4.414 m (x) 1.96 (=) 9 L

DTW after 30L removed = 4.305 mBTOC

Depth to product: — m Product Thickness: — m Verified with Bailer: ~~Y~~ N

Water Quality Parameters

4.390 mBTOC

Beginning purge time: 17:21 Ending purge time: 17:44

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
0.5	17:24	7.08	22.4	3048	(45.9)	25.2	8cm.	purge water opaque, dark brown/brown, very turbid no odour
1.0	17:27	6.83	22.4	2943	(37.1)	22.6	no about 12cm.	as above. (siltstone formation, potentially low yielding)
1.5	17:30	6.74	21.9	2805	(32.2)	19.0	~10cm.	as above, becoming brown to light brown.
2.0	17:33	6.71	22.0	2558	2.56	15.8	<5cm.	drawdown stabilising. as above.
2.5	17:36	6.69	21.5	2597	1.21	1.0	<5cm	
3.0	17:39	6.68	21.3	2511	1.4	-11.8	≤2cm	stable drawn down as above
3.5	17:42	6.68	21.5	2303	1.5	-4.4	<5cm	

*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

~9L **Total Well Volume** Actual amount of water prior to sampling

~150 mL/min **Flow rate** mL/minute

Sample time 17:43

Containers used 1 x ORC metals, 1 x 1L amber, 3x vials, 1 x green natural plastic

Did field parameters stabilise? Y N NA

Was the well dry purged? Y N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	Y	N		all equipment disposable.
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N		N/A.
Was documentation of equipment conducted?	Y	N	NA	
Were air bubbles present in vials at time of collection?	Y	N	NA	
Was sample for metals field filtered prior to preservations?	Y	N	NA	
Duplicate sample collected?	Y	N		Duplicate sample ID —
Rinsate blank collected?	Y	N		Rinsate blank ID all disposable equipment used.

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 17·12·13	Time: arrive 13:50 depart 14:40
Project Name: Symphony	Project Number: 02
Site Location: Liddell	Sampler: JN
Well ID: ~~LO-MW17~~ LV-MW04 JN 17·12·13	Weather: Sunny

Equipment

Water quality equipment description: Airnet 90 FLMV Interface probe number: Airnet 4254 NSW 30m.

Purging equipment: (please cirlce) 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
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 10.94 m (-) Water level 3.501 m (=) Water Column 7.4 m

Water Column 7.4 m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume 14.0 L

Depth to product: — m Product Thickness: — m Verified with Bailer: Y (N)

Water Quality Parameters

Beginning purge time: 14:03 Ending purge time: 14:25 Pump Intake Depth (mbtoc): 10.4.

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1·0	14:09	8·04	26·7	27·2	3·83	152	3·81	Turbid, brown, no odour.
2·0	14:14	8·21	25·4	27·1	3·13	154	4·41	as above.
3·0	14:18	7·33	24·5	27·1	2·93	154	4·60	cloudy, no odour.
4·0	14:23	7·28	24·1	26·9	2·92	148	5·03	clear, no odour.
5·0	14:25	7·26	24·2	26·8	2·84	145	5·23	as above.

*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

5·0L **Total Well Volume** Actual amount of water prior to sampling Sample time 14:26 Containers used 6

200 **Flow rate** mL/minute Did field parameters stabilise? (Y) N NA Was the well dry purged? Y (N)

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	(Y)	N	1x metals.
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	N	3x vials.
Was documentation of equipment conducted?	(Y)	N NA	2x ambers.
Were air bubbles present in vials at time of collection?	Y	(N) NA	
Was sample for metals field filtered prior to preservations?	(Y)	N NA	
Duplicate sample collected?	Y	(N)	Duplicate sample ID —
Rinsate blank collected?	Y	(N)	Rinsate blank ID —

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 18/12/13	Time: arrive 9:10 depart
Project Name: SYMPHONY	Project Number: 0224198
Site Location: LIDDELL.	Sampler: TH
Well ID: LV_MW05	Weather: HOT + CLEAR.

Equipment

Water quality equipment description: 90FLMV 45443 Interface probe number: Codetech IP 30m 4261.

Purging equipment: (please cirlce)

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
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 6.512 m (-) Water level 3.975 m (=) Water Column _____ m

Water Column _____ m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume _____ L

Depth to product: _____ m Product Thickness: _____ m Verified with Bailer: Y / N

Water Quality Parameters

Beginning purge time: 9:17:00 Ending purge time: Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1	9:23:40	4.36	18.8	5.83	1.64	301	4.070	cloudy, no odour.
2.	9:29:40		18.9	5.90	1.90	312	4.060	As above.
		4.37						
3	9:37:40	4.38	19.0	6.02	1.85	318	4.075	As above.
4	9:42:40	4.39	19.8	6.05	2.23	321	4.085	" "

*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

Total Well Volume Actual amount of water prior to sampling

Flow rate mL/minute

Sample time _____ Containers used _____

Did field parameters stabilise? Y / N / NA

Was the well dry purged? Y / N

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	(Y)	N	
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	N	
Was documentation of equipment conducted?	(Y)	N	NA
Were air bubbles present in vials at time of collection?	Y	(N)	NA
Was sample for metals field filtered prior to preservations?	(Y)	N	NA
Duplicate sample collected?	~~Y~~	(N)	
Rinsate blank collected?	~~Y~~	(N)	

Duplicate sample ID _____

Rinsate blank ID _____

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 22/11/13	Time: arrive 9:40AM depart 10:20AM
Project Name: Symphony	Project Number: 224198
Site Location: Liddell	Sampler: JH
Well ID: LS_EW_MW01	Weather: Overcast - forming to a slight shower

Equipment

Water quality equipment description: YSI - 11K101262. Interface probe number: SWD 3983 30m

Purging equipment (please circle): Bailer type: **Plastic** **Teflon** PID reading = 0.0.

Pump type: **Peristaltic** **Submersible** **Micro-purge** **Amazon** **Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 5.915 m (-) Water level 2.033 m (=) Water Column 3.882 m

Water Column 3.882 m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume 7.61 L

Depth to product: — m Product Thickness: — m Verified with Bailer: Y (N)

Water Quality Parameters

Beginning purge time: 9:18AM Ending purge time: Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1	9:20	7.16	22.4	4.6	5.5	390.8	2.565	light brown turbidity - faint sulfurous odour
2	9.25	7.28	20.8	8.9	4.26	426.8	2.875	As above - turbidity clearing
3	9.30	7.27	20.5	11.1	4.60	149.3	3.230	As above
4	9.35	7.18	20.4	32.3	4.62	208.0	3.50	As above
5.0	9.41	7.10	20.3	33.0	4.5	223	3.718	As above

*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

Flow rate mL/minute

Sample time 9.50 Containers used 6

Did field parameters stabilise? Y N NA Was the well dry purged? Y (N)

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	(Y) N	
Was pre-cleaning sampling equipment properly protected from contamination?	(Y) N	
Was documentation of equipment conducted?	(Y) N NA	
Were air bubbles present in vials at time of collection?	Y (N) NA	
Was sample for metals field filtered prior to preservations?	(Y) N NA	
Duplicate sample collected?	Y (N)	Duplicate sample ID _____
Rinsate blank collected?	Y (N)	Rinsate blank ID _____

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 22/11/13	Time: arrive 10:20 depart 11:30.
Project Name: Symphony	Project Number: 0224198
Site Location: Liddell	Sampler: TH
Well ID: LS_EW-MW02	Weather: light shower

Equipment

Water quality equipment description: YSI-11K101262 Interface probe number: SMD 3983 30m.

PID = 0.0.

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
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 7.653 m (-) Water level 2.050 m (=) Water Column 5.603 m

Water Column 5.603 m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume 10.98 L

Depth to product: — m Product Thickness: — m Verified with Bailer: Y / N

Water Quality Parameters

Beginning purge time: 10:46 Ending purge time: 11:08 Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond µS/cm	DO mg/L ppm	Redox mV	Drawdown <10cm	Comments
1.0	10:50	7.18	20.6	28.9	4.21	-21.1	2.49	No odour, light brown cloudy.
2.0	10:55	6.99	20.5	28.9	4.68	10.4	2.80	As above.
3.0	11:01	6.94	20.5	29.0	4.44	51.8	3.065	As above.
4.0	11:06	6.92	20.6	29.2	4.49	55.8	3.292	As above.

*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

Flow rate mL/minute

Sample time 11:12. Containers used 6.

Did field parameters stabilise? Y / N / NA

Was the well dry purged? Y / N

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	Y	N	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	Duplicate sample ID
Rinsate blank collected?	Y	N	Rinsate blank ID

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 22/11/13.	Time: arrive 11:30 depart 1PM
Project Name: Symphony	Project Number: 224198.
Site Location: Liddell	Sampler: TH
Well ID: LS_EW_MW03.	Weather: Overcast

Equipment

Water quality equipment description: YSI - 11K101262 Interface probe number: 540 3983 30M

Purging equipment (please cirlce): Bailer type: **Plastic** **Teflon** PID = 0.0.

Pump type: **Peristaltic** **Submersible** **Micro-purge** **Amazon** **Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 7.470 m (-) Water level 1.788 m (=) Water Column 5.682 m (very silty at bottom of well)

Water Column 5.682 m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume 11.14 L

Depth to product: ✓ m Product Thickness: — m Verified with Bailer: ~~Y~~ N

Water Quality Parameters

Beginning purge time: 11:59. Ending purge time: 12:36. Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond µS/cm	DO mg/L ppm	Redox mV	Drawdown <10cm	Comments
1.0	12:03	6.93	24.5	35.0	1.45	53.1	2.02	No Odour, brown very turbidity
2.0	12:09	6.53	22.7	35.3	1.52	81.7	2.085	Odour, brown very turbidity
3.0	12:13	6.37	22.2	36.1	1.43	100.4	2.11	Odour, brown very turbidity
4.0	12:25	6.46	23.4	37.6	1.14	123.6	2.075	pump ceased for 8mins, brown turbid
5.0	12:30	6.36	22.5	35.9	1.30	121.4	2.05	intake lifted slightly (30cm) no odour turbidity decreased. No odour.
6.0	12:36	6.37	22.5	35.3	1.25	107.2	1.99	No odour, brown turbid.

*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

6 **Total Well Volume** Actual amount of water prior to sampling

Flow rate mL/minute

Sample time 12:40 PM Containers used 12.

Did field parameters stabilise? Y ~~N~~ ~~NA~~ Was the well dry purged? ~~Y~~ N

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	Y	N		
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N		
Was documentation of equipment conducted?	Y	N	NA	
Were air bubbles present in vials at time of collection?	~~Y~~	N	NA	
Was sample for metals field filtered prior to preservations?	~~Y~~	N	NA	
~~Duplicate~~ Triplicate sample collected?	Y	N		~~Duplicate~~ sample ID TO1_221113_TH
Rinsate blank collected?	Y	N		Rinsate blank ID RINSATE_221113TH.

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 12/12/13	Time: arrive 0830 depart 0925
Project Name: Symphony	Project Number: 0224198
Site Location: Liddell	Sampler: Sean Penza
Well ID: LS_MW01	Weather: Fine

Equipment

Water quality equipment description: 90FCMV U5443 Interface probe number: Geotech Interface meter 30m 3978

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
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 6.718 m (-) Water level 1.171 m (=) Water Column _____ m

Water Column _____ m (x) Conversion Factor _____ (=) Litres per 1 Well Volume _____ L

Depth to product: — m Product Thickness: — m Verified with Bailer: Y / N

Water Quality Parameters

Beginning purge time: 0839 Ending purge time: 0904 Pump Intake Depth (mbtoc): ~5.5

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
0.5	0844	4.71	21.8	16.44	4.08	333	1.52	Clear, no sheen, no odour
1.0	0849	4.67	22.5	17.19	3.47	349	1.67	As above
1.5	0854	4.66	22.9	17.76	3.05	368	1.90	As above
2.0	0859	4.65	22.7	17.85	3.10	373	2.03	As above
2.5	0904	4.64	22.8	17.95	3.12	377	2.16	As above
								Sampled at 0914
								(allow 10mins for recharge)

*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

2.5L **Total Well Volume** Actual amount of water prior to sampling

100 **Flow rate** mL/minute

Sample time 0914 Containers used 1 amber, 3 vials, 1 Ultra trace metals

Did field parameters stabilise? Y / N / NA

Was the well dry purged? Y / N

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	Y	N		
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N		
Was documentation of equipment conducted?	Y	N	NA	Final Water Level: 2.362
Were air bubbles present in vials at time of collection?	Y	N	NA	
Was sample for metals field filtered prior to preservations?	Y	N	NA	
Duplicate sample collected?	Y	N		Duplicate sample ID _____
Rinsate blank collected?	Y	N		Rinsate blank ID _____

Groundwater - Well Sampling Data Form

ERM

Job Information

Date:	16.12.13	Time: arrive 1345	depart 1425
Project Name:	Symphony Lidell	Project Number:	0224198
Site Location:		Sampler:	J. Grant
Well ID:	LSMW02	Weather:	Fine

Equipment

Water quality equipment description: /

Interface probe number: Sydney 3454 60m

Purging equipment: (please cirlce)

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
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

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

Total Well Depth (-) Water level (=) Water Column

4.320 m (-) 3.360 m (=) 1.46 m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume

1.46 m (x) 1.96 (=) ~2.5 L

Depth to product: / m Product Thickness: / m Verified with Bailer: (Y) N

Water Quality Parameters

Beginning purge time: Ending purge time: VOL 0.1

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1L	1420	4.60	23.5	27.2	7.17	251	/	No parameters taken due to lack of water. Bailer used to collect water.
								Parameters taken after Samples collected due to lack of water
								Bailer used

After Sampling

*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

/ **Total Well Volume** Actual amount of water prior to sampling

Sample time 1400 Containers used 7

/ **Flow rate** mL/minute

Did field parameters stabilise? Y N (NA)

Was the well dry purged? (Y) N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	(Y)	N	
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	N	
Was documentation of equipment conducted?	(Y)	N	NA
Were air bubbles present in vials at time of collection?	Y	(N)	NA
Was sample for metals field filtered prior to preservations?	(Y)	N	NA
Duplicate sample collected?	Y	(N)	Duplicate sample ID
Rinsate blank collected?	(Y)	N	Rinsate blank ID RB1-161213-JG

7/
4.82
3.36
1.46

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 25/11/13	Time: arrive 3:45pm depart 5pm
Project Name: Symphony.	Project Number: 224198.
Site Location: Liddell_LT.	Sampler: T Maydon.
Well ID: LT_MW01.	Weather: Overcast, light showers

Equipment

Water quality equipment description: YSI - 11K101262 Interface probe number: Geotech IP4261 30m

Purging equipment: (please cirlce)
Bailer type: **Plastic** **Teflon** PID = 0.1
Pump type: **Peristaltic** **Submersible** **Micro-purge** **Amazon** **Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 6.983. m (-) Water level 3.738 m (=) Water Column 3.245. m

Water Column 3.245. m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume 6.36 L

Depth to product: — m Product Thickness: — m Verified with Bailer: ~~Y~~ (N)

Water Quality Parameters

Beginning purge time: 16:05 Ending purge time: 16:40 Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond µS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1.0	1606	6.92	21.4	388	0.04	77.1	3.785	Light brown turbidity - no odour.
2.0	16:12:00	6.84	21.4	4102.	0.02	65.6	3.795	" " "
3.0	16.17.30	6.83	21.4	4188	0.01	59.2	3.800	" " "
4.0	16:23.00	6.82	21.5	4223	0.04	56.0	3.800	" " "
5.0	16:29.00	6.81	21.6	4399	0.02	52.7	3.800	"
6.0	16:33	6.09	21.9	50.0	0.76	56.6	3.800	- Air released from cell. (comment as above)
7.0	16:40.	6.88	22.2	41.0	0.95	71.6	3.800	Light brown turbidity - no odour.

ISSUES WITH EC STABILISATION.

*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

7.0 **Total Well Volume** Actual amount of water prior to sampling

Flow rate mL/minute

Sample time 16:45. Containers used 13

Did field parameters stabilise? Y N NA

Was the well dry purged? ~~Y~~ (N)

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	(Y)	~~N~~	
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	~~N~~	
Was documentation of equipment conducted?	(Y)	~~N~~	~~NA~~
Were air bubbles present in vials at time of collection?	~~Y~~	(N)	~~NA~~
Was sample for metals field filtered prior to preservations?	(Y)	~~N~~	~~NA~~
Duplicate sample collected?	~~Y~~	(N)	Duplicate sample ID —
Rinsate blank collected?	(Y)	~~N~~	Rinsate blank ID RINSATE_251113_TM

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 26/11/13	Time: arrive 8:05. depart 10AM
Project Name: Symphony.	Project Number: 0224198
Site Location: Liddell - LT.	Sampler: TH.
Well ID: LT_MW02	Weather: OVERCAST.

Equipment

Water quality equipment description: 451 - 11C100752 Interface probe number: Geotech IP #4261 30m.

Purging equipment: (please cirlce) Bailer type: Plastic Teflon PID Reak. = 4.1

Pump type: Peristaltic Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 7.533 m (-) Water level 3.851 m (=) Water Column 3.682 m

Water Column 3.682 m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume 7.22 L

Depth to product: — m Product Thickness: — m Verified with Bailer: Y / N

Water Quality Parameters

Beginning purge time: ~~8:52~~ 8:53 Ending purge time: 9:24 Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond µS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1.0	8:55	6.59	21.4	6251	0.20	167.8	3.935	Brown turbidity, odour.
2.0	8:59	6.54	21.6	6085	1.16	154.3	3.910	" " "
3.0	9:05:30	6.56	21.7	5841	4.04	143.6	3.905	Brown turbidity, odour.
4.0	9:11:15	6.57	21.7	5630	4.39	137.1	3.920	Brown turbidity, odour.
5.0	9:16:00	6.61	21.6	5362	4.31	130.4	3.930	" " "
6.0	9:20:45	6.63	21.6	5086	4.15	124.2	3.932	" " "
6.5	9:24:00	6.64	21.6	5024	4.04	120.0	3.910	" " "

*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

6.5. **Total Well Volume** Actual amount of water prior to sampling

Flow rate mL/minute

Sample time 9:30AM. Containers used 7

Did field parameters stabilise? Y ~~N~~ ~~NA~~ Was the well dry purged? ~~Y~~ N

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	Y	N		
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N		
Was documentation of equipment conducted?	Y	N	NA	
Were air bubbles present in vials at time of collection?	~~Y~~	N	~~NA~~	
Was sample for metals field filtered prior to preservations?	Y	~~N~~	~~NA~~	
Duplicate sample collected?	~~Y~~	N		Duplicate sample ID —
Rinsate blank collected?	~~Y~~	N		Rinsate blank ID ✓

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 26/11/13	Time: arrive 10:15 AM depart 11:20 AM.
Project Name: Symphony	Project Number: 224198
Site Location: WIDELL - LT.	Sampler: TM.
Well ID: LT_MW03	Weather: FINE - WINDY.

Equipment

Water quality equipment description: ~~YSI-556~~ YSI-IIC100752. Interface probe number: Geotech IP. #4261

Purging equipment (please cirlce): Bailer type: Plastic Teflon

Pump type: Peristaltic Submersible Micro-purge Amazon Other:

PID peak = 0.7 (when well first opened).

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 7.215 m (-) Water level 3.053 m (=) Water Column 4.162 m

Water Column 4.162 m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume 8.16 L

Depth to product: — m Product Thickness: — m Verified with Bailer: Y / ~~N~~

Water Quality Parameters

Beginning purge time: 10:24:15 Ending purge time: 10.52. Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1.0.	10:28:30	5.64	21.7	51.2	9.97	-33.8	3.730	Brown turbidity, slight odour
2.0	10:33:30	5.61	21.4	4811	0.08	-26.2	3990	Brown turbidity slight odour
3.0	10:39:00	5.60	21.4	4732	0.42	-97.8	4245	As Above.
4.0.	10:43:15	5.57	21.3	4561	2.04	-167.8	4455	As above.
5.0	10:48:00	5.57	21.5.	4361	2.71	-216	4585.	As above.
5.5.	10:51:00	5.56.	21.4	4303	3.00	-227.2	4.570	As above.

*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

5.5. **Total Well Volume** Actual amount of water prior to sampling

Flow rate mL/minute

Sample time 11AM Containers used 7

Did field parameters stabilise? Y / ~~N~~ / ~~NA~~ Was the well dry purged? ~~Y~~ / N

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	Y	~~N~~	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	~~N~~	
Was documentation of equipment conducted?	Y	~~N~~	~~NA~~
Were air bubbles present in vials at time of collection?	~~Y~~	N	~~NA~~
Was sample for metals field filtered prior to preservations?	Y	~~N~~	~~NA~~
Duplicate sample collected?	~~Y~~	N	Duplicate sample ID —
Rinsate blank collected?	~~Y~~	N	Rinsate blank ID —

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 25/11/13	Time: arrive 2:05pm depart 3:15.
Project Name: Symphony	Project Number: 224198
Site Location: LT-Liddell	Sampler: JH
Well ID: LT_MW04	Weather: Overcast.

Equipment

Water quality equipment description: 451-1K101262. Interface probe number: Geotech IP 4261 30m

Purging equipment: (please circle) Bailer type: Plastic Teflon PID = 0.0

Pump type: (Peristaltic) Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.49	(1.96)	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 5.839 m (-) Water level 1.976 m (=) Water Column _____ m

Water Column _____ m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume _____ L

Depth to product: — m Product Thickness: — m Verified with Bailer: ~~Y~~ (N)

Water Quality Parameters

Beginning purge time: 14:26:00. Ending purge time: 2:48pm. Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond µS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1.0	14:31	7.07	28.4	0.1	5.11	318.3	2.00	light brown turbidity, odour.
2.0	14:36	7.05	21.9	3597	0.20	23.6	2.05	" " ; hydrocarbo odour
3.0	14:40	6.97	21.6	3605	0.09	37.8	2.05	clear, odour.
4.0	14:44	6.94	21.3	3599	0.03	38.3	2.055	clear, odour
5.0	14:49	6.95	21.3	3609	—	37.0	2.025	clear, slight odour
								Ultra trace metals.
								sample also taken given
								high EC.

*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

5.0 **Total Well Volume** Actual amount of water prior to sampling

Flow rate mL/minute

Sample time 2:50pm Containers used 7

Did field parameters stabilise? Y N ~~NA~~ Was the well dry purged? ~~Y~~ (N)

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	(Y)	N	
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	~~N~~	
Was documentation of equipment conducted?	(Y)	~~N~~	~~NA~~
Were air bubbles present in vials at time of collection?	~~Y~~	(N)	~~NA~~
Was sample for metals field filtered prior to preservations?	(Y)	~~N~~	~~NA~~ Ultra trace also
Duplicate sample collected?	Y	(N)	Duplicate sample ID —
Rinsate blank collected?	Y	(N)	Rinsate blank ID —

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 17/12/13	Time: arrive 8:45. depart 9:45.
Project Name: LIDDELL	Project Number: 0224198
Site Location: SYMPHONY.	Sampler: TM
Well ID: LL_MW02.	Weather: wet & CLEAR

Equipment

Water quality equipment description: 90 FLMS U5443. Interface probe number: Geotech # 4261 30m

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
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 11.995 m (-) Water level 1.543 m (=) Water Column _____ m

Water Column _____ m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume _____ L

Depth to product: — m Product Thickness: — m Verified with Bailer: ~~Y~~ (N)

Water Quality Parameters

Beginning purge time: 9:05:30 Ending purge time: Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond mS/cm	DO ~~mg/L~~ %	Redox mV	Drawdown <10cm	Comments
1L	9:10:30	7.12	22.3	7.79	1.06	84	2.09.	no odour clear.
2L.	9:16.00	7.13	22.1	7.79	0.76	72	2.075.	As above.
3L.	9:22:00	7.15	22.8	7.76	0.52	33.	2.110	As above. - pumping stopped to backwash pump
4L.	9:30.00	7.11	23.0	7.83	0.39	42	2.005	no odour clear.

*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

Total Well Volume Actual amount of water prior to sampling

Flow rate mL/minute

Sample time 9:30+1- Containers used 5.

Did field parameters stabilise? (Y) ~~N~~ ~~NA~~ Was the well dry purged? Y (N)

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	(Y)	N	
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	N	
Was documentation of equipment conducted?	(Y)	N	NA
Were air bubbles present in vials at time of collection?	Y	(N)	NA
Was sample for metals field filtered prior to preservations?	(Y)	N	NA
Duplicate sample collected?	Y	(N)	Duplicate sample ID _____
Rinsate blank collected?	Y	(N)	Rinsate blank ID _____

Groundwater - Well Sampling Data Form

ERM

Job Information

Date:	10/12/13	Time: arrive	1525 depart 1622
Project Name:	Symphony	Project Number:	0224198
Site Location:	Geldert	Sampler:	Sean Penzo
Well ID:	LD-MW03	Weather:	Fine, Windy

Equipment

Water quality equipment description: 90FLMV 15443 Interface probe number: Geotech Interface Meter 30m 3978

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
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 12.965 m (-) Water level 1.685 m (=) Water Column _____ m

Water Column _____ m (x) Conversion Factor (=) Litres per 1 Well Volume _____ L

Depth to product: — m Product Thickness: — m Verified with Bailer: Y / N

Water Quality Parameters

Beginning purge time: 1541 Ending purge time: 1606 Pump Intake Depth (mbtoc): 11.5

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1.0	1546	6.97	28.5	7.23	1.43	74	1.85	Clear, no sheen, no odour
2.0	1551	6.94	28.2	7.30	0.79	53	1.85	As above
3.0	1556	6.94	28.2	7.35	0.56	40	1.85	As above
4.0	1601	6.95	28.2	7.40	0.49	37	1.85	As above
5.0	1606	6.94	28.3	7.42	0.48	33	1.85	As above
								Sampled at 1607

*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

5.0L **Total Well Volume** Actual amount of water prior to sampling

200 **Flow rate** mL/minute

Sample time 1607 Containers used 3 amber 3 HNO3 preserved metals

Did field parameters stabilise? Y / N / NA

Was the well dry purged? Y / N

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	Y	N	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	
Rinsate blank collected?	Y	N	

Final Water Level: 1.861

Duplicate sample ID _____

Rinsate blank ID _____

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 20-12-13	Time: arrive 16:00 depart
Project Name: Project Symphony.	Project Number: 0224198
Site Location: Liddell	Sampler: HC
Well ID: LV_MW03	Weather: Very hot

Equipment

Water quality equipment description: YSI S/N 11K101262 Interface probe number: MIM-191

Purging equipment: (please circle)
Bailer type: Plastic Teflon
Pump type: Peristaltic Submersible Micro-purge Amazon Other:

developing

Well Gauging and Purge Volume Calculations

asing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
ersion Factor ne in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

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

Total Well Depth (-) Water level (=) Water Column
8.669 m (-) 4.255 m (=) 4.414 m

30L removed with submersible

BTOC.

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
4.414 m (x) 1.96 (=) 9 L

DTW after 30L removed = 4.305 mBTOC

Depth to product: — m Product Thickness: — m Verified with Bailer: ~~Y~~ N

Water Quality Parameters

4.390 mBTOC

Beginning purge time: 17:21 Ending purge time: 17:44

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
0.5	17:24	7.08	22.4	3048	(45.9)	25.2	8cm.	purge water opaque, dark brown/brown, very turbid no odour
1.0	17:27	6.83	22.4	2943	(37.1)	22.6	no about 12cm.	as above. (siltstone formation, potentially low yielding)
1.5	17:30	6.74	21.9	2805	(32.2)	19.0	~10cm.	as above, becoming brown to light brown.
2.0	17:33	6.71	22.0	2558	2.56	15.8	<5cm.	drawdown stabilising. as above.
2.5	17:36	6.69	21.5	2597	1.21	1.0	<5cm	
3.0	17:39	6.68	21.3	2511	1.4	-11.8	≤2cm	stable drawn down as above
3.5	17:42	6.68	21.5	2303	1.5	-4.4	<5cm	

*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

~9L **Total Well Volume** Actual amount of water prior to sampling

~150 mL/min **Flow rate** mL/minute

Sample time 17:43

Containers used 1 x ORC metals, 1 x 1L amber, 3x vials, 1 x green natural plastic

Did field parameters stabilise? Y N NA

Was the well dry purged? Y N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	Y	N		all equipment disposable.
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N		N/A.
Was documentation of equipment conducted?	Y	N	NA	
Were air bubbles present in vials at time of collection?	Y	N	NA	
Was sample for metals field filtered prior to preservations?	Y	N	NA	
Duplicate sample collected?	Y	N		Duplicate sample ID —
Rinsate blank collected?	Y	N		Rinsate blank ID all disposable equipment used.

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 17·12·13	Time: arrive 13:50 depart 14:40
Project Name: Symphony	Project Number: 02
Site Location: Liddell	Sampler: JN
Well ID: ~~LO-MW17~~ LV-MW04 JN 17·12·13	Weather: Sunny

Equipment

Water quality equipment description: Airnet 90 FLMV Interface probe number: Airnet 4254 NSW 30m.

Purging equipment: (please cirlce) 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
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 10.94 m (-) Water level 3.501 m (=) Water Column 7.4 m

Water Column 7.4 m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume 14.0 L

Depth to product: — m Product Thickness: — m Verified with Bailer: Y (N)

Water Quality Parameters

Beginning purge time: 14:03 Ending purge time: 14:25 Pump Intake Depth (mbtoc): 10.4.

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1·0	14:09	8·04	26·7	27·2	3·83	152	3·81	Turbid, brown, no odour.
2·0	14:14	8·21	25·4	27·1	3·13	154	4·41	as above.
3·0	14:18	7·33	24·5	27·1	2·93	154	4·60	cloudy, no odour.
4·0	14:23	7·28	24·1	26·9	2·92	148	5·03	clear, no odour.
5·0	14:25	7·26	24·2	26·8	2·84	145	5·23	as above.

*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

5·0L **Total Well Volume** Actual amount of water prior to sampling Sample time 14:26 Containers used 6

200 **Flow rate** mL/minute Did field parameters stabilise? (Y) N NA Was the well dry purged? Y (N)

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	(Y)	N	1x metals.
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	N	3x vials.
Was documentation of equipment conducted?	(Y)	N NA	2x ambers.
Were air bubbles present in vials at time of collection?	Y	(N) NA	
Was sample for metals field filtered prior to preservations?	(Y)	N NA	
Duplicate sample collected?	Y	(N)	Duplicate sample ID —
Rinsate blank collected?	Y	(N)	Rinsate blank ID —

Groundwater - Well Sampling Data Form

ERM

Job Information

Date: 18/12/13	Time: arrive 9:10 depart
Project Name: SYMPHONY	Project Number: 0224198
Site Location: LIDDELL.	Sampler: TH
Well ID: LV_MW05	Weather: HOT + CLEAR.

Equipment

Water quality equipment description: 90FLMV 45443 Interface probe number: Codetech IP 30m 4261.

Purging equipment: (please cirlce)

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
Conversion Factor (volume in factor L/m)	0.49	1.96	7.85	12.3	17.7	31.4	49.1	70.7

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

Total Well Depth 6.512 m (-) Water level 3.975 m (=) Water Column _____ m

Water Column _____ m (x) Conversion Factor 1.96 (=) Litres per 1 Well Volume _____ L

Depth to product: _____ m Product Thickness: _____ m Verified with Bailer: Y / N

Water Quality Parameters

Beginning purge time: 9:17:00 Ending purge time: Pump Intake Depth (mbtoc):

Litres	Time	PH	Temp °C	Cond mS/cm	DO mg/L	Redox mV	Drawdown <10cm	Comments
1	9:23:40	4.36	18.8	5.83	1.64	301	4.070	cloudy, no odour.
2.	9:29:40		18.9	5.90	1.90	312	4.060	As above.
		4.37						
3	9:37:40	4.38	19.0	6.02	1.85	318	4.075	As above.
4	9:42:40	4.39	19.8	6.05	2.23	321	4.085	" "

*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

Total Well Volume Actual amount of water prior to sampling

Flow rate mL/minute

Sample time _____ Containers used _____

Did field parameters stabilise? Y / N / NA

Was the well dry purged? Y / N

Field QC Checks

Was pre-cleaned sampling equipment used for these samples?	(Y)	N	
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	N	
Was documentation of equipment conducted?	(Y)	N	NA
Were air bubbles present in vials at time of collection?	Y	(N)	NA
Was sample for metals field filtered prior to preservations?	(Y)	N	NA
Duplicate sample collected?	~~Y~~	(N)	
Rinsate blank collected?	~~Y~~	(N)	

Duplicate sample ID _____

Rinsate blank ID _____

Annex F

Quality Assurance / 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 (1999) *National Environmental Protection (Assessment of Site Contamination) Measure* 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 summarises the laboratory QA/QC assessment.

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 25 intra-laboratory duplicates (18 soil, and 7 groundwater) were analysed to demonstrate the suitability of the validation program. 16 inter-laboratory duplicate samples (10 soil and 6 groundwater) were sent to a second laboratory. The number of samples analysed including QA/QC replicates is presented in *Table F4*. Field intralab duplicate samples were collected at a ratio of 1 per approximately 21 primary samples. Field interlab duplicate samples were collected at a ratio of 1 per approximately 34 samples. This is below the target ratio of 1 per 20 primary samples specified in the SAQP.
All relevant media assessed	Soil and/or groundwater samples were collected from all identified AECs as part of the characterisation program. Assessment of sediment and surface water in Lake Liddell was carried out as part of ERM (2014) Project Symphony – Bayswater Power Station, Stage 2 ESA.
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 and groundwater at the established AECs for the Site. It is noted that samples were collected from more than 90% of proposed locations. Instances in which sampling was not carried out are listed in *Table 3.1*of the main report. Examples of constraints that prevented sampling included restrictions to investigation locations due to physical access or the presence of sub-surface services and/or depth constraints due to the presence of shallow bedrock or the absence of groundwater. The spatial coverage achieved despite these constraints was considered to be suitable in achieving the project objectives.

QA/QC Criterion	Comments
Sample collection, handling and transportation procedures.	Samples were collected, handled and transported following ERM SOPs.
Sampling is representative of site conditions	Representative soil and/or groundwater samples were collected from all identified AECs. • 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 was analysed from each location. • Groundwater – selected soil bores were converted to monitoring wells and groundwater samples 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	The sampling team comprised suitably qualified and experienced ERM environmental scientists. Borehole logs and/or other sampling records were completed, describing the media sampled, the duplicate types and sampling locations. 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. Inter-laboratory and intra-laboratory analytical results and their relative percentage differences (RPDs) are presented in *Table F5 Series*. 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 × LOR or 50% RPD where both values were less than 10 × LOR). An evaluation of the analytical data indicated that the data was generally of acceptable precision and accuracy. Exceedances of RPD acceptable limits were noted for some primary and duplicate sample pairs, as presented in *Table F5 Series* and summarised below. Decontamination procedures were implemented between the collection of 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 *Table F6 Series*). COPCs were below the laboratory LOR in rinsate samples with the minor exceptions which are presented in *Table F6 Series* and summarised below. Trip blank and trip spike 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.

QA/QC Criterion	Comments
	Trip blank results are presented in to *Tables F7 Series*. All COPCs were reported below the laboratory LOR. Trip spike results are presented in *Table F8 Series*. 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 11 batches of soil samples. Further discussion on trip spike non-conformances are provided below. Field instruments used as part of this investigation were appropriately calibrated and used according to the manufacturers' instructions (refer to *Annex E*).

Field QA/QC Exceedences

Some exceedences of field duplicate RPD acceptable limits were noted for primary and duplicate samples, as presented in *Table F5 Series*. Elevated RPDs between soil duplicate samples were generally attributed to the heterogeneity of the soil matrix. Where RPDs were elevated in soil samples, both reported concentrations were, in all instances excepting one, below the adopted guideline value (where one was applicable). These minor non-conformances, therefore, were not expected to materially affect the outcomes of this investigation. In one case the TRH C_{10}-C_{16} concentration reported for T01_051213_SP (200 mg/kg) was adopted for primary sample LO_MW05_3.0 as a conservative measure, as this concentration exceeded the adopted guideline value whist the concentration reported for the primary sample did not.

Where elevated RPDs between groundwater duplicate samples were encountered, both reported concentrations were either below the adopted guideline value (where one was applicable) or, where an adopted guideline value was exceeded, the higher of the two concentrations was reported, for conservatism. In the majority of these cases, the primary sample concentration was the higher concentration and was reported. For sample LI_MW07, the concentration of copper reported for corresponding triplicate sample T01-301113-NH (0.002 mg/L) was adopted as a conservative measure. For sample LO_MW14, the concentration of zinc reported for corresponding triplicate sample D01_171213_TH (0.017 mg/L) was adopted as a conservative measure.

Fifty-one rinsate samples were collected during the field program. All reported concentrations were below the corresponding laboratory LOR with the exception of R01_051213_JK, collected on December 5 2013 during drilling works, for which the concentration of copper was reported to be equal to the laboratory LOR of 0.001 mg/L. Rinsate results, therefore, do not indicate a likely risk of cross-contamination and suggest that decontamination procedures were carried out correctly.

Twelve out of thirty trip spikes analysed as part of the drilling/soil sampling program were not within the acceptable percentage recovery limits of 70% to 130% compared to the corresponding trip spike samples. Seven trip spike samples (discussed below) reported recoveries below 50% compared to the trip spike control samples suggesting either that there were issues with particular trip spikes supplied by the laboratory or significant loss of volatiles occurred during transportation.

The trip spike analysed in laboratory batch ES1325014 reported light-end TRH fraction and benzene recoveries of between 43 and 47%. A review of the laboratory reports for this batch indicated that samples were received by the laboratory at an appropriate temperature for sample preservation and within recommended holding times. Further, sample extraction and analysis was carried out within recommended holding times. A review of the borelogs of soil samples analysed in this batch indicated that PID field screenings, where they were recorded, were less than 1 ppm v. No other indications of hydrocarbon contamination (such as visual or olfactory indicators) were noted during drilling at these locations. For samples in this batch, therefore, evidence does not suggest that volatile hydrocarbons were likely to be present, and as such, the low trip spike recoveries are not considered to affect the quality of the data reported for these batches.

A trip spike analysed in laboratory batch ES1325574 (TS3_151113) reported light-end TRH fraction and BTEX recoveries of between 28 and 40%. A review of the laboratory reports for this batch indicated that samples were received by the laboratory at an appropriate temperature for sample preservation and within recommended holding times. However, analysis of trip spike TS_151113 for TRH fractions and BTEX breached the recommended holding times of 14 days by one day, which may have resulted in a loss of volatiles in this sample. It is noted that analysis of all other samples in this batch for TRH and BTEX was carried out within the recommended holding times. A review of the borelogs of soil samples analysed in this batch indicated that PID field screenings, where they were recorded, were less than 1 ppmv. No other indications of hydrocarbon contamination (such as visual or olfactory indicators) were noted during drilling at these locations. For samples in this batch, therefore, evidence does not suggest that volatile hydrocarbons were likely to be present, and as such, the low trip spike recoveries are not considered to significantly impact upon the quality of the data reported for these batches.

Both trip spikes analysed in laboratory batch ES1326153 reported light-end TRH fraction and BTEX recoveries of between 33 and 48%. A review of the laboratory reports for this batch indicated that samples were received by the laboratory at an appropriate temperature for sample preservation and within recommended holding times. However, extraction and analysis of the two trip spikes for TRH fractions and BTEX breached the recommended holding times of 14 days by two days which may have contributed to a loss of volatiles. It is noted that analysis of all other samples in this batch for TRH and BTEX was carried out within the recommended holding times.

A review of the borelogs of soil samples analysed in this batch indicated that PID field screenings, where they were recorded, were less than 1 ppmv. No other indications of hydrocarbon contamination (such as visual or olfactory indicators) were noted during drilling at this location. For samples in this batch, therefore, evidence does not suggest that volatile hydrocarbons were likely to be present, and as such, the low trip spike recoveries are not considered to affect the quality of the data reported for these batches.

The trip spike analysed in laboratory batch ES1326974 reported light-end TRH fraction and BTEX recoveries of between 40 and 49%. A review of the laboratory reports for this batch indicated that samples were received by the laboratory at an appropriate temperature for sample preservation and within recommended holding times. However, analysis of the trip spike for TRH fractions and BTEX breached the recommended holding times of 14 days by three days, which may have resulted in a loss of volatiles in this sample. It is noted that analysis of all other samples in this batch for TRH and BTEX was carried out within the recommended holding times. A review of the borelogs of soil samples analysed in this batch indicated that for all samples excepting one (LJ_SB02_1.0) PID field screenings were less than 1 ppmv, suggesting that volatile hydrocarbons were not likely to be present. For sample LJ_SB02_1.0, however, hydrocarbon odour and a PID screening result of 37.8 ppm v were recorded. It is possible, therefore, that some loss of volatiles occurred and that TRH C6-C10 and BTEX concentrations are under-reported for this sample. It is noted, however, that the analytical results profile for sample LJ_SB02_2.0, collected from the same borehole 1 meter below and not associated with this batch, is very similar to that for LJ_SB02_1.0.

The trip spike analysed in laboratory batch ES1327442 reported light-end TRH fractions and BTEX recoveries of between 14 and 29%. A review of the laboratory reports for this batch indicated that samples were received by the laboratory within recommended holding times but at a temperature of 6.8°C, which is slightly above the recommended temperature range for sample preservation. Further, extraction and analysis of the trip spike for TRH fractions and BTEX breached the recommended holding times of 14 days by five days which may have contributed to a loss of volatiles. It is noted that analysis of all other samples in this batch for TRH and BTEX was carried out within the recommended holding times. Further, a review of the borelogs of soil samples analysed in this batch indicated that PID field screenings were less than 1 ppmv, suggesting that volatile hydrocarbons were not likely to be present.

The trip spike analysed in laboratory batch ES1327785 reported BTEX recoveries of between 14 and 29%. A review of the laboratory reports for this batch indicated that samples were received by the laboratory at an appropriate temperature for sample preservation and within recommended holding times. Further, sample extraction and analysis was carried out within the recommended holding times. A review of the borelogs for soil samples analysed in the batch indicated that PID field screenings were less than 2 ppmv, suggesting that volatile hydrocarbons were not likely to be present.

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 methodologies were considered appropriate for the identified contaminants of 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 Limit of Reporting (LOR)	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 mercury, benzo(a)pyrene and a number of chlorinated and halogenated compounds in water. These instances are discussed in *Section 3.5.3* of the main report.
Laboratory QA/QC plan	Copies of signed chain of custody forms were returned by the laboratory. Samples were received and analysed within specified laboratory holding times with the exception of those samples listed in *Table F9 Series*. This information was documented on the laboratory reports. The analytical methods used were NATA approved as documented on the laboratory reports. 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. 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 *Table F10* to *F13 Series*.

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.	Analysis of the following were reported: • Laboratory and inter-laboratory duplicates; • Field duplicates; • Laboratory prepared volatile trip spikes.

Field Considerations	Laboratory Considerations

Precision Comments

No significant 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 × LOR or 50% RPD where both values less than 10 × LOR. Minor exceedences were noted, as presented in *Table F5 Series*. A number of trip spike recoveries were below the acceptance limits of 70 to 130% RPD. Exceedances are presented in *Table F8 Series* and are discussed above. Seven trip spike soil samples reported recoveries below 50% compared to the trip spike control samples. As a result, analytical data for volatile contaminants from laboratory reports ES1325014, ES1325574, ES1326153, ES1326974, ES1327442 and ES1327785 should be considered as estimates only. It is noted that PID screening results from samples collected as part of these laboratory batches, where available and with one exception (discussed above), suggested that volatiles were not likely to be present.

Accuracy Requirements

The investigation was conducted following ERM SOPs and any variations from these procedures were documented.

Analysis of the following were reported:

- trip blanks;
- rinsate blanks;
- method blanks;
- matrix spikes;
- surrogate spikes; and
- laboratory control samples.

Accuracy Comments

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

Representativeness Requirements

Appropriate media were identified and sampled according to the SAQP.

All samples were generally analysed according to the SAQP.

Representativeness Comments

The number and type of samples collected as part of investigation works was considered to be representative of the areas of concern when considered in relation to the objectives of the assessment

Comparability Requirements

The same SOPs and SAQP were used during each sampling event.

All sampling was conducted by an appropriately qualified and experienced sampler.

Impacts of climatic conditions on sample integrity were minimised by storing samples in a chilled cooler.

The types of samples collected were consistent.

Results of laboratory analysis were comparable with field screening results where applicable.

Analytical methods suitable for the target media were used.

The laboratory LORs used to report analyte concentrations were generally less than the adopted investigation criteria, except where previously discussed.

The same units were used to report analyte concentrations where applicable.

Results of laboratory analysis comparable with field screening results where applicable.

Comparability Comments

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

Field Considerations	Laboratory Considerations
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

Overall requirements for completeness of the dataset were considered to have been met. 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 not considered to significantly impact upon the outcomes of the investigation.

Samples and analytes were within holding time requirements with the exception of holding time exceedences as listed in *Table F9 Series*. 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.

Matrix Type	Soil	Groundwater
First Sample Date	30/10/2013	20/11/2013
Last Sample Date	20/12/2013	20/12/2013
Sampling Period (days)	52	31
Number of Samples Submitted	483	162
Number of Non QA Samples Submitted	427	109
Number of Trip Blanks	28	17
Number of Rinsates	28	23
Number of Field Duplicates	18	7
Number of Interlab Duplicates	10	6
Number of Trip Spikes	30	17
Number of Lab Duplicates	659	208
Number of LCSs	347	174
Number of Method Blanks	271	131
Number of Matrix Spikes	341	130

SDG	ES1326685	ES1326685		ES1326976	ES1326976		ES1327178	ES1327178		ES1327373	ES1327373		ES1327527	ES1327527		ES1327894
Field_ID	LI_MW01_0.1	D01_2/12/13_JK	RPD	LJ_SB04_2.0	D01_041213_SP	RPD	LO_SB03-0.5	D01_31213_JK	RPD	LJ_SB10_0.1	D01_051213_JK	RPD	LO_MW05_3.0	D01_051213_SP	RPD	LI_MW09_2.8
Sampled_Date	2/12/2013	2/12/2013		4/12/2013	4/12/2013		3/12/2013	3/12/2013		5/12/2013	5/12/2013		5/12/2013	5/12/2013		16/12/2013

Chem_Group	ChemName	Units	EQL																
PAH/Phenols (SIM)	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
	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
	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
	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
	2,6-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
	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
	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
	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
	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
	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
	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
	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
	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
	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	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	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	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Benzo(b)fluoranthene	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
	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	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Benzo(k)fluoranthene	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
	Chrysene	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
	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	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Fluoranthene	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
	Fluorene	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
	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	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Naphthalene	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	<0.5	<0.5	0	<0.5
	PAHs (Sum of 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	<0.5	<0.5	0	<0.5
	Pentachlorophenol	mg/kg	2	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5
	Phenol	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
	Pyrene	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
Perfluorooctyl Acids and Sulfonates by LC/MS/MS	6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.005							<0.005	<0.005	0				<0.005	<0.005	0	
	Perfluorooctanoate	µg/kg	0.5							<0.5	<0.5	0				<0.5	<0.5	0	
	PFOS	µg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<0.5	0				<0.5	<0.5	0	
Polychlorinated Biphenyls (PCB)	PCBs (Sum of total)	mg/kg	0.1				<0.1	<0.1	0				<0.1	<0.1	0				
Total Mercury by FIMS	Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0				<0.1
Total Metals by ICP-AES	Arsenic	mg/kg	5 (Primary): 4 (Interlab)	8.0	9.0	12	14.0	21.0	40	**6.0**	**12.0**	**67**	10.0	9.0	11				31.0
	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)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0				<1.0
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	15.0	16.0	6	14.0	18.0	25	16.0	13.0	21	19.0	16.0	17				**15.0**
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)																
	Copper	mg/kg	5 (Primary): 1 (Interlab)	18.0	16.0	12	22.0	31.0	34	13.0	9.0	36	20.0	19.0	5				13.0
	Lead	mg/kg	5 (Primary): 1 (Interlab)	15.0	14.0	7	11.0	13.0	17	19.0	15.0	24	12.0	8.0	40				10.0
	Manganese	mg/kg	5 (Primary): 1 (Interlab)																
	Molybdenum	mg/kg	2 (Primary): 1 (Interlab)																
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	12.0	12.0	0	13.0	18.0	32	2.0	2.0	0	28.0	26.0	7				<2.0
	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)	57.0	56.0	2	**63.0**	**135.0**	**73**	16.0	22.0	32	62.0	49.0	23				18.0
TPH - Semivolatile Fraction	> C10 - C16 Less Naphthalene (F2)	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	80.0	120.0	40	<50.0
	C10 - C14	mg/kg	50	<50.0	<50.0	0	<50.0	<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	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	160.0	180.0	12	<100.0
	C29-C36	mg/kg	100	<100.0	<100.0	0	<100.0	<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	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	160.0	180.0	12	<50.0
	C10 - C40 (Sum of total)	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	210.0	220.0	5	<50.0
	C10-C16	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	80.0	120.0	40	<50.0
	C16-C34	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	130.0	100.0	26	<100.0
	C34-C40	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0
TPH Volatiles/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	<0.2	<0.2	0	<0.2
	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	<0.5	<0.5	0	<0.5
	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	<0.5	<0.5	0	<0.5
	Naphthalene	mg/kg	1 (Primary): 0.1 (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
	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	<10.0	<10.0	0	<10.0	<10.0	0	<10.0
	C6 - C9	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0	<10.0
	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	<0.5	<0.5	0	<0.5
	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	<0.5	<0.5	0	<0.5
	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	<0.5	<0.5	0	<0.5
	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	<0.2	<0.2	0	<0.2
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0	<10.0

SDG				ES1326685	ES1326685		ES1326976	ES1326976		ES1327178	ES1327178		ES1327373	ES1327373		ES1327527	ES1327527		ES1327894
Field_ID				LI_MW01_0.1	D01_2/12/13_JK	RPD	LJ_SB04_2.0	D01_041213_SP	RPD	LO_SB03-0.5	D01_31213_JK	RPD	LJ_SB10_0.1	D01_051213_JK	RPD	LO_MW05_3.0	D01_051213_SP	RPD	LI_MW09_2.8
Sampled_Date				2/12/2013	2/12/2013		4/12/2013	4/12/2013		3/12/2013	3/12/2013		5/12/2013	5/12/2013		5/12/2013	5/12/2013		16/12/2013
Chem_Group	**ChemName**	**Units**	**EQL**																
Volatile Organic Compounds	1,1,1,2-tetrachloroethane	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	
	1,1,1-trichloroethane	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	
	1,1,2,2-tetrachloroethane	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	
	1,1,2-trichloroethane	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	
	1,1-dichloroethane	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	
	1,1-dichloroethene	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	
	1,1-dichloropropene	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	
	1,2,3-trichlorobenzene	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	
	1,2,3-trichloropropane	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	
	1,2,4-trichlorobenzene	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	
	1,2,4-trimethylbenzene	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	
	1,2-dibromo-3-chloropropane	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	
	1,2-dibromoethane	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	
	1,2-dichlorobenzene	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	
	1,2-dichloroethane	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	
	1,2-dichloropropane	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	
	1,3,5-trimethylbenzene	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	
	1,3-dichlorobenzene	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	
	1,3-dichloropropane	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	
	1,4-dichlorobenzene	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	
	2,2-dichloropropane	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	
	Methyl Ethyl Ketone	mg/kg	5				<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	
	2-chlorotoluene	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	
	2-hexanone (MBK)	mg/kg	5				<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	
	4-chlorotoluene	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	
	4-Methyl-2-pentanone	mg/kg	5				<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	
	Bromobenzene	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	
	Bromodichloromethane	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	
	Bromoform	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	
	Bromomethane	mg/kg	5 (Primary): 1 (Interlab)				<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	
	Carbon disulfide	mg/kg	0.5				<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	
	Carbon tetrachloride	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	
	Chlorobenzene	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	
	Chlorodibromomethane	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	
	Chloroethane	mg/kg	5 (Primary): 1 (Interlab)				<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	
	Chloroform	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	
	Chloromethane	mg/kg	5 (Primary): 1 (Interlab)				<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	
	cis-1,2-dichloroethene	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	
	cis-1,3-dichloropropene	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	
	cis-1,4-Dichloro-2-butene	mg/kg	0.5				<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	
	Dibromomethane	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	
	Dichlorodifluoromethane	mg/kg	5 (Primary): 1 (Interlab)				<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	
	Hexachlorobutadiene	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	
	Iodomethane	mg/kg	0.5				<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	
	Isopropylbenzene	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	
	Naphthalene	mg/kg	5 (Primary): 1 (Interlab)				<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	
	n-butylbenzene	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	
	n-propylbenzene	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	
	Pentachloroethane	mg/kg	0.5				<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	
	p-isopropyltoluene	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	
	sec-butylbenzene	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	
	Styrene	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	
	Trichloroethene	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	
	tert-butylbenzene	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	
	Tetrachloroethene	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	
	trans-1,2-dichloroethene	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	
	trans-1,3-dichloropropene	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	
	trans-1,4-Dichloro-2-butene	mg/kg	0.5				<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	
	Trichlorofluoromethane	mg/kg	5 (Primary): 1 (Interlab)				<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	
	Vinyl acetate	mg/kg	5				<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	
	Vinyl chloride	mg/kg	5 (Primary): 1 (Interlab)				<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<5.0	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 (where available) and therefore this RPD non-conformance is unlikely to materially effect the outcomes of this investigation.

2. The RPD exceeds the acceptable limits. The higher value was reported for conservatism.

SDG				ES1327894		ES1327894	ES1327894		ES1326683	Interlab_D		ES1326685	Interlab_D		ES1326976	Interlab_D		ES1327430	Interlab_D	
Field_ID				D01_161213_JG	RPD	LI_SN04_0.1	D01_131213_HC	RPD	LO_MW16_3.9	T01_301113_JG	RPD	LI_MW01_0.1	T01_21213	RPD	LJ_SB04_2.0	T01_041213_SP	RPD	LB_MW10_0.5	T01_101213	RPD
Sampled_Date				16/12/2013		16/12/2013	16/12/2013		30/11/2013	30/11/2013		2/12/2013	2/12/2013		4/12/2013	4/12/2013		10/12/2013	10/12/2013	
Chem_Group	**ChemName**	**Units**	**EQL**																	
PAH/Phenols (SIM)	2,4,5-trichlorophenol	mg/kg	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	<0.5	<0.5	0				<0.5			<0.5					
	2,4-dichlorophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0				<0.5			<0.5					
	2,4-dimethylphenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0				<0.5			<0.5					
	2,6-dichlorophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0				<0.5			<0.5					
	2-chlorophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0				<0.5			<0.5					
	2-methylphenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0				<0.5			<0.5					
	2-nitrophenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0				<0.5			<0.5					
	3-&4-methylphenol	mg/kg	1	<1.0	0	<1.0	<1.0	0				<1.0			<1.0					
	4-chloro-3-methylphenol	mg/kg	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	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Acenaphthylene	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	0	<0.5	<0.1	0	<0.5	<0.1	0
	Anthracene	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	0	<0.5	<0.1	0	<0.5	<0.1	0
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	0.7	0.7	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Benzo(a) pyrene	mg/kg	0.5 (Primary): 0.05 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.05	0	<0.5	<0.05	0	<0.5	<0.05	0	<0.5	<0.05	0
	Benzo(b)fluoranthene	mg/kg	0.5	<0.5	0	0.8	0.8	0				<0.5			<0.5					
	Benzo(g,h,i)perylene	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	0	<0.5	<0.1	0	<0.5	<0.1	0
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	0	<0.5	<0.5	0				<0.5			<0.5					
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	0.8	0.7	13	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Dibenz(a,h)anthracene	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	0	<0.5	<0.1	0	<0.5	<0.1	0
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	2.4	2.1	13	<0.5	<0.1	0	<0.5	0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Fluorene	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	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)	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Naphthalene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	PAHs (Sum of total)	mg/kg	0.5	<0.5	0	7.0	6.7	4	<0.5	0.0	0	<0.5	0.21	0	<0.5	0.0	0			
	Pentachlorophenol	mg/kg	2	<2.0	0	<2.0	<2.0	0				<2.0			<2.0					
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	1.1	1.2	9	<0.5	<0.1	0	<0.5	0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Phenol	mg/kg	0.5	<0.5	0	<0.5	<0.5	0				<0.5			<0.5					
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	0	1.2	1.2	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
Perfluorooctyl Acids and Sulfonates by LC/MS/MS	6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.005																	
	Perfluorooctanoate	µg/kg	0.5						<0.5	<0.5	0									
	PFOS	µg/kg	0.5 (Primary): 1 (Interlab)						<0.5	<1.0	0									
Polychlorinated Biphenyls (PCB)	PCBs (Sum of total)	mg/kg	0.1												<0.1					
Total Mercury by FIMS	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	<0.1	0	**<0.1**	**0.2**	**67**
Total Metals by ICP-AES	Arsenic	mg/kg	5 (Primary): 4 (Interlab)	42.0	30	<5.0	<5.0	0	<5.0	<4.0	0	8.0	8.0	0	14.0	9.0	43	10.0	6.0	50
	Barium	mg/kg	10 (Primary): 1 (Interlab)															100.0	77.0	26
	Beryllium	mg/kg	1																	
	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	<1.0	0	<1.0	<0.4	0	<1.0	<0.4	0	<1.0	<0.4	0	<1.0	<0.4	0
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	**8.0**	**61**	**2.0**	**4.0**	**67**	**7.0**	**4.0**	**55**	15.0	14.0	7	14.0	10.0	33	15.0	13.0	14
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)															5.0	6.0	18
	Copper	mg/kg	5 (Primary): 1 (Interlab)	8.0	48	10.0	10.0	0	<5.0	2.0	0	**18.0**	**12.0**	**40**	**22.0**	**16.0**	**32**	10.0	8.0	22
	Lead	mg/kg	5 (Primary): 1 (Interlab)	7.0	35	8.0	10.0	22	8.0	7.0	13	15.0	13.0	14	11.0	10.0	10	14.0	9.0	43
	Manganese	mg/kg	5 (Primary): 1 (Interlab)															138.0	130.0	6
	Molybdenum	mg/kg	2 (Primary): 1 (Interlab)															<2.0	<1.0	0
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	<2.0	0	4.0	5.0	22	2.0	<1.0	67	12.0	9.0	29	13.0	9.0	36	17.0	13.0	27
	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)															34.0	26.0	27
	Zinc	mg/kg	5 (Primary): 1 (Interlab)	12.0	40	25.0	25.0	0	**8.0**	**3.0**	**91**	**57.0**	**39.0**	**38**	63.0	54.0	15	40.0	31.0	25
TPH - Semivolatile Fraction	> C10 - C16 Less Naphthalene (F2)	mg/kg	50	<50.0	0	60.0	<50.0	18	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	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	<50.0	0	<50.0	<50.0	0
	C15 - C28	mg/kg	100	<100.0	0	300.0	250.0	18	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0
	C29-C36	mg/kg	100	<100.0	0	110.0	<100.0	10	<100.0	<100.0	0	<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	0	410.0	250.0	48				<50.0			<50.0					
	C10 - C40 (Sum of total)	mg/kg	50	<50.0	0	410.0	290.0	34				<50.0			<50.0					
	C10-C16	mg/kg	50	<50.0	0	60.0	<50.0	18	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
	C16-C34	mg/kg	100	<100.0	0	350.0	290.0	19	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	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	<100.0	0	<100.0	<100.0	0
TPH Volatiles/BTEX	Benzene	mg/kg	0.2	<0.2	0	<0.2	<0.2	0	<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	<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
	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	<0.5	<1.0	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)	<10.0	0	<10.0	<10.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0	<25.0	0
	C6 - C9	mg/kg	10 (Primary): 25 (Interlab)	<10.0	0	<10.0	<10.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0	<25.0	0
	Xylene (o)	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	<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	<0.5	<2.0	0
	Xylene Total	mg/kg	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					
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)	<10.0	0	<10.0	<10.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0	<25.0	0

SDG	ES1327894		ES1327894	ES1327894		ES1326683	Interlab_D		ES1326685	Interlab_D		ES1326976	Interlab_D		ES1327430	Interlab_D	
Field_ID	D01_161213_JG	RPD	LI_SN04_0.1	D01_131213_HC	RPD	LO_MW16_3.9	T01_301113_JG	RPD	LI_MW01_0.1	T01_21213	RPD	LJ_SB04_2.0	T01_041213_SP	RPD	LB_MW10_0.5	T01_101213	RPD
Sampled_Date	16/12/2013		16/12/2013	16/12/2013		30/11/2013	30/11/2013		2/12/2013	2/12/2013		4/12/2013	4/12/2013		10/12/2013	10/12/2013	

Chem_Group	ChemName	Units	EQL																	
Volatile Organic Compounds	1,1,1,2-tetrachloroethane	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,1,1-trichloroethane	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,1,2,2-tetrachloroethane	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,1,2-trichloroethane	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,1-dichloroethane	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,1-dichloroethene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,1-dichloropropene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,2,3-trichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,2,3-trichloropropane	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,2,4-trichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,2,4-trimethylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,2-dibromo-3-chloropropane	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,2-dibromoethane	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,2-dichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,2-dichloroethane	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,2-dichloropropane	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,3,5-trimethylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,3-dichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,3-dichloropropane	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	1,4-dichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	2,2-dichloropropane	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	Methyl Ethyl Ketone	mg/kg	5													<5.0					
	2-chlorotoluene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	2-hexanone (MBK)	mg/kg	5													<5.0					
	4-chlorotoluene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	4-Methyl-2-pentanone	mg/kg	5													<5.0					
	Bromobenzene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	Bromodichloromethane	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	Bromoform	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	Bromomethane	mg/kg	5 (Primary): 1 (Interlab)							<5.0	<1.0	0				<5.0	<1.0	0			
	Carbon disulfide	mg/kg	0.5													<0.5					
	Carbon tetrachloride	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	Chlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	Chlorodibromomethane	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	Chloroethane	mg/kg	5 (Primary): 1 (Interlab)							<5.0	<1.0	0				<5.0	<1.0	0			
	Chloroform	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	Chloromethane	mg/kg	5 (Primary): 1 (Interlab)							<5.0	<1.0	0				<5.0	<1.0	0			
	cis-1,2-dichloroethene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	cis-1,3-dichloropropene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	cis-1,4-Dichloro-2-butene	mg/kg	0.5													<0.5					
	Dibromomethane	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	Dichlorodifluoromethane	mg/kg	5 (Primary): 1 (Interlab)							<5.0	<1.0	0				<5.0	<1.0	0			
	Hexachlorobutadiene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	Iodomethane	mg/kg	0.5													<0.5					
	Isopropylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	Naphthalene	mg/kg	5 (Primary): 1 (Interlab)							<5.0	<0.1	0				<5.0	<0.1	0			
	n-butylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	n-propylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	Pentachloroethane	mg/kg	0.5													<0.5					
	p-isopropyltoluene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	sec-butylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	Styrene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	Trichloroethene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	tert-butylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	Tetrachloroethene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	trans-1,2-dichloroethene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	trans-1,3-dichloropropene	mg/kg	0.5 (Primary): 1 (Interlab)							<0.5	<1.0	0				<0.5	<1.0	0			
	trans-1,4-Dichloro-2-butene	mg/kg	0.5													<0.5					
	Trichlorofluoromethane	mg/kg	5 (Primary): 1 (Interlab)							<5.0	<1.0	0				<5.0	<1.0	0			
	Vinyl acetate	mg/kg	5													<5.0					
	Vinyl chloride	mg/kg	5 (Primary): 1 (Interlab)							<5.0	<1.0	0				<5.0	<1.0	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 (> 3
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the

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 (where available) and therefore this RPD non-conformance is unlikely to materially effect the outcomes of this investigation.

2. The RPD exceeds the acceptable limits. The higher value was reported for conservatism.

SDG	ES1327422	Interlab_D		ES1327527	Interlab_D	
Field_ID	LB_MW12_3.0	T01_121213-TA	RPD	LO_MW05_3.0	T01_051213_SP	RPD
Sampled_Date	12/12/2013	12/12/2013		5/12/2013	5/12/2013	

Chem_Group	ChemName	Units	EQL						
PAH/Phenols (SIM)	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)	<0.5	<0.1	0	<0.5	0.1	0
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0	<0.5	<0.1	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0	<0.5	<0.1	0
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0	<0.5	<0.1	0
	Benzo(a) pyrene	mg/kg	0.5 (Primary): 0.05 (Interlab)	<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)	<0.5	<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)	<0.5	<0.1	0	<0.5	<0.1	0
	Dibenz(a,h)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0	<0.5	<0.1	0
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0	<0.5	<0.1	0
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0	<0.5	0.2	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0	<0.5	<0.1	0
	Naphthalene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.1	0	<0.5	<0.1	0
	PAHs (Sum of total)	mg/kg	0.5				<0.5	0.67	29
	Pentachlorophenol	mg/kg	2				<2.0		
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0	<0.5	0.4	0
	Phenol	mg/kg	0.5				<0.5		
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.1	0	<0.5	<0.1	0
Perfluorooctyl Acids and Sulfonates by LC/MS/MS	6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/kg	0.005				<0.005	<0.005	0
	Perfluorooctanoate	µg/kg	0.5				<0.5	<0.5	0
	PFOS	µg/kg	0.5 (Primary): 1 (Interlab)				<0.5	<0.5	0
Polychlorinated Biphenyls (PCB)	PCBs (Sum of total)	mg/kg	0.1						
Total Mercury by FIMS	Mercury	mg/kg	0.1	<0.1	<0.1	0			
Total Metals by ICP-AES	Arsenic	mg/kg	5 (Primary): 4 (Interlab)	**7.0**	**4.0**	**55**			
	Barium	mg/kg	10 (Primary): 1 (Interlab)	50.0	66.0	28			
	Beryllium	mg/kg	1	<1.0	<1.0	0			
	Boron	mg/kg	50 (Primary): 3 (Interlab)	<50.0	<3.0	0			
	Cadmium	mg/kg	1 (Primary): 0.4 (Interlab)	<1.0	<0.4	0			
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	17.0	16.0	6			
	Cobalt	mg/kg	2 (Primary): 1 (Interlab)	10.0	8.0	22			
	Copper	mg/kg	5 (Primary): 1 (Interlab)	9.0	7.0	25			
	Lead	mg/kg	5 (Primary): 1 (Interlab)	12.0	9.0	29			
	Manganese	mg/kg	5 (Primary): 1 (Interlab)	**320.0**	**170.0**	**61**			
	Molybdenum	mg/kg	2 (Primary): 1 (Interlab)	<2.0	<1.0	0			
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	**26.0**	**16.0**	**48**			
	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)	27.0	25.0	8			
	Zinc	mg/kg	5 (Primary): 1 (Interlab)	**40.0**	**27.0**	**39**			
TPH - Semivolatile Fraction	> C10 - C16 Less Naphthalene (F2)	mg/kg	50	<50.0	<50.0	0	**80.0**	**200.0**	**86**
	C10 - C14	mg/kg	50	<50.0	<50.0	0	**<50.0**	**87.0**	**54**
	C15 - C28	mg/kg	100	<100.0	<100.0	0	**160.0**	**300.0**	**61**
	C29-C36	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0
	+C10 - C36 (Sum of total)	mg/kg	50				160.0		
	C10 - C40 (Sum of total)	mg/kg	50				210.0		
	C10-C16	mg/kg	50	<50.0	<50.0	0	**80.0**	**200.0**	**86**
	C16-C34	mg/kg	100	<100.0	<100.0	0	130.0	180.0	32
	C34-C40	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0
TPH Volatiles/BTEX	Benzene	mg/kg	0.2	<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
	Ethylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<1.0	0	<0.5	<1.0	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<0.1	0	<1.0	<0.1	0
	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<25.0	0	<10.0	<25.0	0
	C6 - C9	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<25.0	0	<10.0	<25.0	0
	Xylene (o)	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<1.0	0	<0.5	<1.0	0
	Xylene (m & p)	mg/kg	0.5 (Primary): 2 (Interlab)	<0.5	<2.0	0	<0.5	<2.0	0
	Xylene Total	mg/kg	0.5				<0.5		
	Total BTEX	mg/kg	0.2				<0.2		
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<25.0	0	<10.0	<25.0	0

SDG	ES1327422	Interlab_D		ES1327527	Interlab_D	
Field_ID	LB_MW12_3.0	T01_121213-TA	RPD	LO_MW05_3.0	T01_051213_SP	RPD
Sampled_Date	12/12/2013	12/12/2013		5/12/2013	5/12/2013	

Chem_Group	ChemName	Units	EQL						
Volatile Organic Compounds	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-trichlorobenzene	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
	1,2,4-trichlorobenzene	mg/kg	0.5 (Primary): 1 (Interlab)				<0.5	<1.0	0
	1,2,4-trimethylbenzene	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-dibromoethane	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
	1,2-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
	1,3,5-trimethylbenzene	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
	1,3-dichloropropane	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
	2,2-dichloropropane	mg/kg	0.5 (Primary): 1 (Interlab)				<0.5	<1.0	0
	Methyl Ethyl Ketone	mg/kg	5				<5.0		
	2-chlorotoluene	mg/kg	0.5 (Primary): 1 (Interlab)				<0.5	<1.0	0
	2-hexanone (MBK)	mg/kg	5				<5.0		
	4-chlorotoluene	mg/kg	0.5 (Primary): 1 (Interlab)				<0.5	<1.0	0
	4-Methyl-2-pentanone	mg/kg	5				<5.0		
	Bromobenzene	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
	Bromoform	mg/kg	0.5 (Primary): 1 (Interlab)				<0.5	<1.0	0
	Bromomethane	mg/kg	5 (Primary): 1 (Interlab)				<5.0	<1.0	0
	Carbon disulfide	mg/kg	0.5				<0.5		
	Carbon tetrachloride	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
	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
	cis-1,4-Dichloro-2-butene	mg/kg	0.5				<0.5		
	Dibromomethane	mg/kg	0.5 (Primary): 1 (Interlab)				<0.5	<1.0	0
	Dichlorodifluoromethane	mg/kg	5 (Primary): 1 (Interlab)				<5.0	<1.0	0
	Hexachlorobutadiene	mg/kg	0.5 (Primary): 1 (Interlab)				<0.5	<1.0	0
	Iodomethane	mg/kg	0.5				<0.5		
	Isopropylbenzene	mg/kg	0.5 (Primary): 1 (Interlab)				<0.5	<1.0	0
	Naphthalene	mg/kg	5 (Primary): 1 (Interlab)				<5.0	<0.1	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
	Pentachloroethane	mg/kg	0.5				<0.5		
	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
	Trichloroethene	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
	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
	trans-1,4-Dichloro-2-butene	mg/kg	0.5				<0.5		
	Trichlorofluoromethane	mg/kg	5 (Primary): 1 (Interlab)				<5.0	<1.0	0
	Vinyl acetate	mg/kg	5				<5.0		
	Vinyl chloride	mg/kg	5 (Primary): 1 (Interlab)				<5.0	<1.0	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 (> 3
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the

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 (where available) and therefore this RPD non-conformance is unlikely to materially effect the outcomes of this investigation.

2. The RPD exceeds the acceptable limits. The higher value was reported for conservatism.

SDG				ES1324260	ES1324260		ES1324261	ES1324261		ES1324460	ES1324460		ES1324841	ES1324841		ES1325458	ES1325458		ES1325840	ES1325840	
Field_ID				LP_SB03_0.5	D01_061113_JK	RPD	LK_MW03_0.5	D01_051113_JK	RPD	LP_SB09_0.5	D01_081113_TA	RPD	LI_MW05_0.5	D01_151113_JK	RPD	LF_SB02_0.1	D01_211113_JK	RPD	LA_MW01_2.1	D01_251113_TA	RPD
Sampled_Date				6/11/2013	6/11/2013		5/11/2013	5/11/2013		8/11/2013	8/11/2013		15/11/2013	15/11/2013		21/11/2013	21/11/2013		25/11/2013	25/11/2013	
Chem_Group	**ChemName**	**Units**	**EQL**																		
PAH/Phenols (SIM)	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
	2,6-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-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-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	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	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
	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	<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	<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	<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	<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	<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	<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	<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	<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	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Naphthalene	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	<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	<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	<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	<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	<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	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Polychlorinated Biphenyls (PCB)	PCBs (Sum of total)	mg/kg	0.1																		
Total Mercury by FIMS	Mercury	mg/kg	0.1	<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	<0.1	<0.1	0
Total Metals by ICP-AES	Arsenic	mg/kg	5 (Primary): 4 (Interlab)	15.0	15.0	0	14.0	13.0	7	9.0	10.0	11	20.0	17.0	16	8.0	5.0	46	9.0	10.0	11
	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
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	25.0	23.0	8	**27.0**	**17.0**	**45**	11.0	12.0	9	23.0	24.0	4	16.0	20.0	22	14.0	15.0	7
	Copper	mg/kg	5 (Primary): 1 (Interlab)	23.0	22.0	4	10.0	13.0	26	13.0	12.0	8	29.0	28.0	4	13.0	17.0	27	14.0	14.0	0
	Lead	mg/kg	5 (Primary): 1 (Interlab)	21.0	19.0	10	13.0	15.0	14	10.0	11.0	10	26.0	27.0	4	9.0	6.0	40	**22.0**	**53.0**	**83**
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	32.0	32.0	0	8.0	8.0	0	17.0	14.0	19	**16.0**	**25.0**	**44**	28.0	37.0	28	8.0	10.0	22
	Zinc	mg/kg	5 (Primary): 1 (Interlab)	58.0	56.0	4	**28.0**	**61.0**	**74**	50.0	48.0	4	67.0	82.0	20	43.0	45.0	5	34.0	41.0	19
TPH - Semivolatile Fraction	> C10 - C16 Less Naphthalene (F2)	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0			
	C10 - C14	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<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	<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	<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	<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	<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	<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	<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	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0
TPH Volatiles/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	<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	<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	<0.5	<0.5	0	<0.5	<0.5	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (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
	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	<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	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	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	<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	<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	<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	<0.2	<0.2	0	<0.2	<0.2	0
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<10.0	0	<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); 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 (where available) and therefore this RPD non-conformance is unlikely to materially effect the outcomes of this investigation.
2. The RPD exceeds the acceptable limits. The higher value was reported for conservatism.

SDG				ES1325847	ES1325847		ES1326152	ES1326152		ES1324460	Interlab_D		ES1324841	Interlab_D		ES1325840	Interlab_D		ES1326152	Interlab_D	
Field_ID				_S_SB01_2.9-3.(	D01_261113_JG	RPD	LL_MW07_3.0	D01_281113_JG	RPD	LP_SB06_0.5	T01_081113-TA	RPD	LI_MW05_0.5	T01_151113_JK	RPD	LA_MW02_3.0	T01-251113-TA	RPD	LL_MW07_3.0	T01-281113-JG	RPD
Sampled_Date				26/11/2013	26/11/2013		28/11/2013	28/11/2013		8/11/2013	8/11/2013		15/11/2013	15/11/2013		25/11/2013	25/11/2013		28/11/2013	28/11/2013	
Chem_Group	**ChemName**	**Units**	**EQL**																		
PAH/Phenols (SIM)	2,4,5-trichlorophenol	mg/kg	0.5	<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		
	2,4-dichlorophenol	mg/kg	0.5	<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		
	2,6-dichlorophenol	mg/kg	0.5	<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		
	2-methylphenol	mg/kg	0.5	<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		
	3-&4-methylphenol	mg/kg	1	<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		
	Acenaphthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Acenaphthylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Benz(a)anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Benzo(a) pyrene	mg/kg	0.5 (Primary): 0.05 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.05	0	<0.5	<0.05	0	<0.5	<0.05	0	<0.5	<0.05	0
	Benzo(b)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0				<0.5						<0.5		
	Benzo(g,h,i)perylene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0				<0.5						<0.5		
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	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	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Fluoranthene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	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)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Naphthalene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	PAHs (Sum of total)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	0.0	0	<0.5						<0.5		
	Pentachlorophenol	mg/kg	2	<2.0	<2.0	0	<2.0	<2.0	0				<2.0						<2.0		
	Phenanthrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
	Phenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0				<0.5						<0.5		
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0	<0.5	<0.1	0
Polychlorinated Biphenyls (PCB)	PCBs (Sum of total)	mg/kg	0.1				<0.1	<0.1	0										<0.1		
Total Mercury by FIMS	Mercury	mg/kg	0.1	<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	<0.1	<0.1	0
Total Metals by ICP-AES	Arsenic	mg/kg	5 (Primary): 4 (Interlab)	7.0	6.0	15	20.0	21.0	5	**12.0**	**5.0**	**82**	20.0	12.0	50	16.0	10.0	46	**20.0**	**8.0**	**86**
	Cadmium	mg/kg	1 (Primary): 0.4 (Interlab)	<1.0	<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	0
	Chromium (III+VI)	mg/kg	2 (Primary): 1 (Interlab)	**21.0**	**15.0**	**33**	17.0	20.0	16	18.0	15.0	18	23.0	17.0	30	**15.0**	**11.0**	**31**	**17.0**	**8.0**	**72**
	Copper	mg/kg	5 (Primary): 1 (Interlab)	15.0	13.0	14	13.0	16.0	21	11.0	8.0	32	29.0	24.0	19	12.0	8.0	40	**13.0**	**6.0**	**74**
	Lead	mg/kg	5 (Primary): 1 (Interlab)	17.0	27.0	45	7.0	11.0	44	10.0	9.0	11	**26.0**	**17.0**	**42**	**14.0**	**31.0**	**76**	**7.0**	**4.0**	**55**
	Nickel	mg/kg	2 (Primary): 1 (Interlab)	**10.0**	**4.0**	**86**	7.0	9.0	25	3.0	3.0	0	16.0	13.0	21	**7.0**	**4.0**	**55**	**7.0**	**3.0**	**80**
	Zinc	mg/kg	5 (Primary): 1 (Interlab)	**82.0**	**58.0**	**34**	72.0	77.0	7	12.0	9.0	29	67.0	53.0	23	**28.0**	**19.0**	**38**	**72.0**	**16.0**	**127**
TPH - Semivolatile Fraction	> C10 - C16 Less Naphthalene (F2)	mg/kg	50				<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0				<50.0	<50.0	0
	C10 - C14	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<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	<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	<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		
	C10 - C40 (Sum of total)	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0				<50.0						<50.0		
	C10-C16	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<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	<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	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0
TPH Volatiles/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	<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	<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	<1.0	0	<0.5	<1.0	0	<0.5	<1.0	0	<0.5	<1.0	0
	Naphthalene	mg/kg	1 (Primary): 0.1 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0	<1.0	<0.1	0
	C6-C10 less BTEX (F1)	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0	<25.0	0
	C6 - C9	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0	<25.0	0
	Xylene (o)	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<1.0	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	<0.5	0	<0.5	<0.5	0	<0.5	<2.0	0	<0.5	<2.0	0	<0.5	<2.0	0	<0.5	<2.0	0
	Xylene Total	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0				<0.5						<0.5		
	Total BTEX	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0				<0.2						<0.2		
	C6-C10	mg/kg	10 (Primary): 25 (Interlab)	<10.0	<10.0	0	<10.0	<10.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0	<25.0	0	<10.0	<25.0	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

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 (where available) and therefore this RPD non-conformance is unlikely to materially effect the outcomes of this investigation.
2. The RPD exceeds the acceptable limits. The higher value was reported for conservatism.

SDG				ES1325573	ES1325573		ES1325845	ES1325845		ES1326637	ES1326637		ES1326680	ES1326680		ES1327437	ES1327437	
Field_ID				LD_EW_MW04	D01_211113_TH	RPD	LC_EW_L4	D01_251113_TH	RPD	LI_MW06	D01_301113_NH	RPD	LE_MW01	D01_291113_TH	RPD	LL_MW01	D01_111213_SP	RPD
Sampled_Date				21/11/2013	21/11/2013		25/11/2013	25/11/2013		30/11/2013	30/11/2013		29/11/2013	29/11/2013		11/12/2013	11/12/2013	
Chem_Group	**ChemName**	**Units**	**EQL**															
BTEX	Benzene	µg/L	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
	Toluene	µg/L	2 (Primary): 1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0
	Ethylbenzene	µg/L	2 (Primary): 1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0
	Xylene (o)	µg/L	2 (Primary): 1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0
	Xylene (m & p)	µg/L	2	<2.0	<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	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0
	Total BTEX	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0	<0.001	<0.001	0
Chlorinated Hydrocarbon	1,1,1,2-tetrachloroethane	µg/L	5 (Primary): 1 (Interlab)															
	1,1,1-trichloroethane	µg/L	5 (Primary): 1 (Interlab)															
	1,1,2,2-tetrachloroethane	µg/L	5 (Primary): 1 (Interlab)															
	1,1,2-trichloroethane	µg/L	5 (Primary): 1 (Interlab)															
	1,1-dichloroethane	µg/L	5 (Primary): 1 (Interlab)															
	1,1-dichloroethene	µg/L	5 (Primary): 1 (Interlab)															
	1,1-dichloropropene	µg/L	5 (Primary): 1 (Interlab)															
	1,2,3-trichloropropane	µg/L	5 (Primary): 1 (Interlab)															
	1,2-dibromo-3-chloropropane	µg/L	5 (Primary): 1 (Interlab)															
	1,2-dichloroethane	µg/L	5 (Primary): 1 (Interlab)															
	1,2-dichloropropane	µg/L	5 (Primary): 1 (Interlab)															
	1,3-dichloropropane	µg/L	5 (Primary): 1 (Interlab)															
	2,2-dichloropropane	µg/L	5 (Primary): 1 (Interlab)															
	Bromodichloromethane	µg/L	5 (Primary): 1 (Interlab)															
	Bromoform	µg/L	5 (Primary): 1 (Interlab)															
	Carbon tetrachloride	µg/L	5 (Primary): 1 (Interlab)															
	Chlorodibromomethane	µg/L	5 (Primary): 1 (Interlab)															
	Chloroethane	µg/L	50 (Primary): 10 (Interlab)															
	Chloroform	µg/L	5 (Primary): 1 (Interlab)															
	Chloromethane	µg/L	50 (Primary): 10 (Interlab)															
	cis-1,2-dichloroethene	µg/L	5 (Primary): 1 (Interlab)															
	cis-1,3-dichloropropene	µg/L	5 (Primary): 1 (Interlab)															
	Dibromomethane	µg/L	5 (Primary): 1 (Interlab)															
	Hexachlorobutadiene	µg/L	5 (Primary): 1 (Interlab)															
	Trichloroethene	µg/L	5 (Primary): 1 (Interlab)															
	Tetrachloroethene	µg/L	5 (Primary): 1 (Interlab)															
	trans-1,2-dichloroethene	µg/L	5 (Primary): 1 (Interlab)															
	trans-1,3-dichloropropene	µg/L	5 (Primary): 1 (Interlab)															
	Vinyl chloride	µg/L	50 (Primary): 10 (Interlab)															
Halogenated Benzenes	1,2,3-trichlorobenzene	µg/L	5 (Primary): 1 (Interlab)															
	1,2,4-trichlorobenzene	µg/L	5 (Primary): 1 (Interlab)															
	1,2-dichlorobenzene	µg/L	5 (Primary): 1 (Interlab)															
	1,3-dichlorobenzene	µg/L	5 (Primary): 1 (Interlab)															
	1,4-dichlorobenzene	µg/L	5 (Primary): 1 (Interlab)															
	2-chlorotoluene	µg/L	5 (Primary): 1 (Interlab)															
	4-chlorotoluene	µg/L	5 (Primary): 1 (Interlab)															
	Bromobenzene	µg/L	5 (Primary): 1 (Interlab)															
	Chlorobenzene	µg/L	5 (Primary): 1 (Interlab)															
Halogenated Hydrocarbo	1,2-dibromoethane	µg/L	5 (Primary): 1 (Interlab)															
	Bromomethane	µg/L	50 (Primary): 10 (Interlab)															
	Dichlorodifluoromethane	µg/L	50 (Primary): 10 (Interlab)															
	Iodomethane	µg/L	5															
	Trichlorofluoromethane	µg/L	50 (Primary): 10 (Interlab)															
MAH	1,2,4-trimethylbenzene	µg/L	5 (Primary): 1 (Interlab)															
	1,3,5-trimethylbenzene	µg/L	5 (Primary): 1 (Interlab)															
	Isopropylbenzene	µg/L	5 (Primary): 1 (Interlab)															
	n-butylbenzene	µg/L	5 (Primary): 1 (Interlab)															
	n-propylbenzene	µg/L	5 (Primary): 1 (Interlab)															
	p-isopropyltoluene	µg/L	5 (Primary): 1 (Interlab)															
	sec-butylbenzene	µg/L	5 (Primary): 1 (Interlab)															
	Styrene	µg/L	5 (Primary): 1 (Interlab)															
	tert-butylbenzene	µg/L	5 (Primary): 1 (Interlab)															
Metals	Arsenic (Filtered)	mg/l	0.001	<0.001	<0.001	0	0.001	<0.001	0							0.004	0.003	29
	Arsenic (Filtered)	mg/l	0.0002 (Primary): 0.001 (Interlab)							0.0019	0.002	5	0.0043	0.0053	21			
	Barium (Filtered)	mg/l	0.0005							0.0422	0.044	4	0.056	0.0538	4			
	Beryllium (Filtered)	mg/l	0.0001							0.0008	0.0008	0	0.0049	0.0056	13			
	Boron (Filtered)	mg/l	0.005							0.282	0.287	2	0.291	0.298	2			
	Cadmium (Filtered)	mg/l	0.0001	0.0004	0.0003	29	<0.0001	<0.0001	0							<0.0001	0.0001	0
	Cadmium (Filtered)	mg/l	0.00005 (Primary): 0.0001 (Interlab)							0.0005	0.0005	4	0.0007	0.0005	26			
	Chromium (III+VI) (Filtered)	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0							<0.001	<0.001	0
	Chromium (III+VI) (Filtered)	mg/l	0.0002 (Primary): 0.001 (Interlab)							0.0008	0.0008	0	0.0024	0.0028	15			
	Cobalt (Filtered)	mg/l	0.0001							0.199	0.178	11	0.432	0.526	20			
	Copper (Filtered)	mg/l	0.001	0.007	0.005	33	0.001	<0.001	0							**0.002**	**0.001**	**67**
	Copper (Filtered)	mg/l	0.0005 (Primary): 0.001 (Interlab)							0.0011	0.0012	9	**0.0062**	**0.0028**	**76**			
	Lead (Filtered)	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0							<0.001	<0.001	0
	Lead (Filtered)	mg/l	0.0001 (Primary): 0.001 (Interlab)							0.0003	0.0003	0	0.0036	0.0042	15			
	Manganese (Filtered)	mg/l	0.0005							5.35	5.61	5	1.04	1.03	1			
	Mercury (Filtered)	mg/l	0.0001 (Primary): 0.00005 (Interlab)	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0
	Molybdenum (Filtered)	mg/l	0.0001							0.0001	0.0001	0	**0.0005**	**0.0001**	**133**			
	Nickel (Filtered)	mg/l	0.001	0.082	0.085	4	0.008	0.008	0							0.038	0.035	8

SDG				ES1325573	ES1325573		ES1325845	ES1325845		ES1326637	ES1326637		ES1326680	ES1326680		ES1327437	ES1327437	
Field_ID				LD_EW_MW04	D01_211113_TH	RPD	LC_EW_L4	D01_251113_TH	RPD	LI_MW06	D01_301113_NH	RPD	LE_MW01	D01_291113_TH	RPD	LL_MW01	D01_111213_SP	RPD
Sampled_Date				21/11/2013	21/11/2013		25/11/2013	25/11/2013		30/11/2013	30/11/2013		29/11/2013	29/11/2013		11/12/2013	11/12/2013	
Chem_Group	**ChemName**	**Units**	**EQL**															
	Nickel (Filtered)	mg/l	0.0005 (Primary): 0.001 (Interlab)							0.194	0.202	4	0.308	0.374	19			
	Selenium (Filtered)	mg/l	0.0002							0.001	0.0012	18	0.0038	0.0051	29			
	Thallium (Filtered)	mg/l	0.00002							0.0001	0.0001	0	0.0002	0.0002	0			
	Vanadium (Filtered)	mg/l	0.0002							0.0006	0.0006	0	0.001	0.0014	33			
	Zinc (Filtered)	mg/l	0.005 (Primary): 0.001 (Interlab)	0.055	0.05	10	**0.013**	**0.006**	**74**							**0.044**	**0.026**	**51**
	Zinc (Filtered)	mg/l	0.001							0.299	0.308	3	0.285	0.298	4			
PAH/Phenols	2,4,5-trichlorophenol	µg/L	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
	2,4,6-trichlorophenol	µg/L	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
	2,4-dichlorophenol	µg/L	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
	2,4-dimethylphenol	µg/L	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
	2,6-dichlorophenol	µg/L	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
	2-chlorophenol	µg/L	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
	2-methylphenol	µg/L	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
	2-nitrophenol	µg/L	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
	3-&4-methylphenol	µg/L	2	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<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	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Acenaphthene	µg/L	1	<1.0	<1.0	0	1.1	1.4	24	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Acenaphthylene	µg/L	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
	Anthracene	µg/L	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
	Benz(a)anthracene	µg/L	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
	Benzo(a) pyrene	µg/L	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	<0.5	<0.5	0
	Benzo(a)pyrene TEQ (zero)	µg/L	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
	Benzo(b)fluoranthene	µg/L	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
	Benzo(g,h,i)perylene	µg/L	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
	Benzo(k)fluoranthene	µg/L	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
	Chrysene	µg/L	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
	Dibenz(a,h)anthracene	µg/L	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
	Fluoranthene	µg/L	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
	Fluorene	µg/L	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
	Indeno(1,2,3-c,d)pyrene	µg/L	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
	Naphthalene	µg/L	7 (Primary): 1 (Interlab)															
	Naphthalene	µg/L	5 (Primary): 1 (Interlab)	<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
	Naphthalene	µg/L	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
	PAHs (Sum of total)	µg/L	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	1.1	1.4	24	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Pentachlorophenol	µg/L	2	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0
	Phenanthrene	µg/L	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
	Phenol	µg/L	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
	Pyrene	µg/L	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
PFOA	Perfluorooctanoate	mg/l	0.00002															
PFOS	6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/l	0.0001															
	PFOS	mg/l	0.00002															
Polychlorinated Biphenyls	PCBs (Sum of total)	µg/L	1													<1.0	<1.0	0
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 (Primary): 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
	> C10 - C16 Less Naphthalene (F2)	mg/l	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	0	0.13	0.13	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
	C6 - C9	µg/L	20 (Primary): 10 (Interlab)	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<20.0	0
	C10 - C14	µg/L	50	<50.0	<50.0	0	60.0	70.0	15	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
	C15 - C28	µg/L	100	<100.0	<100.0	0	220.0	190.0	15	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0
	C29-C36	µg/L	50 (Primary): 100 (Interlab)	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
	+C10 - C36 (Sum of total)	µg/L	50	<50.0	<50.0	0	280.0	260.0	7	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
	C10 - C40 (Sum of total)	µg/L	100	<100.0	<100.0	0	290.0	280.0	4	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0
	C10-C16	mg/l	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	0	0.13	0.13	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
	C16-C34	mg/l	0.1	<0.1	<0.1	0	0.16	0.15	6	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
	C34-C40	mg/l	0.1	<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
	C6-C10	mg/l	0.02 (Primary): 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
VOCs	cis-1,4-Dichloro-2-butene	µg/L	5															
	Pentachloroethane	µg/L	5															
	trans-1,4-Dichloro-2-butene	µg/L	5															

*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

1. RPD exceeds the acceptable limit however the concentrations are well below the adopted guideline value (where available) therefore this non-conformance is unlikely to materially effect the outcomes of this investigation.
2. The RPD exceeds the acceptable limits. The higher value was reported for conservatism.

SDG				ES1327443	ES1327443		ES1327893	ES1327893		ES1325573	Interlab_D		ES1326080	Interlab_D		ES1326637	Interlab_D	
Field_ID				LH_MW01	D01_121313_SP	RPD	LO_MW14	D01_171213_TH	RPD	LS_EW_MW03	T01_221113_TH	RPD	LN_MW01	riplicate-271113-TI	RPD	LI_MW07	T01-301113-NH	RPD
Sampled_Date				12/12/2013	12/12/2013		17/12/2013	17/12/2013		22/11/2013	22/11/2013		27/11/2013	27/11/2013		30/11/2013	30/11/2013	
Chem_Group	**ChemName**	**Units**	**EQL**															
BTEX	Benzene	µg/L	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
	Toluene	µg/L	2 (Primary): 1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<1.0	0	<2.0	<1.0	0	<2.0	<1.0	0
	Ethylbenzene	µg/L	2 (Primary): 1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<1.0	0	<2.0	<1.0	0	<2.0	<1.0	0
	Xylene (o)	µg/L	2 (Primary): 1 (Interlab)	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<1.0	0	<2.0	<1.0	0	<2.0	<1.0	0
	Xylene (m & p)	µg/L	2	<2.0	<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	<2.0	<2.0	0	<2.0	<2.0	0									
	Total BTEX	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0									
Chlorinated Hydrocarbon	1,1,1,2-tetrachloroethane	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,1,1-trichloroethane	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,1,2,2-tetrachloroethane	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,1,2-trichloroethane	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,1-dichloroethane	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,1-dichloroethene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,1-dichloropropene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,2,3-trichloropropane	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,2-dibromo-3-chloropropane	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,2-dichloroethane	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,2-dichloropropane	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,3-dichloropropane	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	2,2-dichloropropane	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Bromodichloromethane	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Bromoform	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Carbon tetrachloride	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Chlorodibromomethane	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Chloroethane	µg/L	50 (Primary): 10 (Interlab)				<50.0	<50.0	0				<50.0	<10.0	0			
	Chloroform	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Chloromethane	µg/L	50 (Primary): 10 (Interlab)				<50.0	<50.0	0				<50.0	<10.0	0			
	cis-1,2-dichloroethene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	cis-1,3-dichloropropene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Dibromomethane	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Hexachlorobutadiene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Trichloroethene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Tetrachloroethene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	trans-1,2-dichloroethene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	trans-1,3-dichloropropene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Vinyl chloride	µg/L	50 (Primary): 10 (Interlab)				<50.0	<50.0	0				<50.0	<10.0	0			
Halogenated Benzenes	1,2,3-trichlorobenzene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,2,4-trichlorobenzene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,2-dichlorobenzene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,3-dichlorobenzene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,4-dichlorobenzene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	2-chlorotoluene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	4-chlorotoluene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Bromobenzene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Chlorobenzene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
Halogenated Hydrocarbo	1,2-dibromoethane	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Bromomethane	µg/L	50 (Primary): 10 (Interlab)				<50.0	<50.0	0				<50.0	<10.0	0			
	Dichlorodifluoromethane	µg/L	50 (Primary): 10 (Interlab)				<50.0	<50.0	0				<50.0	<10.0	0			
	Iodomethane	µg/L	5				<5.0	<5.0	0									
	Trichlorofluoromethane	µg/L	50 (Primary): 10 (Interlab)				<50.0	<50.0	0				<50.0	<10.0	0			
MAH	1,2,4-trimethylbenzene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	1,3,5-trimethylbenzene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Isopropylbenzene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	n-butylbenzene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	n-propylbenzene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	p-isopropyltoluene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	sec-butylbenzene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	Styrene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
	tert-butylbenzene	µg/L	5 (Primary): 1 (Interlab)				<5.0	<5.0	0				<5.0	<1.0	0			
Metals	Arsenic (Filtered)	mg/l	0.001	0.001	<0.001	0				<0.001	<0.001	0	<0.001	<0.001	0			
	Arsenic (Filtered)	mg/l	0.0002 (Primary): 0.001 (Interlab)				0.0112	0.011	2							0.0066	0.005	28
	Barium (Filtered)	mg/l	0.0005															
	Beryllium (Filtered)	mg/l	0.0001															
	Boron (Filtered)	mg/l	0.005															
	Cadmium (Filtered)	mg/l	0.0001	<0.0001	<0.0001	0				0.0013	0.0013	0	0.0001	0.0001	0			
	Cadmium (Filtered)	mg/l	0.00005 (Primary): 0.0001 (Interlab)				<0.0001	<0.0001	0							0.0001	<0.0001	0
	Chromium (III+VI) (Filtered)	mg/l	0.001	<0.001	<0.001	0				<0.001	<0.001	0	<0.001	<0.001	0			
	Chromium (III+VI) (Filtered)	mg/l	0.0002 (Primary): 0.001 (Interlab)				<0.0002	<0.0002	0							0.0004	<0.001	0
	Cobalt (Filtered)	mg/l	0.0001															
	Copper (Filtered)	mg/l	0.001	<0.001	<0.001	0				**0.005**	**0.002**	**86**	0.002	0.002	0			
	Copper (Filtered)	mg/l	0.0005 (Primary): 0.001 (Interlab)				<0.0005	<0.0005	0							**0.0008**	**0.002**	**86**
	Lead (Filtered)	mg/l	0.001	<0.001	<0.001	0				<0.001	<0.001	0	<0.001	<0.001	0			
	Lead (Filtered)	mg/l	0.0001 (Primary): 0.001 (Interlab)				<0.0001	<0.0001	0							<0.0001	<0.001	0
	Manganese (Filtered)	mg/l	0.0005															
	Mercury (Filtered)	mg/l	0.0001 (Primary): 0.00005 (Interlab)	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0
	Molybdenum (Filtered)	mg/l	0.0001															
	Nickel (Filtered)	mg/l	0.001	0.011	0.011	0				0.041	0.038	8	0.024	0.02	18			

SDG				ES1327443	ES1327443		ES1327893	ES1327893		ES1325573	Interlab_D		ES1326080	Interlab_D		ES1326637	Interlab_D	
Field_ID				LH_MW01	D01_121313_SP	RPD	LO_MW14	D01_171213_TH	RPD	LS_EW_MW03	T01_221113_TH	RPD	LN_MW01	riplicate-271113-TI	RPD	LI_MW07	T01-301113-NH	RPD
Sampled_Date				12/12/2013	12/12/2013		17/12/2013	17/12/2013		22/11/2013	22/11/2013		27/11/2013	27/11/2013		30/11/2013	30/11/2013	
Chem_Group	**ChemName**	**Units**	**EQL**															
	Nickel (Filtered)	mg/l	0.0005 (Primary): 0.001 (Interlab)				0.0017	0.0024	34							0.0169	0.015	12
	Selenium (Filtered)	mg/l	0.0002															
	Thallium (Filtered)	mg/l	0.00002															
	Vanadium (Filtered)	mg/l	0.0002															
	Zinc (Filtered)	mg/l	0.005 (Primary): 0.001 (Interlab)	0.006	0.01	50				0.015	0.02	29	0.025	0.023	8			
	Zinc (Filtered)	mg/l	0.001				**0.002**	**0.017**	**158**							**0.037**	**0.027**	**31**
PAH/Phenols	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-&4-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	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Acenaphthylene	µg/L	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
	Anthracene	µg/L	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
	Benz(a)anthracene	µg/L	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
	Benzo(a) pyrene	µg/L	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<1.0	0	<0.5	<1.0	0	<0.5	<1.0	0
	Benzo(a)pyrene TEQ (zero)	µg/L	0.5	<0.5	<0.5	0	<0.5	<0.5	0									
	Benzo(b)fluoranthene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0									
	Benzo(g,h,i)perylene	µg/L	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
	Benzo(k)fluoranthene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0									
	Chrysene	µg/L	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
	Dibenz(a,h)anthracene	µg/L	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
	Fluoranthene	µg/L	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
	Fluorene	µg/L	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
	Indeno(1,2,3-c,d)pyrene	µg/L	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
	Naphthalene	µg/L	7 (Primary): 1 (Interlab)				<7.0	<7.0	0				<7.0	<1.0	0			
	Naphthalene	µg/L	5 (Primary): 1 (Interlab)	<5.0	<5.0	0	<5.0	<5.0	0	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
	Naphthalene	µg/L	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
	PAHs (Sum of total)	µg/L	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0									
	Pentachlorophenol	µg/L	2	<2.0	<2.0	0	<2.0	<2.0	0									
	Phenanthrene	µg/L	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
	Phenol	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0									
	Pyrene	µg/L	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
PFOA	Perfluorooctanoate	mg/l	0.00002				0.0001	0.0001	0									
PFOS	6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/l	0.0001				<0.0001	<0.0001	0									
	PFOS	mg/l	0.00002				0.0001	0.0001	0									
Polychlorinated Biphenyls	PCBs (Sum of total)	µg/L	1				<1.0	<1.0	0									
Solvents	Methyl Ethyl Ketone	µg/L	50				<50.0	<50.0	0									
	2-hexanone (MBK)	µg/L	50				<50.0	<50.0	0									
	4-Methyl-2-pentanone	µg/L	50				<50.0	<50.0	0									
	Carbon disulfide	µg/L	5				<5.0	<5.0	0									
	Vinyl acetate	µg/L	50				<50.0	<50.0	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	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
	> C10 - C16 Less Naphthalene (F2)	mg/l	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.05	0	<0.1	<0.05	0	<0.1	<0.05	0
	C6 - C9	µg/L	20 (Primary): 10 (Interlab)	<20.0	<20.0	0	<20.0	<20.0	0	<20.0	<10.0	0	<20.0	<10.0	0	<20.0	<10.0	0
	C10 - C14	µg/L	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
	C15 - C28	µg/L	100	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0
	C29-C36	µg/L	50 (Primary): 100 (Interlab)	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<100.0	0	<50.0	<100.0	0	<50.0	<100.0	0
	+C10 - C36 (Sum of total)	µg/L	50	<50.0	<50.0	0	<50.0	<50.0	0									
	C10 - C40 (Sum of total)	µg/L	100	<100.0	<100.0	0	<100.0	<100.0	0									
	C10-C16	mg/l	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.05	0	<0.1	<0.05	0	<0.1	<0.05	0
	C16-C34	mg/l	0.1	<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
	C34-C40	mg/l	0.1	<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
	C6-C10	mg/l	0.02 (Primary): 0.01 (Interlab)	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
VOCs	cis-1,4-Dichloro-2-butene	µg/L	5				<5.0	<5.0	0									
	Pentachloroethane	µg/L	5				<5.0	<5.0	0									
	trans-1,4-Dichloro-2-butene	µg/L	5				<5.0	<5.0	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 EC
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any meth

1. RPD exceeds the acceptable limit however the concentrations are well below the adopted guideline value (where available) therefore this non-conformance is unlikely to materially effect the outcomes of this investigation.
2. The RPD exceeds the acceptable limits. The higher value was reported for conservatism.

SDG	ES1327437 Interlab_D			ES1327443 Interlab_D			ES1327893 Interlab_D		
Field_ID	LL_MW01 01-111213-S		RPD	LH_MW01 01_121213_S		RPD	LO_MW14 01-171213-T		RPD
Sampled_Date	11/12/2013 11/12/2013			12/12/2013 12/12/2013			17/12/2013 17/12/2013		
Chem_Group	**ChemName**	**Units**	**EQL**						
BTEX	Benzene	µg/L	1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
	Toluene	µg/L	2 (Primary): 1 (Interlab)	<2.0	<1.0	0	<2.0	<1.0	0	<2.0	<1.0	0
	Ethylbenzene	µg/L	2 (Primary): 1 (Interlab)	<2.0	<1.0	0	<2.0	<1.0	0	<2.0	<1.0	0
	Xylene (o)	µg/L	2 (Primary): 1 (Interlab)	<2.0	<1.0	0	<2.0	<1.0	0	<2.0	<1.0	0
	Xylene (m & p)	µg/L	2	<2.0	<2.0	0	<2.0	<2.0	0	<2.0	<2.0	0
	Xylene Total	µg/L	2	<2.0			<2.0			<2.0		
	Total BTEX	mg/l	0.001	<0.001			<0.001			<0.001		
Chlorinated Hydrocarbon	1,1,1,2-tetrachloroethane	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,1,1-trichloroethane	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,1,2,2-tetrachloroethane	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,1,2-trichloroethane	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,1-dichloroethane	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,1-dichloroethene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,1-dichloropropene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,2,3-trichloropropane	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,2-dibromo-3-chloropropane	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,2-dichloroethane	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,2-dichloropropane	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,3-dichloropropane	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	2,2-dichloropropane	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Bromodichloromethane	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Bromoform	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Carbon tetrachloride	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Chlorodibromomethane	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Chloroethane	µg/L	50 (Primary): 10 (Interlab)							<50.0	<10.0	0
	Chloroform	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Chloromethane	µg/L	50 (Primary): 10 (Interlab)							<50.0	<10.0	0
	cis-1,2-dichloroethene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	cis-1,3-dichloropropene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Dibromomethane	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Hexachlorobutadiene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Trichloroethene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Tetrachloroethene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	trans-1,2-dichloroethene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	trans-1,3-dichloropropene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Vinyl chloride	µg/L	50 (Primary): 10 (Interlab)							<50.0	<10.0	0
Halogenated Benzenes	1,2,3-trichlorobenzene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,2,4-trichlorobenzene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,2-dichlorobenzene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,3-dichlorobenzene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,4-dichlorobenzene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	2-chlorotoluene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	4-chlorotoluene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Bromobenzene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Chlorobenzene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
Halogenated Hydrocarbo	1,2-dibromoethane	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Bromomethane	µg/L	50 (Primary): 10 (Interlab)							<50.0	<10.0	0
	Dichlorodifluoromethane	µg/L	50 (Primary): 10 (Interlab)							<50.0	<10.0	0
	Iodomethane	µg/L	5							<5.0		
	Trichlorofluoromethane	µg/L	50 (Primary): 10 (Interlab)							<50.0	<10.0	0
MAH	1,2,4-trimethylbenzene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	1,3,5-trimethylbenzene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Isopropylbenzene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	n-butylbenzene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	n-propylbenzene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	p-isopropyltoluene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	sec-butylbenzene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	Styrene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
	tert-butylbenzene	µg/L	5 (Primary): 1 (Interlab)							<5.0	<1.0	0
Metals	Arsenic (Filtered)	mg/l	0.001	0.004	0.003	29	0.001	<0.001	0			
	Arsenic (Filtered)	mg/l	0.0002 (Primary): 0.001 (Interlab)							**0.0112**	**0.008**	**33**
	Barium (Filtered)	mg/l	0.0005									
	Beryllium (Filtered)	mg/l	0.0001									
	Boron (Filtered)	mg/l	0.005									
	Cadmium (Filtered)	mg/l	0.0001	<0.0001	0.0001	0	<0.0001	<0.0001	0			
	Cadmium (Filtered)	mg/l	0.00005 (Primary): 0.0001 (Interlab)							<0.0001	<0.0001	0
	Chromium (III+VI) (Filtered)	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0			
	Chromium (III+VI) (Filtered)	mg/l	0.0002 (Primary): 0.001 (Interlab)							<0.0002	<0.001	0
	Cobalt (Filtered)	mg/l	0.0001									
	Copper (Filtered)	mg/l	0.001	**0.002**	**<0.001**	**67**	<0.001	<0.001	0			
	Copper (Filtered)	mg/l	0.0005 (Primary): 0.001 (Interlab)							<0.0005	<0.001	0
	Lead (Filtered)	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0			
	Lead (Filtered)	mg/l	0.0001 (Primary): 0.001 (Interlab)							<0.0001	<0.001	0
	Manganese (Filtered)	mg/l	0.0005									
	Mercury (Filtered)	mg/l	0.0001 (Primary): 0.00005 (Interlab)	<0.0001	<0.0001	0	<0.0001	<0.0001	0	<0.0001	<0.0001	0
	Molybdenum (Filtered)	mg/l	0.0001									
	Nickel (Filtered)	mg/l	0.001	0.038	0.036	5	0.011	0.009	20			

SDG	ES1327437 Interlab_D			ES1327443 Interlab_D			ES1327893 Interlab_D		
Field_ID	LL_MW01 01-111213-S		RPD	LH_MW01 01_121213_S		RPD	LO_MW14 01-171213-T		RPD
Sampled_Date	11/12/2013	11/12/2013		12/12/2013	12/12/2013		17/12/2013	17/12/2013	
Chem_Group / ChemName / Units / EQL									
Nickel (Filtered) mg/l 0.0005 (Primary): 0.001 (Interlab)							**0.0017**	**0.001**	**52**
Selenium (Filtered) mg/l 0.0002									
Thallium (Filtered) mg/l 0.00002									
Vanadium (Filtered) mg/l 0.0002									
Zinc (Filtered) mg/l 0.005 (Primary): 0.001 (Interlab)	**0.044**	**0.022**	**67**	0.006	0.006	0			
Zinc (Filtered) mg/l 0.001							**0.002**	**<0.001**	**67**
PAH/Phenols 2,4,5-trichlorophenol µg/L 1	<1.0			<1.0			<1.0		
2,4,6-trichlorophenol µg/L 1	<1.0			<1.0			<1.0		
2,4-dichlorophenol µg/L 1	<1.0			<1.0			<1.0		
2,4-dimethylphenol µg/L 1	<1.0			<1.0			<1.0		
2,6-dichlorophenol µg/L 1	<1.0			<1.0			<1.0		
2-chlorophenol µg/L 1	<1.0			<1.0			<1.0		
2-methylphenol µg/L 1	<1.0			<1.0			<1.0		
2-nitrophenol µg/L 1	<1.0			<1.0			<1.0		
3-&4-methylphenol µg/L 2	<2.0			<2.0			<2.0		
4-chloro-3-methylphenol µg/L 1	<1.0			<1.0			<1.0		
Acenaphthene µg/L 1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Acenaphthylene µg/L 1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Anthracene µg/L 1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Benz(a)anthracene µg/L 1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Benzo(a) pyrene µg/L 0.5 (Primary): 1 (Interlab)	<0.5	<1.0	0	<0.5	<1.0	0	<0.5	<1.0	0
Benzo(a)pyrene TEQ (zero) µg/L 0.5	<0.5			<0.5			<0.5		
Benzo(b)fluoranthene µg/L 1	<1.0			<1.0			<1.0		
Benzo(g,h,i)perylene µg/L 1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Benzo(k)fluoranthene µg/L 1	<1.0			<1.0			<1.0		
Chrysene µg/L 1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Dibenz(a,h)anthracene µg/L 1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Fluoranthene µg/L 1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Fluorene µg/L 1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Indeno(1,2,3-c,d)pyrene µg/L 1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Naphthalene µg/L 7 (Primary): 1 (Interlab)							<7.0	<1.0	0
Naphthalene µg/L 5 (Primary): 1 (Interlab)	<5.0	<1.0	0	<5.0	<1.0	0	<5.0	<1.0	0
Naphthalene µg/L 1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
PAHs (Sum of total) µg/L 0.5 (Primary): 1 (Interlab)	<0.5			<0.5			<0.5	0.0	0
Pentachlorophenol µg/L 2	<2.0			<2.0			<2.0		
Phenanthrene µg/L 1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
Phenol µg/L 1	<1.0			<1.0			<1.0		
Pyrene µg/L 1	<1.0	<1.0	0	<1.0	<1.0	0	<1.0	<1.0	0
PFOA Perfluorooctanoate mg/l 0.00002							0.0001		
PFOS 6:2 Fluorotelomer Sulfonate (6:2 FtS) mg/l 0.0001							<0.0001		
PFOS mg/l 0.00002							0.0001		
Polychlorinated Biphenyls PCBs (Sum of total) µg/L 1	<1.0						<1.0		
Solvents Methyl Ethyl Ketone µg/L 50							<50.0		
2-hexanone (MBK) µg/L 50							<50.0		
4-Methyl-2-pentanone µg/L 50							<50.0		
Carbon disulfide µg/L 5							<5.0		
Vinyl acetate µg/L 50							<50.0		
TRH C6-C10 less BTEX (F1) mg/l 0.02 (Primary): 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
> C10 - C16 Less Naphthalene (F2) mg/l 0.1 (Primary): 0.05 (Interlab)	<0.1	<0.05	0	<0.1	<0.05	0	<0.1	<0.05	0
C6 - C9 µg/L 20 (Primary): 10 (Interlab)	<20.0	<10.0	0	<20.0	<10.0	0	<20.0	<10.0	0
C10 - C14 µg/L 50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
C15 - C28 µg/L 100	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0
C29-C36 µg/L 50 (Primary): 100 (Interlab)	<50.0	<100.0	0	<50.0	<100.0	0	<50.0	<100.0	0
+C10 - C36 (Sum of total) µg/L 50	<50.0			<50.0			<50.0		
C10 - C40 (Sum of total) µg/L 100	<100.0			<100.0			<100.0		
C10-C16 mg/l 0.1 (Primary): 0.05 (Interlab)	<0.1	<0.05	0	<0.1	<0.05	0	<0.1	<0.05	0
C16-C34 mg/l 0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
C34-C40 mg/l 0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
C6-C10 mg/l 0.02 (Primary): 0.01 (Interlab)	<0.02	<0.01	0	<0.02	<0.01	0	<0.02	<0.01	0
VOCs cis-1,4-Dichloro-2-butene µg/L 5							<5.0		
Pentachloroethane µg/L 5							<5.0		
trans-1,4-Dichloro-2-butene µg/L 5							<5.0		

*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 EC
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any meth

1. RPD exceeds the acceptable limit however the concentrations are well below the adopted guideline value (where available) therefore this non-conformance is unlikely to materially effect the outcomes of this investigation.
2. The RPD exceeds the acceptable limits. The higher value was reported for conservatism.

	SDG	ES1324260	ES1324260	ES1324460	ES1324723	ES1324724	ES1324727	ES1325014	ES1325019	ES1325458	ES1325458	ES1325840	ES1325843	ES1325886	ES1326161
	Field_ID	R01_051113_JK	R02_061113_JK	R01_081113_TA	R01	R01_111113_JK	R01_121113_JK	R01131113	R01_141113_JK	R01_211113_JK	R01_201113_JK	R01_2511113_JA	R01_261113_JK	R01_191113_JK	R01_271113
	Sampled_Date	5/11/2013	6/11/2013	8/11/2013	14/11/2013	11/11/2013	12/11/2013	13/11/2013	14/11/2013	21/11/2013	20/11/2013	25/11/2013	26/11/2013	19/11/2013	27/11/2013
	Sample_Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Chem_Group	**ChemName**	**Units**	**EQL**												
	N-Nitrosodiphenyl & Diphenylamine	µg/L	4												
Amino Aliphatics	N-nitrosodiethylamine	µg/L	2												
	N-nitrosodi-n-butylamine	µg/L	2												
	N-nitrosodi-n-propylamine	µg/L	2												
	N-Nitrosomethylethylamine	µg/L	2												
Amino Aromatics	1-naphthylamine	µg/L	2												
Anilines	2-nitroaniline	µg/L	4												
	3-nitroaniline	µg/L	4												
	4-chloroaniline	µg/L	2												
	4-nitroaniline	µg/L	2												
	2-methyl-5-nitroaniline	µg/L	2												
	Aniline	µg/L	2												
BTEX	Benzene	µg/L	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
	Ethylbenzene	µg/L	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
	Xylene (m & p)	µg/L	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
	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
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												
	Bromoform	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	2												
	Hexachlorocyclopentadiene	µg/L	10												
	Hexachloroethane	µg/L	2												
	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												
Explosives	1,3,5-Trinitrobenzene	mg/l	0.002												
	2,4-Dinitrotoluene	µg/L	4												
	2,6-dinitrotoluene	µg/L	4												
	Nitrobenzene	µg/L	2												
Halogenated Benzenes	1,2,3-trichlorobenzene	µg/L	5												
	1,2,4-trichlorobenzene	µg/L	2												
	1,2-dichlorobenzene	µg/L	2												
	1,3-dichlorobenzene	µg/L	2												
	1,4-dichlorobenzene	µg/L	2												
	2-chlorotoluene	µg/L	5												
	4-chlorotoluene	µg/L	5												
	Bromobenzene	µg/L	5												
	Chlorobenzene	µg/L	5												
	Hexachlorobenzene	µg/L	4												
	Pentachlorobenzene	µg/L	2												
Halogenated Hydrocarbons	1,2-dibromoethane	µg/L	5												
	Bromomethane	µg/L	50												
	Dichlorodifluoromethane	µg/L	50												
	Iodomethane	µg/L	5												
	Trichlorofluoromethane	µg/L	50												
Herbicides	Pronamide	µg/L	2												
MAH	1,2,4-trimethylbenzene	µg/L	5												
	1,3,5-trimethylbenzene	µg/L	5												
	Isopropylbenzene	µg/L	5												
	n-butylbenzene	µg/L	5												

SDG	ES1324260	ES1324260	ES1324460	ES1324723	ES1324724	ES1324727	ES1325014	ES1325019	ES1325458	ES1325458	ES1325840	ES1325843	ES1325886	ES1326161
Field_ID	R01_051113_JK	R02_061113_JK	R01_081113_TA	R01	R01_111113_JK	R01_121113_JK	R01131113	R01_141113_JK	R01_211113_JK	R01_201113_JK	R01_2511113_JA	R01_261113_JK	R01_191113_JK	R01_271113
Sampled_Date	5/11/2013	6/11/2013	8/11/2013	14/11/2013	11/11/2013	12/11/2013	13/11/2013	14/11/2013	21/11/2013	20/11/2013	25/11/2013	26/11/2013	19/11/2013	27/11/2013
Sample_Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate

Chem_Group	ChemName	Units	EQL													
	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
	Arsenic (Filtered)	mg/l	0.001													
	Barium	mg/l	0.001													
	Beryllium	mg/l	0.001													
	Boron	mg/l	0.05													
	Cadmium	mg/l	0.0000001											<0.0001	<0.0001	<0.0001
	Cadmium (Filtered)	mg/l	0.0001													
	Chromium (III+VI)	mg/l	0.000001											<0.001	<0.001	<0.001
	Chromium (III+VI) (Filtered)	mg/l	0.001													
	Cobalt	mg/l	0.001													
	Copper	mg/l	0.000001											<0.001	<0.001	<0.001
	Copper (Filtered)	mg/l	0.001													
	Lead	mg/l	0.000001											<0.001	<0.001	<0.001
	Lead (Filtered)	mg/l	0.001			<0.001										
	Manganese	mg/l	0.001													
	Mercury	mg/l	0.0001											<0.0001	<0.0001	<0.0001
	Mercury (Filtered)	mg/l	0.0001													
	Molybdenum	mg/l	0.001													
	Nickel	mg/l	0.001											<0.001	<0.001	<0.001
	Nickel (Filtered)	mg/l	0.001													
	Selenium	mg/l	0.01													
	Thallium	mg/l	0.001													
	Titanium	mg/l	0.01													
	Vanadium	mg/l	0.01													
	Zinc	mg/l	0.000005											<0.005	<0.005	<0.005
	Zinc (Filtered)	mg/l	0.005													
Nitroaromatics	2-Picoline	µg/L	2													
	4-aminobiphenyl	µg/L	2													
	Pentachloronitrobenzene	µg/L	2													
Organochlorine Pesticides	4,4-DDE	µg/L	2													
	a-BHC	µg/L	2													
	Aldrin	µg/L	2													
	Aldrin + Dieldrin	µg/L	4													
	b-BHC	µg/L	2													
	d-BHC	µg/L	2													
	DDD	µg/L	2													
	DDT	µg/L	4													
	DDT+DDE+DDD	µg/L	4													
	Dieldrin	µg/L	2													
	Endosulfan I	µg/L	2													
	Endosulfan II	µg/L	2													
	Endosulfan sulphate	µg/L	2													
	Endrin	µg/L	2													
	g-BHC (Lindane)	µg/L	2													
	Heptachlor	µg/L	2													
	Heptachlor epoxide	µg/L	2													
Organophosphorous Pesticides	Chlorfenvinphos	µg/L	2													
	Chlorpyrifos	µg/L	2													
	Chlorpyrifos-methyl	mg/l	0.002													
	Diazinon	µg/L	2													
	Dichlorvos	µg/L	2													
	Dimethoate	µg/L	2													
	Ethion	µg/L	2													
	Fenthion	µg/L	2													
	Malathion	µg/L	2													
	Prothiofos	µg/L	2													
PAH	7,12-dimethylbenz(a)anthracene	µg/L	2													
PAH/Phenols	2,4,5-trichlorophenol	µg/L	1						<1			<1	<1			<1
	2,4,6-trichlorophenol	µg/L	1						<1			<1	<1			<1
	2,4-dichlorophenol	µg/L	1						<1			<1	<1			<1
	2,4-dimethylphenol	µg/L	1						<1			<1	<1			<1
	2,6-dichlorophenol	µg/L	1						<1			<1	<1			<1
	2-chloronaphthalene	µg/L	2													
	2-chlorophenol	µg/L	1						<1			<1	<1			<1
	2-methylnaphthalene	µg/L	2													
	2-methylphenol	µg/L	1						<1			<1	<1			<1
	2-nitrophenol	µg/L	1						<1			<1	<1			<1
	3-&4-methylphenol	µg/L	2						<2			<2	<2			<2
	3-methylcholanthrene	µg/L	2													
	4-chloro-3-methylphenol	µg/L	1						<1			<1	<1			<1
	Acenaphthene	µg/L	1						<1			<1	<1			<1
	Acenaphthylene	µg/L	1						<1			<1	<1			<1
	Acetophenone	µg/L	2													

SDG			ES1324260	ES1324260	ES1324460	ES1324723	ES1324724	ES1324727	ES1325014	ES1325019	ES1325458	ES1325458	ES1325840	ES1325843	ES1325886	ES1326161
Field_ID			R01_051113_JK	R02_061113_JK	R01_081113_TA	R01	R01_111113_JK	R01_121113_JK	R01131113	R01_141113_JK	R01_211113_JK	R01_201113_JK	R01_2511113_JA	R01_261113_JK	R01_191113_JK	R01_271113
Sampled_Date			5/11/2013	6/11/2013	8/11/2013	14/11/2013	11/11/2013	12/11/2013	13/11/2013	14/11/2013	21/11/2013	20/11/2013	25/11/2013	26/11/2013	19/11/2013	27/11/2013
Sample_Type			Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Chem_Group	**ChemName**	**Units**	**EQL**													
	Anthracene	µg/L	1						<1			<1	<1			<1	
	Benz(a)anthracene	µg/L	1						<1			<1	<1			<1	
	Benzo(a) pyrene	µg/L	0.5						<0.5			<0.5	<0.5			<0.5	
	Benzo(a)pyrene TEQ (zero)	µg/L	0.5						<0.5			<0.5	<0.5			<0.5	
	Benzo(b)&(k)fluoranthene	µg/L	4														
	Benzo(b)fluoranthene	µg/L	1						<1			<1	<1			<1	
	Benzo(g,h,i)perylene	µg/L	1						<1			<1	<1			<1	
	Benzo(k)fluoranthene	µg/L	1						<1			<1	<1			<1	
	Chrysene	µg/L	1						<1			<1	<1			<1	
	Dibenz(a,h)anthracene	µg/L	1						<1			<1	<1			<1	
	Fluoranthene	µg/L	1						<1			<1	<1			<1	
	Fluorene	µg/L	1						<1			<1	<1			<1	
	Indeno(1,2,3-c,d)pyrene	µg/L	1						<1			<1	<1			<1	
	Naphthalene	µg/L	1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	PAHs (Sum of total)	µg/L	0.5						<0.5			<0.5	<0.5			<0.5	
	Pentachlorophenol	µg/L	2						<2			<2	<2			<2	
	Phenanthrene	µg/L	1						<1			<1	<1			<1	
	Phenol	µg/L	1						<1			<1	<1			<1	
	Pyrene	µg/L	1						<1			<1	<1			<1	
Pesticides	Chlorobenzilate	µg/L	2														
	Pirimphos-ethyl	µg/L	2														
Phthalates	Bis(2-ethylhexyl) phthalate	µg/L	10														
	Butyl benzyl phthalate	µg/L	2														
	Diethylphthalate	µg/L	2														
	Dimethyl phthalate	µg/L	2														
	Di-n-butyl phthalate	µg/L	2														
	Di-n-octyl phthalate	µg/L	2														
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														
	Isophorone	µg/L	2														
	Vinyl acetate	µg/L	50														
SVOCs	2-(acetylamino) fluorene	µg/L	2														
	3,3-Dichlorobenzidine	µg/L	2														
	4-(dimethylamino) azobenzene	µg/L	2														
	4-bromophenyl phenyl ether	µg/L	2														
	4-chlorophenyl phenyl ether	µg/L	2														
	4-Nitroquinoline-N-oxide	µg/L	2														
	Azobenzene	µg/L	2														
	Bis(2-chloroethoxy) methane	µg/L	2														
	Bis(2-chloroethyl)ether	µg/L	2														
	Carbazole	µg/L	2														
	Dibenzofuran	µg/L	2														
	Hexachloropropene	µg/L	2														
	Methapyrilene	µg/L	2														
	N-nitrosomorpholine	µg/L	2														
	N-nitrosopiperidine	µg/L	2														
	N-nitrosopyrrolidine	µg/L	4														
	Phenacetin	µg/L	2														
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
	> 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		
	C6 - C9	µg/L	20	<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	<50
	C15 - C28	µg/L	100	<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	<50
	+C10 - C36 (Sum of total)	µg/L	50	<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	<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	<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	<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	<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	<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														

SDG	ES1326685	ES1326974	ES1326975	ES1327373	ES1327422	ES1327422	ES1327422	ES1327433	ES1327442	ES1327521	ES1327785	ES1327802	ES1327894	ES1327894
Field_ID	R01_21213_JK	R01_031213_SP	R01_041213_TA	R01_06/13/13_JK	R01_121213	R01_111213_RO	R01_091213_RO	R01_101213_TA	R01_051213_JK	R01_091213_GP	R01_131213_120	R01_121213_RO	R01_171213_JG	R01_131213_JG
Sampled_Date	2/12/2013	10/12/2013	4/12/2013	6/12/2013	12/12/2013	11/12/2013	9/12/2013	10/12/2013	5/12/2013	9/12/2013	18/12/2013	12/12/2013	17/12/2013	16/12/2013
Sample_Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate

Chem_Group	ChemName	Units	EQL													
	N-Nitrosodiphenyl & Diphenylamine	µg/L	4						<4	<4				<4	<4		
Amino Aliphatics	N-nitrosodiethylamine	µg/L	2						<2	<2				<2	<2		
	N-nitrosodi-n-butylamine	µg/L	2						<2	<2				<2	<2		
	N-nitrosodi-n-propylamine	µg/L	2						<2	<2				<2	<2		
	N-Nitrosomethylethylamine	µg/L	2						<2	<2				<2	<2		
Amino Aromatics	1-naphthylamine	µg/L	2						<2	<2				<2	<2		
Anilines	2-nitroaniline	µg/L	4						<4	<4				<4	<4		
	3-nitroaniline	µg/L	4						<4	<4				<4	<4		
	4-chloroaniline	µg/L	2						<2	<2				<2	<2		
	4-nitroaniline	µg/L	2						<2	<2				<2	<2		
	2-methyl-5-nitroaniline	µg/L	2						<2	<2				<2	<2		
	Aniline	µg/L	2						<2	<2				<2	<2		
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
	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
Chlorinated Hydrocarbons	1,1,1,2-tetrachloroethane	µg/L	5						<5	<5				<5	<5		
	1,1,1-trichloroethane	µg/L	5						<5	<5				<5	<5		
	1,1,2,2-tetrachloroethane	µg/L	5						<5	<5				<5	<5		
	1,1,2-trichloroethane	µg/L	5						<5	<5				<5	<5		
	1,1-dichloroethane	µg/L	5						<5	<5				<5	<5		
	1,1-dichloroethene	µg/L	5						<5	<5				<5	<5		
	1,1-dichloropropene	µg/L	5						<5	<5				<5	<5		
	1,2,3-trichloropropane	µg/L	5						<5	<5				<5	<5		
	1,2-dibromo-3-chloropropane	µg/L	5						<5	<5				<5	<5		
	1,2-dichloroethane	µg/L	5						<5	<5				<5	<5		
	1,2-dichloropropane	µg/L	5						<5	<5				<5	<5		
	1,3-dichloropropane	µg/L	5						<5	<5				<5	<5		
	2,2-dichloropropane	µg/L	5						<5	<5				<5	<5		
	Bromodichloromethane	µg/L	5						<5	<5				<5	<5		
	Bromoform	µg/L	5						<5	<5				<5	<5		
	Carbon tetrachloride	µg/L	5						<5	<5				<5	<5		
	Chlorodibromomethane	µg/L	5						<5	<5				<5	<5		
	Chloroethane	µg/L	50						<50	<50				<50	<50		
	Chloroform	µg/L	5						<5	<5				<5	<5		
	Chloromethane	µg/L	50						<50	<50				<50	<50		
	cis-1,2-dichloroethene	µg/L	5						<5	<5				<5	<5		
	cis-1,3-dichloropropene	µg/L	5						<5	<5				<5	<5		
	Dibromomethane	µg/L	5						<5	<5				<5	<5		
	Hexachlorobutadiene	µg/L	2						<2	<2				<2	<2		
	Hexachlorocyclopentadiene	µg/L	10						<10	<10				<10	<10		
	Hexachloroethane	µg/L	2						<2	<2				<2	<2		
	Trichloroethene	µg/L	5						<5	<5				<5	<5		
	Tetrachloroethene	µg/L	5						<5	<5				<5	<5		
	trans-1,2-dichloroethene	µg/L	5						<5	<5				<5	<5		
	trans-1,3-dichloropropene	µg/L	5						<5	<5				<5	<5		
	Vinyl chloride	µg/L	50						<50	<50				<50	<50		
Explosives	1,3,5-Trinitrobenzene	mg/l	0.002						<0.002	<0.002				<0.002	<0.002		
	2,4-Dinitrotoluene	µg/L	4						<4	<4				<4	<4		
	2,6-dinitrotoluene	µg/L	4						<4	<4				<4	<4		
	Nitrobenzene	µg/L	2						<2	<2				<2	<2		
Halogenated Benzenes	1,2,3-trichlorobenzene	µg/L	5						<5	<5				<5	<5		
	1,2,4-trichlorobenzene	µg/L	2						<2	<2				<2	<2		
	1,2-dichlorobenzene	µg/L	2						<2	<2				<2	<2		
	1,3-dichlorobenzene	µg/L	2						<2	<2				<2	<2		
	1,4-dichlorobenzene	µg/L	2						<2	<2				<2	<2		
	2-chlorotoluene	µg/L	5						<5	<5				<5	<5		
	4-chlorotoluene	µg/L	5						<5	<5				<5	<5		
	Bromobenzene	µg/L	5						<5	<5				<5	<5		
	Chlorobenzene	µg/L	5						<5	<5				<5	<5		
	Hexachlorobenzene	µg/L	4						<4	<4				<4	<4		
	Pentachlorobenzene	µg/L	2						<2	<2				<2	<2		
Halogenated Hydrocarbons	1,2-dibromoethane	µg/L	5						<5	<5				<5	<5		
	Bromomethane	µg/L	50						<50	<50				<50	<50		
	Dichlorodifluoromethane	µg/L	50						<50	<50				<50	<50		
	Iodomethane	µg/L	5						<5	<5				<5	<5		
	Trichlorofluoromethane	µg/L	50						<50	<50				<50	<50		
Herbicides	Pronamide	µg/L	2						<2	<2				<2	<2		
MAH	1,2,4-trimethylbenzene	µg/L	5						<5	<5				<5	<5		
	1,3,5-trimethylbenzene	µg/L	5						<5	<5				<5	<5		
	Isopropylbenzene	µg/L	5						<5	<5				<5	<5		
	n-butylbenzene	µg/L	5						<5	<5				<5	<5		

SDG			ES1326685	ES1326974	ES1326975	ES1327373	ES1327422	ES1327422	ES1327422	ES1327433	ES1327442	ES1327521	ES1327785	ES1327802	ES1327894	ES1327894
Field_ID			R01_21213_JK	R01_031213_SP	R01_041213_TA	R01_06/13/13_JK	R01_121213	R01_111213_RO	R01_091213_RO	R01_101213_TA	R01_051213_JK	R01_091213_GP	R01_131213_120	R01_121213_RO	R01_171213_JG	R01_131213_JG
Sampled_Date			2/12/2013	10/12/2013	4/12/2013	6/12/2013	12/12/2013	11/12/2013	9/12/2013	10/12/2013	5/12/2013	9/12/2013	18/12/2013	12/12/2013	17/12/2013	16/12/2013
Sample_Type			Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Chem_Group	**ChemName**	**Units**	**EQL**													
	n-propylbenzene	µg/L	5						<5	<5				<5	<5		
	p-isopropyltoluene	µg/L	5						<5	<5				<5	<5		
	sec-butylbenzene	µg/L	5						<5	<5				<5	<5		
	Styrene	µg/L	5						<5	<5				<5	<5		
	tert-butylbenzene	µg/L	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
	Arsenic (Filtered)	mg/l	0.001		<0.001	<0.001							<0.001				
	Barium	mg/l	0.001											<0.001	<0.001		
	Beryllium	mg/l	0.001											<0.001	<0.001		
	Boron	mg/l	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	<0.0001	<0.0001	<0.0001
	Cadmium (Filtered)	mg/l	0.0001		<0.0001	<0.0001							<0.0001				
	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
	Chromium (III+VI) (Filtered)	mg/l	0.001		<0.001	<0.001							<0.001				
	Cobalt	mg/l	0.001											<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	<0.001
	Copper (Filtered)	mg/l	0.001		<0.001	<0.001							<0.001				
	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
	Lead (Filtered)	mg/l	0.001		<0.001	<0.001							<0.001				
	Manganese	mg/l	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	<0.0001	<0.0001	<0.0001
	Mercury (Filtered)	mg/l	0.0001		<0.0001	<0.0001							<0.0001				
	Molybdenum	mg/l	0.001											<0.001	<0.001		
	Nickel	mg/l	0.001	<0.001				<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001
	Nickel (Filtered)	mg/l	0.001		<0.001	<0.001							<0.001				
	Selenium	mg/l	0.01											<0.01	<0.01		
	Thallium	mg/l	0.001												<0.001		
	Titanium	mg/l	0.01											<0.01			
	Vanadium	mg/l	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	<0.005	<0.005	<0.005
	Zinc (Filtered)	mg/l	0.005		<0.005	<0.005							<0.005				
Nitroaromatics	2-Picoline	µg/L	2						<2	<2				<2	<2		
	4-aminobiphenyl	µg/L	2						<2	<2				<2	<2		
	Pentachloronitrobenzene	µg/L	2						<2	<2				<2	<2		
Organochlorine Pesticides	4,4-DDE	µg/L	2						<2	<2				<2	<2		
	a-BHC	µg/L	2						<2	<2				<2	<2		
	Aldrin	µg/L	2						<2	<2				<2	<2		
	Aldrin + Dieldrin	µg/L	4						<4	<4				<4	<4		
	b-BHC	µg/L	2						<2	<2				<2	<2		
	d-BHC	µg/L	2						<2	<2				<2	<2		
	DDD	µg/L	2						<2	<2				<2	<2		
	DDT	µg/L	4						<4	<4				<4	<4		
	DDT+DDE+DDD	µg/L	4						<4	<4				<4	<4		
	Dieldrin	µg/L	2						<2	<2				<2	<2		
	Endosulfan I	µg/L	2						<2	<2				<2	<2		
	Endosulfan II	µg/L	2						<2	<2				<2	<2		
	Endosulfan sulphate	µg/L	2						<2	<2				<2	<2		
	Endrin	µg/L	2						<2	<2				<2	<2		
	g-BHC (Lindane)	µg/L	2						<2	<2				<2	<2		
	Heptachlor	µg/L	2						<2	<2				<2	<2		
	Heptachlor epoxide	µg/L	2						<2	<2				<2	<2		
Organophosphorous Pesticides	Chlorfenvinphos	µg/L	2						<2	<2				<2	<2		
	Chlorpyrifos	µg/L	2						<2	<2				<2	<2		
	Chlorpyrifos-methyl	mg/l	0.002						<0.002	<0.002				<0.002	<0.002		
	Diazinon	µg/L	2						<2	<2				<2	<2		
	Dichlorvos	µg/L	2						<2	<2				<2	<2		
	Dimethoate	µg/L	2						<2	<2				<2	<2		
	Ethion	µg/L	2						<2	<2				<2	<2		
	Fenthion	µg/L	2						<2	<2				<2	<2		
	Malathion	µg/L	2						<2	<2				<2	<2		
	Prothiofos	µg/L	2						<2	<2				<2	<2		
PAH	7,12-dimethylbenz(a)anthracene	µg/L	2						<2	<2				<2	<2		
PAH/Phenols	2,4,5-trichlorophenol	µg/L	1					<1	<2	<2			<1	<2	<2		
	2,4,6-trichlorophenol	µg/L	1					<1	<2	<2			<1	<2	<2		
	2,4-dichlorophenol	µg/L	1					<1	<2	<2			<1	<2	<2		
	2,4-dimethylphenol	µg/L	1					<1	<2	<2			<1	<2	<2		
	2,6-dichlorophenol	µg/L	1					<1	<2	<2			<1	<2	<2		
	2-chloronaphthalene	µg/L	2						<2	<2				<2	<2		
	2-chlorophenol	µg/L	1					<1	<2	<2			<1	<2	<2		
	2-methylnaphthalene	µg/L	2						<2	<2				<2	<2		
	2-methylphenol	µg/L	1					<1	<2	<2			<1	<2	<2		
	2-nitrophenol	µg/L	1					<1	<2	<2			<1	<2	<2		
	3-&4-methylphenol	µg/L	2					<2	<4	<4			<2	<4	<4		
	3-methylcholanthrene	µg/L	2						<2	<2				<2	<2		
	4-chloro-3-methylphenol	µg/L	1					<1	<2	<2			<1	<2	<2		
	Acenaphthene	µg/L	1		<1			<1	<2	<2			<1	<2	<2		
	Acenaphthylene	µg/L	1		<1			<1	<2	<2			<1	<2	<2		
	Acetophenone	µg/L	2						<2	<2				<2	<2		

SDG	ES1326685	ES1326974	ES1326975	ES1327373	ES1327422	ES1327422	ES1327422	ES1327433	ES1327442	ES1327521	ES1327785	ES1327802	ES1327894	ES1327894
Field_ID	R01_21213_JK	R01_031213_SP	R01_041213_TA	R01_06/13/13_JK	R01_121213	R01_111213_RO	R01_091213_RO	R01_101213_TA	R01_051213_JK	R01_091213_GP	R01_131213_120	R01_121213_RO	R01_171213_JG	R01_131213_JG
Sampled_Date	2/12/2013	10/12/2013	4/12/2013	6/12/2013	12/12/2013	11/12/2013	9/12/2013	10/12/2013	5/12/2013	9/12/2013	18/12/2013	12/12/2013	17/12/2013	16/12/2013
Sample_Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate

Chem_Group	ChemName	Units	EQL														
	Anthracene	µg/L	1		<1			<1	<2	<2			<1	<2	<2		
	Benz(a)anthracene	µg/L	1		<1			<1	<2	<2			<1	<2	<2		
	Benzo(a) pyrene	µg/L	0.5		<0.5			<0.5	<2	<2			<0.5	<2	<2		
	Benzo(a)pyrene TEQ (zero)	µg/L	0.5		<0.5			<0.5	<2	<2			<0.5	<2	<2		
	Benzo(b)&(k)fluoranthene	µg/L	4						<4	<4				<4	<4		
	Benzo(b)fluoranthene	µg/L	1		<1			<1					<1				
	Benzo(g,h,i)perylene	µg/L	1		<1			<1	<2	<2			<1	<2	<2		
	Benzo(k)fluoranthene	µg/L	1		<1			<1					<1				
	Chrysene	µg/L	1		<1			<1	<2	<2			<1	<2	<2		
	Dibenz(a,h)anthracene	µg/L	1		<1			<1	<2	<2			<1	<2	<2		
	Fluoranthene	µg/L	1		<1			<1	<2	<2			<1	<2	<2		
	Fluorene	µg/L	1		<1			<1	<2	<2			<1	<2	<2		
	Indeno(1,2,3-c,d)pyrene	µg/L	1		<1			<1	<2	<2			<1	<2	<2		
	Naphthalene	µg/L	1	<5	<5	<5	<5	<5	<2	<2	<5	<5	<5	<2	<2	<5	<5
	PAHs (Sum of total)	µg/L	0.5		<0.5			<0.5	<2	<2			<0.5	<2	<2		
	Pentachlorophenol	µg/L	2					<2	<4	<4			<2	<4	<4		
	Phenanthrene	µg/L	1		<1			<1	<2	<2			<1	<2	<2		
	Phenol	µg/L	1					<1	<2	<2			<1	<2	<2		
	Pyrene	µg/L	1		<1			<1	<2	<2			<1	<2	<2		
Pesticides	Chlorobenzilate	µg/L	2						<2	<2				<2	<2		
	Pirimphos-ethyl	µg/L	2						<2	<2				<2	<2		
Phthalates	Bis(2-ethylhexyl) phthalate	µg/L	10						<10	<10				<10	<10		
	Butyl benzyl phthalate	µg/L	2						<2	<2				<2	<2		
	Diethylphthalate	µg/L	2						<2	<2				<2	<2		
	Dimethyl phthalate	µg/L	2						<2	<2				<2	<2		
	Di-n-butyl phthalate	µg/L	2						<2	<2				<2	<2		
	Di-n-octyl phthalate	µg/L	2						<2	<2				<2	<2		
Solvents	Methyl Ethyl Ketone	µg/L	50						<50	<50				<50	<50		
	2-hexanone (MBK)	µg/L	50						<50	<50				<50	<50		
	4-Methyl-2-pentanone	µg/L	50						<50	<50				<50	<50		
	Carbon disulfide	µg/L	5						<5	<5				<5	<5		
	Isophorone	µg/L	2						<2	<2				<2	<2		
	Vinyl acetate	µg/L	50						<50	<50				<50	<50		
SVOCs	2-(acetylamino) fluorene	µg/L	2						<2	<2				<2	<2		
	3,3-Dichlorobenzidine	µg/L	2						<2	<2				<2	<2		
	4-(dimethylamino) azobenzene	µg/L	2						<2	<2				<2	<2		
	4-bromophenyl phenyl ether	µg/L	2						<2	<2				<2	<2		
	4-chlorophenyl phenyl ether	µg/L	2						<2	<2				<2	<2		
	4-Nitroquinoline-N-oxide	µg/L	2						<2	<2				<2	<2		
	Azobenzene	µg/L	2						<2	<2				<2	<2		
	Bis(2-chloroethoxy) methane	µg/L	2						<2	<2				<2	<2		
	Bis(2-chloroethyl)ether	µg/L	2						<2	<2				<2	<2		
	Carbazole	µg/L	2						<2	<2				<2	<2		
	Dibenzofuran	µg/L	2						<2	<2				<2	<2		
	Hexachloropropene	µg/L	2						<2	<2				<2	<2		
	Methapyrilene	µg/L	2						<2	<2				<2	<2		
	N-nitrosomorpholine	µg/L	2						<2	<2				<2	<2		
	N-nitrosopiperidine	µg/L	2						<2	<2				<2	<2		
	N-nitrosopyrrolidine	µg/L	4						<4	<4				<4	<4		
	Phenacetin	µg/L	2						<2	<2				<2	<2		
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
	> 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
	C6 - C9	µg/L	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
	C15 - C28	µg/L	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
	+C10 - C36 (Sum of total)	µg/L	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
	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
	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
	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
	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
VOCs	cis-1,4-Dichloro-2-butene	µg/L	5						<5	<5				<5	<5		
	Pentachloroethane	µg/L	5						<5	<5				<5	<5		
	trans-1,4-Dichloro-2-butene	µg/L	5						<5	<5				<5	<5		

			SDG	ES1325573	ES1325573	ES1325573	ES1325845	ES1325845	ES1326216	ES1326216	ES1326637	ES1326680	ES1326680	ES1326711	ES1326711
			Field_ID	R01_201113_TH	R01_211113_TH	R01_221113_TH	RINSATE.261113_TG	RINSATE_251113_TH	R01_281113_TH	R01_271113_TH	RINSATE_301113_NH	RINSATE_291113_TH	RINSATE_301113_TH	R01_061213_CH	R01_061213_KF
			Sampled_Date	20/11/2013	21/11/2013	22/11/2013	26/11/2013	25/11/2013	28/11/2013	28/11/2013	30/11/2013	29/11/2013	30/11/2013	6/12/2013	6/12/2013
			Sample_Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Chem_Group	**ChemName**	**Units**	**EQL**												
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												
	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												
	Bromoform	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												
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	0.0002	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0002	<0.0002	<0.0002	<0.001	<0.001
	Barium	mg/l	0.0005				<0.0005				<0.0005	<0.0005	<0.0005		
	Beryllium	mg/l	0.0001				<0.0001				<0.0001	<0.0001	<0.0001		
	Boron	mg/l	0.005				<0.005				<0.005	<0.005	<0.005		
	Cadmium	mg/l	0.00005	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001
	Chromium (III+VI)	mg/l	0.0002	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0002	<0.0002	<0.0002	<0.001	<0.001
	Cobalt	mg/l	0.0001				<0.0001				<0.0001	<0.0001	<0.0001		
	Copper	mg/l	0.0005	<0.001	<0.001	**0.002**	<0.0005	**0.001**	<0.001	<0.001	<0.0005	<0.0005	<0.0005	**0.002**	<0.001
	Lead	mg/l	0.0001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<0.001	<0.001
	Manganese	mg/l	0.0005				<0.0005				<0.0005	<0.0005	<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

			SDG	ES1325573	ES1325573	ES1325573	ES1325845	ES1325845	ES1326216	ES1326216	ES1326637	ES1326680	ES1326680	ES1326711	ES1326711
			Field_ID	R01_201113_TH	R01_211113_TH	R01_221113_TH	RINSATE.261113_TG	RINSATE_251113_TH	R01_281113_TH	R01_271113_TH	RINSATE_301113_NH	RINSATE_291113_TH	RINSATE_301113_TH	R01_061213_CH	R01_061213_KF
			Sampled_Date	20/11/2013	21/11/2013	22/11/2013	26/11/2013	25/11/2013	28/11/2013	28/11/2013	30/11/2013	29/11/2013	30/11/2013	6/12/2013	6/12/2013
			Sample_Type	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate	Rinsate
Chem_Group	**ChemName**	**Units**	**EQL**												
	Molybdenum	mg/l	0.0001				<0.0001				<0.0001	<0.0001	<0.0001		
	Nickel	mg/l	0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.001	<0.001
	Selenium	mg/l	0.0002				<0.0002				<0.0002	<0.0002	<0.0002		
	Thallium	mg/l	0.00002				<0.00002				<0.00002	<0.00002	<0.00002		
	Titanium	mg/l	0.001												
	Vanadium	mg/l	0.0002				<0.0002				<0.0002	<0.0002	<0.0002		
	Zinc	mg/l	0.001	<0.005	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.001	**0.001**	<0.001		
PAH/Phenols	2,4,5-trichlorophenol	µg/L	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
	2,4-dichlorophenol	µg/L	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
	2,6-dichlorophenol	µg/L	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
	2-methylphenol	µg/L	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
	3-&4-methylphenol	µg/L	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
	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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	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
	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	<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	<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
PFOA	Perfluorooctanoate	mg/l	0.00002												
PFOS	6:2 Fluorotelomer Sulfonate (6:2 FtS)	mg/l	0.0001												
	PFOS	mg/l	0.00002												
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	<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
	C6 - C9	µg/L	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
	C15 - C28	µg/L	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
	+C10 - C36 (Sum of total)	µg/L	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
	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
	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
	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
	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
VOCs	cis-1,4-Dichloro-2-butene	µg/L	5												
	Pentachloroethane	µg/L	5												
	trans-1,4-Dichloro-2-butene	µg/L	5												

ES1327431 R01_131213_KF 13/12/2013 Rinsate	ES1327437 R01_111213_SP 11/12/2013 Rinsate	ES1327438 R01_101213_SP 10/12/2013 Rinsate	ES1327443 R01_121213_SP 12/12/2013 Rinsate	ES1327787 R01_161213_JA 16/12/2013 Rinsate	ES1327805 R01_161213_JN 16/12/2013 Rinsate	ES1327805 R01_161213_TH 16/12/2013 Rinsate	ES1327888 R01_1712123_JN 17/12/2013 Rinsate	ES1327893 RO_171213_TH 19/12/2013 Rinsate	ES1327964 R01_181213_SC 18/12/2013 Rinsate	ES1328114 R01_181213 18/12/2013 Rinsate
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							<0.0001	<0.0001	<0.0001	<0.0001
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ES1327431 R01_131213_KF 13/12/2013 Rinsate	ES1327437 R01_111213_SP 11/12/2013 Rinsate	ES1327438 R01_101213_SP 10/12/2013 Rinsate	ES1327443 R01_121213_SP 12/12/2013 Rinsate	ES1327787 R01_161213_JA 16/12/2013 Rinsate	ES1327805 R01_161213_JN 16/12/2013 Rinsate	ES1327805 R01_161213_TH 16/12/2013 Rinsate	ES1327888 R01_1712123_JN 17/12/2013 Rinsate	ES1327893 RO_171213_TH 19/12/2013 Rinsate	ES1327964 R01_181213_SC 18/12/2013 Rinsate	ES1328114 R01_181213 18/12/2013 Rinsate
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								<0.00002		
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			SDG	ES1324260	ES1324261	ES1324460	ES1324727	ES1324840	ES1325014	ES1325019	ES1325458	ES1325574	ES1325574	ES1325843	ES1325886	ES1325886	ES1326153
			Field_ID	TB_301013	TB_301013	TRIP BLANK	TRIP BLANK	TB_151113	TRIP BLANK	TB_131113	TB_211113	TB_221113	TB_221113	TRIP BLANK	TRIP BLANK 8	TRIP BLANK 9	TB
			Sampled_Date	30/10/2013	30/10/2013	8/11/2013	8/11/2013	15/11/2013	18/11/2013	13/11/2013	21/11/2013	22/11/2013	22/11/2013	26/11/2013	19/11/2013	19/11/2013	20/11/2013
			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
	Asbestos fibres	%w/w	0.0001														
	Asbestos Type	-	0														
	Description (for ACM)	--	0														
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	<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	<0.5	<0.5	<0.5	<0.5
	Ethylbenzene	mg/kg	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	<0.5
	Xylene (o)	mg/kg	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	<0.5
	Xylene (m & p)	mg/kg	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	<0.5
	Xylene Total	mg/kg	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	<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	<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	<1	<1	<1	<1
TRH	C6-C10 less BTEX (F1)	mg/kg	10	<10	<10	<10	<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	<10	<10	<10	<10
	C6-C10	mg/kg	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

			SDG	ES1326685	ES1326974	ES1326975	ES1327373	ES1327422	ES1327422	ES1327433	ES1327442	ES1327521	ES1327785	ES1327802	ES1327894	ES1327894	ES1328112
			Field_ID	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TB	T/BLANK	T/BLANK	BLANK	TB	TB	TB6	TB10	TRIP BLANK
			Sampled_Date	2/12/2013	28/11/2013	4/12/2013	6/12/2013	12/12/2013	11/12/2013	10/12/2013	28/11/2013	11/12/2013	18/12/2013	12/12/2013	19/12/2013	19/12/2013	20/12/2013
			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
	Asbestos fibres	%w/w	0.0001														
	Asbestos Type	-	0														
	Description (for ACM)	--	0														
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	<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	<0.5	<0.5	<0.5	<0.5
	Ethylbenzene	mg/kg	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	<0.5
	Xylene (o)	mg/kg	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	<0.5
	Xylene (m & p)	mg/kg	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	<0.5
	Xylene Total	mg/kg	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	<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	<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	<1	<1	<1	<1
TRH	C6-C10 less BTEX (F1)	mg/kg	10	<10	<10	<10	<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	<10	<10	<10	<10
	C6-C10	mg/kg	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

			SDG	ES1325573	ES1325845	ES1326080	ES1326216	ES1326637	ES1326680	ES1326711	ES1327431	ES1327437	ES1327438	ES1327443
			Field_ID	TB_221113	TRIP BLANK	TRIP BLANK	TRIP_BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TB04_131213	TB	TB01_101213_SP	TB2 121213
			Sampled_Date	25/11/2013	28/11/2013	25/11/2013	28/11/2013	30/11/2013	25/11/2013	6/12/2013	13/12/2013	11/12/2013	10/12/2013	12/12/2013
			Sample_Type	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B
Chem_Gro	**ChemName**	**Units**	**EQL**											
BTEX	Benzene	µg/L	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
	Ethylbenzene	µg/L	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
	Xylene (m & p)	µg/L	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
	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
PAH/Phen	Naphthalene	µg/L	1	<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
	> C10 - C16 Less Naphthalene (F2)	mg/l	0.1											
	C6 - C9	µg/L	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

	SDG	ES1327787	ES1327805	ES1327888	ES1327893	ES1328114	ES1328114
	Field_ID	TB_8	TB4	TRIP BLANK 11_171213_JN	TRIP BLANK 12_17/12/13TH	TB13	TB14
	Sampled_Date	16/12/2013	16/12/2013	17/12/2013	17/12/2013	20/12/2013	20/12/2013
	Sample_Type	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B	Trip_B
Chem_Gro	**ChemName**	**Units**	**EQL**					
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
PAH/Phen	Naphthalene	µg/L	1	<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
	> C10 - C16 Less Naphthalene (F2)	mg/l	0.1						
	C6 - C9	µg/L	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

SDG	Field_ID	Compound	Trip_Spike_Result	Trip_Spike_Control	Result_Units	Spike_Recovery_%	Acceptable
ES1324460	TRIP SPIKE	Ethylbenzene	1.3	2	mg/kg	65	N
ES1324460	TRIP SPIKE	meta- & para-Xylene	6.6	9.5	mg/kg	69	N
ES1324724	TS16_301013	C6 - C9 Fraction	48	81	mg/kg	59	N
ES1324724	TS16_301013	C6 - C10 Fraction	56	90	mg/kg	62	N
ES1324724	TS16_301013	C6 - C10 Fraction minus BTEX (F1)	37	63	mg/kg	59	N
ES1324724	TS16_301013	Benzene	<0.2	0.4	mg/kg	50	N
ES1324724	TS16_301013	Ethylbenzene	1.1	1.6	mg/kg	69	N
ES1324724	TS16_301013	Sum of BTEX	18.7	27.2	mg/kg	69	N
ES1324724	TS16_301013	Toluene	9	13.8	mg/kg	65	N
ES1324840	TS4_151113	C6 - C9 Fraction	62	90	mg/kg	69	N
ES1324840	TS4_151113	C6 - C10 Fraction minus BTEX (F1)	43	62	mg/kg	69	N
ES1324840	TS4_151113	Ethylbenzene	1.6	2.3	mg/kg	70	N
ES1325014	TRIP SPIKE	C6 - C9 Fraction	48	103	mg/kg	47	N
ES1325014	TRIP SPIKE	C6 - C10 Fraction	54	115	mg/kg	47	N
ES1325014	TRIP SPIKE	C6 - C10 Fraction minus BTEX (F1)	35	80	mg/kg	44	N
ES1325014	TRIP SPIKE	Benzene	0.3	0.7	mg/kg	43	N
ES1325014	TRIP SPIKE	Ethylbenzene	1.1	2.1	mg/kg	52	N
ES1325014	TRIP SPIKE	meta- & para-Xylene	5.9	10.6	mg/kg	56	N
ES1325014	TRIP SPIKE	ortho-Xylene	2.4	4.2	mg/kg	57	N
ES1325014	TRIP SPIKE	Sum of BTEX	18.7	35.4	mg/kg	53	N
ES1325014	TRIP SPIKE	Toluene	9	17.8	mg/kg	51	N
ES1325014	TRIP SPIKE	Total Xylenes	8.3	14.8	mg/kg	56	N
ES1325574	TS3_151113	C6 - C9 Fraction	31	82	mg/kg	38	N
ES1325574	TS3_151113	C6 - C10 Fraction	34	92	mg/kg	37	N
ES1325574	TS3_151113	C6 - C10 Fraction minus BTEX (F1)	25	62	mg/kg	40	N
ES1325574	TS3_151113	Benzene	<0.2	0.5	mg/kg	40	N
ES1325574	TS3_151113	Ethylbenzene	0.5	1.8	mg/kg	28	N
ES1325574	TS3_151113	meta- & para-Xylene	2.8	9.2	mg/kg	30	N
ES1325574	TS3_151113	ortho-Xylene	1.1	3.6	mg/kg	31	N
ES1325574	TS3_151113	Sum of BTEX	9.1	30	mg/kg	30	N
ES1325574	TS3_151113	Toluene	4.7	14.9	mg/kg	32	N
ES1325574	TS3_151113	Total Xylenes	3.9	12.8	mg/kg	30	N
ES1326153	TS11	C6 - C9 Fraction	32	90	mg/kg	36	N
ES1326153	TS11	C6 - C10 Fraction	37	101	mg/kg	37	N
ES1326153	TS11	C6 - C10 Fraction minus BTEX (F1)	25	68	mg/kg	37	N
ES1326153	TS11	Benzene	<0.2	0.5	mg/kg	40	N
ES1326153	TS11	Ethylbenzene	0.8	2	mg/kg	40	N
ES1326153	TS11	meta- & para-Xylene	4.4	10.2	mg/kg	43	N
ES1326153	TS11	ortho-Xylene	1.9	4	mg/kg	48	N
ES1326153	TS11	Sum of BTEX	12.3	32.6	mg/kg	38	N
ES1326153	TS11	Toluene	5.2	15.9	mg/kg	33	N
ES1326153	TS11	Total Xylenes	6.3	14.2	mg/kg	44	N
ES1326153	TS13	C6 - C9 Fraction	29	83	mg/kg	35	N
ES1326153	TS13	C6 - C10 Fraction	32	93	mg/kg	34	N
ES1326153	TS13	C6 - C10 Fraction minus BTEX (F1)	22	62	mg/kg	35	N
ES1326153	TS13	Benzene	<0.2	0.6	mg/kg	33	N
ES1326153	TS13	Ethylbenzene	0.6	1.8	mg/kg	33	N
ES1326153	TS13	meta- & para-Xylene	3.2	9.4	mg/kg	34	N
ES1326153	TS13	ortho-Xylene	1.3	3.7	mg/kg	35	N
ES1326153	TS13	Sum of BTEX	10.2	30.7	mg/kg	33	N
ES1326153	TS13	Toluene	5.1	15.2	mg/kg	34	N
ES1326153	TS13	Total Xylenes	4.5	13.1	mg/kg	34	N
ES1326974	TRIP SPIKE	C6 - C9 Fraction	38	78	mg/kg	49	N
ES1326974	TRIP SPIKE	C6 - C10 Fraction	44	93	mg/kg	47	N
ES1326974	TRIP SPIKE	C6 - C10 Fraction minus BTEX (F1)	26	55	mg/kg	47	N
ES1326974	TRIP SPIKE	Ethylbenzene	1	2.5	mg/kg	40	N
ES1326974	TRIP SPIKE	meta- & para-Xylene	5.4	12.4	mg/kg	44	N
ES1326974	TRIP SPIKE	ortho-Xylene	2.2	5	mg/kg	44	N
ES1326974	TRIP SPIKE	Sum of BTEX	18.1	37.7	mg/kg	48	N
ES1326974	TRIP SPIKE	Toluene	9.1	17.3	mg/kg	53	N
ES1326974	TRIP SPIKE	Total Xylenes	7.6	17.4	mg/kg	44	N
ES1326975	TRIP SPIKE	C6 - C9 Fraction	60	95	mg/kg	63	N
ES1326975	TRIP SPIKE	C6 - C10 Fraction	68	105	mg/kg	65	N
ES1326975	TRIP SPIKE	C6 - C10 Fraction minus BTEX (F1)	38	65	mg/kg	58	N
ES1327442	T/SPIKE	C6 - C9 Fraction	16	97	mg/kg	16	N
ES1327442	T/SPIKE	C6 - C10 Fraction	17	111	mg/kg	15	N
ES1327442	T/SPIKE	C6 - C10 Fraction minus BTEX (F1)	11	79	mg/kg	14	N
ES1327442	T/SPIKE	Benzene	<0.2	0.7	mg/kg	29	N
ES1327442	T/SPIKE	Ethylbenzene	<0.5	2.1	mg/kg	24	N
ES1327442	T/SPIKE	meta- & para-Xylene	1.8	9.8	mg/kg	18	N
ES1327442	T/SPIKE	ortho-Xylene	0.8	4	mg/kg	20	N
ES1327442	T/SPIKE	Sum of BTEX	6.3	31.9	mg/kg	20	N
ES1327442	T/SPIKE	Toluene	3.7	15.3	mg/kg	24	N
ES1327442	T/SPIKE	Total Xylenes	2.6	13.8	mg/kg	19	N
ES1327521	SPIKE	Toluene	14.2	20.5	mg/kg	69	N
ES1327785	TS	Benzene	<0.2	0.9	mg/kg	22	N
ES1327785	TS	Ethylbenzene	<0.5	2.5	mg/kg	20	N
ES1327785	TS	meta- & para-Xylene	2.3	11.2	mg/kg	21	N
ES1327785	TS	ortho-Xylene	0.9	4.7	mg/kg	19	N
ES1327785	TS	Sum of BTEX	7.2	37.9	mg/kg	19	N
ES1327785	TS	Toluene	4	18.6	mg/kg	22	N
ES1327785	TS	Total Xylenes	3.2	15.9	mg/kg	20	N

			Benzene	% Recovery	Toluene	% Recovery	Ethylbenzene	% Recovery	Xylene (o)	% Recovery	Xylene (m & p)	% Recovery	Naphthalene	% Recovery
			µg/L		µg/L		µg/L		µg/L		µg/L		µg/L	
EQL			1		2		2		2		2		5	
SDG	**Field_ID**	**Sampled_Date**												
ES1325573	TS_221113	25/11/2013	16	80	16	80	15	75	15	75	15	75	19	95
ES1325845	TRIP SPIKE	28/11/2013	17	85	15	75	15	75	16	80	15	75	17	85
ES1326080	TRIP SPIKE	25/11/2013	15	75	16	80	15	75	15	75	15	75	18	90
ES1326216	TRIP_SPIKE	28/11/2013	14	70	15	75	15	75	16	80	15	75	18	90
ES1326637	TRIP SPIKE	30/11/2013	18	90	18	90	18	90	18	90	17	85	20	100
ES1326680	TRIP SPIKE	25/11/2013	15	75	16	80	16	80	17	85	16	80	20	100
ES1326711	TRIP SPIKE	6/12/2013	16	80	16	80	15	75	16	80	16	80	18	90
ES1327431	TS10_131213	13/12/2013	17	85	17	85	17	85	18	90	17	85	17	85
ES1327437	TS	11/12/2013	16	80	16	80	17	85	16	80	16	80	17	85
ES1327438	TS01_101213	10/12/2013	18	90	15	75	16	80	16	80	16	80	18	90
ES1327443	TS9_121213	12/12/2013	15	75	14	70	14	70	14	70	14	70	15	75
ES1327787	TS_2	16/12/2013	17	85	15	75	16	80	17	85	16	80	17	85
ES1327787	TS_3	16/12/2013	18	90	17	85	17	85	18	90	17	85	18	90
ES1327805	TS4	16/12/2013	14	70	14	70	15	75	17	85	16	80	16	80
ES1327888	TRIP SPIKE 5	17/12/2013	17	85	16	80	15	75	16	80	15	75	18	90
ES1327893	TRIP SPIKE 4	14/12/2013	18	90	16	80	15	75	16	80	15	75	18	90
ES1328114	TS 8	20/12/2013	16	80	15	75	17	85	17	85	18	90	16	80

SDG	Field_ID	Sampled_Date	ChemName	Result	Sampled_to_Extraction_Days	Sampled_to_Analysis_Days
ES1325014	R01131113	13/11/2013	+C10 - C36 (Sum of total)	50 µg/L	8	11
ES1327373	R01_06/13/13_JK	6/12/2013	+C10 - C36 (Sum of total)	50 µg/L	11	11
ES1327442	R01_051213_JK	5/12/2013	+C10 - C36 (Sum of total)	50 µg/L	10	10
ES1325014	R01131113	13/11/2013	> C10 - C16 Less Naphthalene (F2)	100 µg/L	8	11
ES1327373	R01_06/13/13_JK	6/12/2013	> C10 - C16 Less Naphthalene (F2)	100 µg/L	11	11
ES1327442	R01_051213_JK	5/12/2013	> C10 - C16 Less Naphthalene (F2)	100 µg/L	10	10
ES1327179	LJ_MW03_0.2	3/12/2013	6:2 Fluorotelomer Sulfonate (6:2 FtS)	0.005 mg/kg	15	15
ES1327179	LJ_MW03_0.5	3/12/2013	6:2 Fluorotelomer Sulfonate (6:2 FtS)	0.005 mg/kg	15	15
ES1327179	LJ_SB04_0.5	3/12/2013	6:2 Fluorotelomer Sulfonate (6:2 FtS)	0.005 mg/kg	15	15
ES1327179	LJ_SB02_1.0	3/12/2013	6:2 Fluorotelomer Sulfonate (6:2 FtS)	0.005 mg/kg	15	15
ES1324260	TB_301013	30/10/2013	Benzene	0.2 mg/kg	15	15
ES1326153	TB	20/11/2013	Benzene	0.2 mg/kg	15	15
ES1327442	T/BLANK	28/11/2013	Benzene	0.2 mg/kg	17	18
ES1325014	R01131113	13/11/2013	C10 - C14	50 µg/L	8	11
ES1327373	R01_06/13/13_JK	6/12/2013	C10 - C14	50 µg/L	11	11
ES1327442	R01_051213_JK	5/12/2013	C10 - C14	50 µg/L	10	10
ES1325014	R01131113	13/11/2013	C10 - C40 (Sum of total)	100 µg/L	8	11
ES1327373	R01_06/13/13_JK	6/12/2013	C10 - C40 (Sum of total)	100 µg/L	11	11
ES1327442	R01_051213_JK	5/12/2013	C10 - C40 (Sum of total)	100 µg/L	10	10
ES1325014	R01131113	13/11/2013	C10-C16	100 µg/L	8	11
ES1327373	R01_06/13/13_JK	6/12/2013	C10-C16	100 µg/L	11	11
ES1327442	R01_051213_JK	5/12/2013	C10-C16	100 µg/L	10	10
ES1325014	R01131113	13/11/2013	C15 - C28	100 µg/L	8	11
ES1327373	R01_06/13/13_JK	6/12/2013	C15 - C28	100 µg/L	11	11
ES1327442	R01_051213_JK	5/12/2013	C15 - C28	100 µg/L	10	10
ES1325014	R01131113	13/11/2013	C16-C34	100 µg/L	8	11
ES1327373	R01_06/13/13_JK	6/12/2013	C16-C34	100 µg/L	11	11
ES1327442	R01_051213_JK	5/12/2013	C16-C34	100 µg/L	10	10
ES1325014	R01131113	13/11/2013	C29-C36	50 µg/L	8	11
ES1327373	R01_06/13/13_JK	6/12/2013	C29-C36	50 µg/L	11	11
ES1327442	R01_051213_JK	5/12/2013	C29-C36	50 µg/L	10	10
ES1325014	R01131113	13/11/2013	C34-C40	100 µg/L	8	11
ES1327373	R01_06/13/13_JK	6/12/2013	C34-C40	100 µg/L	11	11
ES1327442	R01_051213_JK	5/12/2013	C34-C40	100 µg/L	10	10
ES1324260	TB_301013	30/10/2013	C6 - C9	10 mg/kg	15	15
ES1326153	TB	20/11/2013	C6 - C9	10 mg/kg	15	15
ES1326974	TRIP BLANK	28/11/2013	C6 - C9	10 mg/kg	13	16
ES1327442	T/BLANK	28/11/2013	C6 - C9	10 mg/kg	17	18
ES1324260	R01_051113_JK	5/11/2013	C6-C10	20 µg/L	8	8
ES1324724	R01_111113_JK	11/11/2013	C6-C10	20 µg/L	9	9
ES1325014	R01131113	13/11/2013	C6-C10	20 µg/L	8	8
ES1325458	R01_211113_JK	21/11/2013	C6-C10	20 µg/L	8	8
ES1325458	R01_201113_JK	20/11/2013	C6-C10	20 µg/L	9	9
ES1325886	R01_191113_JK	19/11/2013	C6-C10	20 µg/L	11	11
ES1326975	R01_041213_TA	4/12/2013	C6-C10	20 µg/L	9	9
ES1327373	R01_06/13/13_JK	6/12/2013	C6-C10	20 µg/L	11	11
ES1327442	R01_051213_JK	5/12/2013	C6-C10	20 µg/L	11	11
ES1324260	TB_301013	30/10/2013	C6-C10	10 mg/kg	15	15
ES1326153	TB	20/11/2013	C6-C10	10 mg/kg	15	15
ES1327442	T/BLANK	28/11/2013	C6-C10	10 mg/kg	17	18
ES1324260	R01_051113_JK	5/11/2013	C6-C10 less BTEX (F1)	20 µg/L	8	8
ES1324724	R01_111113_JK	11/11/2013	C6-C10 less BTEX (F1)	20 µg/L	9	9
ES1325014	R01131113	13/11/2013	C6-C10 less BTEX (F1)	20 µg/L	8	8
ES1325458	R01_211113_JK	21/11/2013	C6-C10 less BTEX (F1)	20 µg/L	8	8
ES1325458	R01_201113_JK	20/11/2013	C6-C10 less BTEX (F1)	20 µg/L	9	9
ES1325886	R01_191113_JK	19/11/2013	C6-C10 less BTEX (F1)	20 µg/L	11	11
ES1326975	R01_041213_TA	4/12/2013	C6-C10 less BTEX (F1)	20 µg/L	9	9
ES1327373	R01_06/13/13_JK	6/12/2013	C6-C10 less BTEX (F1)	20 µg/L	11	11
ES1327442	R01_051213_JK	5/12/2013	C6-C10 less BTEX (F1)	20 µg/L	11	11
ES1324260	TB_301013	30/10/2013	C6-C10 less BTEX (F1)	10 mg/kg	15	15
ES1326153	TB	20/11/2013	C6-C10 less BTEX (F1)	10 mg/kg	15	15
ES1327442	T/BLANK	28/11/2013	C6-C10 less BTEX (F1)	10 mg/kg	17	18
ES1325574	LE_MW01_3.0	20/11/2013	Electrical conductivity *(lab)	382 µS/cm	8.38	8.38
ES1325840	LA_MW03_3.9	25/11/2013	Electrical conductivity *(lab)	215 µS/cm	8.38	8.38
ES1327373	LH_MW03_3.0	5/12/2013	Electrical conductivity *(lab)	82 µS/cm	11.38	11.38
ES1324260	TB_301013	30/10/2013	Ethylbenzene	0.5 mg/kg	15.38	15.38
ES1326153	TB	20/11/2013	Ethylbenzene	0.5 mg/kg	15.38	15.38
ES1326974	TRIP BLANK	28/11/2013	Ethylbenzene	0.5 mg/kg	13.38	16.38
ES1327442	T/BLANK	28/11/2013	Ethylbenzene	0.5 mg/kg	17.38	18.38
ES1324260	R01_051113_JK	5/11/2013	Naphthalene	5 µg/L	8.38	8.38
ES1324724	R01_111113_JK	11/11/2013	Naphthalene	5 µg/L	9.38	9.38
ES1325014	R01131113	13/11/2013	Naphthalene	5 µg/L	8.38	8.38
ES1325458	R01_211113_JK	21/11/2013	Naphthalene	5 µg/L	8.38	8.38
ES1325458	R01_201113_JK	20/11/2013	Naphthalene	5 µg/L	9.38	9.38
ES1325886	R01_191113_JK	19/11/2013	Naphthalene	5 µg/L	11.38	11.38
ES1326975	R01_041213_TA	4/12/2013	Naphthalene	5 µg/L	9.38	9.38
ES1327373	R01_06/13/13_JK	6/12/2013	Naphthalene	5 µg/L	11.38	11.38
ES1327442	R01_051213_JK	5/12/2013	Naphthalene	5 µg/L	11.38	11.38
ES1324260	TB_301013	30/10/2013	Naphthalene	1 mg/kg	15.38	15.38

SDG	Field_ID	Sampled_Date	ChemName	Result	Sampled_to_Extraction_Days	Sampled_to_Analysis_Days
ES1326153	TB	20/11/2013	Naphthalene	1 mg/kg	15.38	15.38
ES1327442	T/BLANK	28/11/2013	Naphthalene	1 mg/kg	17.38	18.38
ES1325886	LN_MW02_6.0	19/11/2013	Organic Matter	0.6 %	20.00	20.00
ES1327178	LO_SB03-0.5	3/12/2013	Organic Matter	0.5 %	16.38	16.38
ES1327178	D01_31213_JK	3/12/2013	Organic Matter	0.6 %	16.38	16.38
ES1327179	LJ_MW03_0.2	3/12/2013	Organic Matter	0.5 %	16.38	16.38
ES1327179	LJ_MW03_0.5	3/12/2013	Organic Matter	0.6 %	16.38	16.38
ES1327179	LJ_SB04_0.5	3/12/2013	Organic Matter	0.5 %	16.38	16.38
ES1327179	LJ_SB02_1.0	3/12/2013	Organic Matter	0.5 %	16.38	16.38
ES1327324	LA_MW02_1.0	22/11/2013	Organic Matter	0.5 %	25.38	25.38
ES1327324	LE_SB01_1.0	22/11/2013	Organic Matter	0.7 %	25.38	25.38
ES1327324	LF_SB02_0.1	21/11/2013	Organic Matter	0.5 %	26.38	26.38
ES1327324	LI_MW08_0.5	15/11/2013	Organic Matter	3.4 %	32.38	32.38
ES1327324	LL_SB12_0.5	30/11/2013	Organic Matter	0.5 %	17.38	17.38
ES1327324	LM_MW02_0.5	11/11/2013	Organic Matter	0.8 %	36.38	36.38
ES1327324	LN_MW03_0.5	8/11/2013	Organic Matter	0.5 %	39.38	39.38
ES1327324	LO_SB01_0.5	12/11/2013	Organic Matter	0.5 %	35.38	35.38
ES1327324	LP_MW06_1.0	2/12/2013	Organic Matter	0.5 %	15.38	15.38
ES1327324	LQ_MW07_0.5	19/11/2013	Organic Matter	0.5 %	28.38	28.38
ES1327324	LR_MW04_0.5	11/11/2013	Organic Matter	0.5 %	36.38	36.38
ES1327324	LS_MW01_0.5	2/12/2013	Organic Matter	1.1 %	15.38	15.38
ES1327324	LG_MW03_0.5	2/12/2013	Organic Matter	3.4 %	15.38	15.38
ES1327324	LD_MW05_2.0	25/11/2013	Organic Matter	0.5 %	22.38	22.38
ES1327324	LU_SB02_0.1	2/12/2013	Organic Matter	0.5 %	15.38	15.38
ES1327373	LH_MW03_0.1	5/12/2013	Organic Matter	0.5 %	14.38	14.38
ES1327179	LJ_MW03_0.2	3/12/2013	Perfluorooctanoate	0.0005 mg/kg	15.38	15.38
ES1327179	LJ_MW03_0.5	3/12/2013	Perfluorooctanoate	0.0005 mg/kg	15.38	15.38
ES1327179	LJ_SB04_0.5	3/12/2013	Perfluorooctanoate	0.0005 mg/kg	15.38	15.38
ES1327179	LJ_SB02_1.0	3/12/2013	Perfluorooctanoate	0.0005 mg/kg	15.38	15.38
ES1325574	LE_MW01_3.0	20/11/2013	pH (Lab)	6.2 pH Unit	8.38	8.38
ES1325886	LN_MW02_3.0	19/11/2013	pH (Lab)	7.5 pH Unit	17.00	17.00
ES1327324	LA_MW02_1.0	22/11/2013	pH (Lab)	5.8 pH Unit	23.38	23.38
ES1327324	LE_SB01_1.0	22/11/2013	pH (Lab)	6.2 pH Unit	23.38	23.38
ES1327324	LF_SB02_0.1	21/11/2013	pH (Lab)	8.2 pH Unit	24.38	24.38
ES1327324	LI_MW08_0.5	15/11/2013	pH (Lab)	5.1 pH Unit	30.38	30.38
ES1327324	LL_SB12_0.5	30/11/2013	pH (Lab)	6.8 pH Unit	15.38	15.38
ES1327324	LM_MW02_0.5	11/11/2013	pH (Lab)	4.6 pH Unit	34.38	34.38
ES1327324	LN_MW03_0.5	8/11/2013	pH (Lab)	8.8 pH Unit	37.38	37.38
ES1327324	LO_SB01_0.5	12/11/2013	pH (Lab)	8.7 pH Unit	33.38	33.38
ES1327324	LP_MW06_1.0	2/12/2013	pH (Lab)	8.6 pH Unit	13.38	13.38
ES1327324	LQ_MW07_0.5	19/11/2013	pH (Lab)	7.7 pH Unit	26.38	26.38
ES1327324	LR_MW04_0.5	11/11/2013	pH (Lab)	7.3 pH Unit	34.38	34.38
ES1327324	LS_MW01_0.5	2/12/2013	pH (Lab)	7.2 pH Unit	13.38	13.38
ES1327324	LG_MW03_0.5	2/12/2013	pH (Lab)	7.6 pH Unit	13.38	13.38
ES1327324	LD_MW05_2.0	25/11/2013	pH (Lab)	7.8 pH Unit	20.38	20.38
ES1327324	LJ_SB07_0.8	4/12/2013	pH (Lab)	8.8 pH Unit	11.38	11.38
ES1327324	LT_MW04_0.5	6/12/2013	pH (Lab)	4.8 pH Unit	9.38	9.38
ES1327324	LU_SB02_0.1	2/12/2013	pH (Lab)	8.6 pH Unit	13.38	13.38
ES1327373	LH_MW03_3.0	5/12/2013	pH (Lab)	5.2 pH Unit	11.38	11.38
ES1324260	TB_301013	30/10/2013	Toluene	0.5 mg/kg	15.38	15.38
ES1326153	TB	20/11/2013	Toluene	0.5 mg/kg	15.38	15.38
ES1326974	TRIP BLANK	28/11/2013	Toluene	0.5 mg/kg	13.38	16.38
ES1327442	T/BLANK	28/11/2013	Toluene	0.5 mg/kg	17.38	18.38
ES1324260	R01_051113_JK	5/11/2013	Total BTEX	1 µg/L	8.38	8.38
ES1324724	R01_111113_JK	11/11/2013	Total BTEX	1 µg/L	9.38	9.38
ES1325014	R01131113	13/11/2013	Total BTEX	1 µg/L	8.38	8.38
ES1325458	R01_211113_JK	21/11/2013	Total BTEX	1 µg/L	8.38	8.38
ES1325458	R01_201113_JK	20/11/2013	Total BTEX	1 µg/L	9.38	9.38
ES1325886	R01_191113_JK	19/11/2013	Total BTEX	1 µg/L	11.38	11.38
ES1326975	R01_041213_TA	4/12/2013	Total BTEX	1 µg/L	9.38	9.38
ES1327373	R01_06/13/13_JK	6/12/2013	Total BTEX	1 µg/L	11.38	11.38
ES1327442	R01_051213_JK	5/12/2013	Total BTEX	1 µg/L	11.38	11.38
ES1324260	TB_301013	30/10/2013	Total BTEX	0.2 mg/kg	15.38	15.38
ES1326153	TB	20/11/2013	Total BTEX	0.2 mg/kg	15.38	15.38
ES1327442	T/BLANK	28/11/2013	Total BTEX	0.2 mg/kg	17.38	18.38
ES1324260	TB_301013	30/10/2013	Xylene (m & p)	0.5 mg/kg	15.38	15.38
ES1326153	TB	20/11/2013	Xylene (m & p)	0.5 mg/kg	15.38	15.38
ES1326974	TRIP BLANK	28/11/2013	Xylene (m & p)	0.5 mg/kg	13.38	16.38
ES1327442	T/BLANK	28/11/2013	Xylene (m & p)	0.5 mg/kg	17.38	18.38
ES1324260	TB_301013	30/10/2013	Xylene (o)	0.5 mg/kg	15.38	15.38
ES1326153	TB	20/11/2013	Xylene (o)	0.5 mg/kg	15.38	15.38
ES1326974	TRIP BLANK	28/11/2013	Xylene (o)	0.5 mg/kg	13.38	16.38
ES1327442	T/BLANK	28/11/2013	Xylene (o)	0.5 mg/kg	17.38	18.38
ES1324260	TB_301013	30/10/2013	Xylene Total	0.5 mg/kg	15.38	15.38
ES1326153	TB	20/11/2013	Xylene Total	0.5 mg/kg	15.38	15.38
ES1326974	TRIP BLANK	28/11/2013	Xylene Total	0.5 mg/kg	13.38	16.38
ES1327442	T/BLANK	28/11/2013	Xylene Total	0.5 mg/kg	17.38	18.38

SDG	Field_ID	Sampled_Date	ChemName	Sampled_to_Extraction_Days	Sampled_to_Analysis_Days	Major_Exceedance
ES1325573	LD_EW_MW01	21/11/2013	Naphthalene	9	9	Y
ES1325573	LD_EW_MW02	20/11/2013	Naphthalene	9	9	Y
ES1325573	LD_EW_MW03	21/11/2013	Naphthalene	9	9	Y
ES1325573	LD_EW_MW04	21/11/2013	Naphthalene	8	8	Y
ES1325573	D01_211113_TH	21/11/2013	Naphthalene	8	8	Y
ES1325573	R01_201113_TH	20/11/2013	Naphthalene	9	9	Y
ES1325573	R01_211113_TH	21/11/2013	Naphthalene	8	8	Y
ES1326637	LI_MW02	30/11/2013	Naphthalene	10	10	Y
ES1326637	LI_MW03	30/11/2013	Naphthalene	10	10	Y
ES1326637	LI_MW04	30/11/2013	Naphthalene	11	11	Y
ES1326637	LI_MW05	30/11/2013	Naphthalene	11	11	Y
ES1326637	LI_MW06	30/11/2013	Naphthalene	11	11	Y
ES1326637	LI_MW07	30/11/2013	Naphthalene	11	11	Y
ES1326637	RINSATE_301113_NH	30/11/2013	Naphthalene	10	10	Y
ES1326637	TRIP BLANK	30/11/2013	Naphthalene	14	14	Y
ES1326637	D01_301113_NH	30/11/2013	Naphthalene	10	10	Y
ES1326680	TRIP BLANK	25/11/2013	Naphthalene	13	13	Y
ES1326680	LE_MW01	29/11/2013	Naphthalene	9	9	Y
ES1326680	D01_291113_TH	29/11/2013	Naphthalene	9	9	Y
ES1326680	RINSATE_291113_TH	29/11/2013	Naphthalene	9	9	Y
ES1326680	LB_EW_MW01	30/11/2013	Naphthalene	8	8	Y
ES1326680	LD_MW02	30/11/2013	Naphthalene	9	9	Y
ES1326680	LD_MW04	30/11/2013	Naphthalene	8	8	Y
ES1326680	LE_MW06	30/11/2013	Naphthalene	9	9	Y
ES1326680	LE_MW03	30/11/2013	Naphthalene	9	9	Y
ES1326680	RINSATE_301113_TH	30/11/2013	Naphthalene	8	8	Y
ES1327438	LJ_MW04	10/12/2013	Naphthalene	8	8	Y
ES1327438	LJ_MW04	10/12/2013	Naphthalene	8	8	Y
ES1327438	LJ_MW02	10/12/2013	Naphthalene	8	8	Y
ES1327438	LJ_MW02	10/12/2013	Naphthalene	8	8	Y
ES1327438	LQ_MW07	10/12/2013	Naphthalene	8	8	Y
ES1328184	LV_MW03	20/12/2013	Naphthalene	9	9	Y

SDG	Field_ID	Sampled_Date	Compound	Recovery %	LCL	UCL	Comments
ES1324841	LI_MW05_0.5	15/11/2013	Phenol-d6	62	63	123	Recovery less than lower data quality objective
ES1324841	LI_MW07_0.5	15/11/2013	4-Bromofluorobenzene	66.1	71.6	130	Recovery less than lower data quality objective
ES1324841	LI_MW08_0.5	15/11/2013	4-Terphenyl-d14	61.3	65	129	Recovery less than lower data quality objective
ES1324841	LI_MW08_0.5	15/11/2013	Anthracene-d10	62.2	66	128	Recovery less than lower data quality objective
ES1325014	LD_MW05_0.1	13/11/2013	4-Bromofluorobenzene	71.3	71.6	130	Recovery less than lower data quality objective
ES1325014	LD_SB02_0.1	13/11/2013	2-Fluorobiphenyl	123	70	122	Recovery greater than upper data quality objective
ES1325458	LF_SB02_0.1	21/11/2013	2-Chlorophenol-D4	64.8	66	122	Recovery less than lower data quality objective
ES1325458	LQ_SB07_0.1	21/11/2013	2.4.6-Tribromophenol	12.1	40	138	Recovery less than lower data quality objective
ES1325458	R01_201113_JK	20/11/2013	2-Fluorobiphenyl	112	20	104	Recovery greater than upper data quality objective
ES1325458	LE_MW03_2.0	21/11/2013	2-Chlorophenol-D4	51.3	66	122	Recovery less than lower data quality objective
ES1325458	LE_SB06_3.0	21/11/2013	2-Chlorophenol-D4	63.7	66	122	Recovery less than lower data quality objective
ES1325886	LP_SB03_3.0	19/11/2013	1.2-Dichloroethane-D4	72.6	72.8	133.2	Recovery less than lower data quality objective
ES1326152	LL_MW01_3.0	28/11/2013	Anthracene-d10	59.1	66	128	Recovery less than lower data quality objective
ES1326681	LL_SB11_0.5	30/11/2013	Toluene-D8	71.6	73.9	132.1	Recovery less than lower data quality objective
ES1326684	LL_MW05_2.3	30/11/2013	Toluene-D8	73.6	73.9	132.1	Recovery less than lower data quality objective
ES1326686	LS_MW01_3.0	2/12/2013	Toluene-D8	73.5	73.9	132.1	Recovery less than lower data quality objective
ES1327373	LH_SB01_2.0	5/12/2013	2.4.6-Tribromophenol	39.9	40	138	Recovery less than lower data quality objective
ES1327373	LO_MW02_0.1	5/12/2013	2-Chlorophenol-D4	57.7	66	122	Recovery less than lower data quality objective
ES1327373	LG_MW02_1.0	6/12/2013	2.4.6-Tribromophenol	37.5	40	138	Recovery less than lower data quality objective
ES1327422	R01_091213_RO	9/12/2013	1.2-Dichlorobenzene-D4	23	23.6	120.7	Recovery less than lower data quality objective
ES1327786	LB_MW05_2.4	13/12/2013	2-Chlorophenol-D4	62.3	66	122	Recovery less than lower data quality objective
ES1327786	LB_MW07_1.6	13/12/2013	2-Chlorophenol-D4	63.4	66	122	Recovery less than lower data quality objective

SDG	Field_ID	Sampled_Date	Compound	Recovery %	LCL	UCL	Comments
ES1325573	R01_211113_TH	21/11/2013	2-Fluorobiphenyl	105	20	104	Recovery greater than upper data quality objective
ES1325845	LT_MW03	26/11/2013	2-Chlorophenol-D4	97.3	14	94	Recovery greater than upper data quality objective
ES1325845	LC_EW_L3	25/11/2013	4-Terphenyl-d14	115	32	112	Recovery greater than upper data quality objective
ES1325845	LC_EW_L3	25/11/2013	2-Chlorophenol-D4	97	14	94	Recovery greater than upper data quality objective
ES1325845	LC_EW_L4	25/11/2013	Phenol-d6	51.4	10	44	Recovery greater than upper data quality objective
ES1325845	LC_EW_L4	25/11/2013	2-Chlorophenol-D4	99.5	14	94	Recovery greater than upper data quality objective
ES1326216	R01_281113_TH	28/11/2013	Phenol-d6	45.1	10	44	Recovery greater than upper data quality objective
ES1327437	LP_MW06	11/12/2013	2-Chlorophenol-D4	13.7	14	94	Recovery less than lower data quality objective
ES1327805	LO_MW03	16/12/2013	2-Chlorophenol-D4	96	14	94	Recovery greater than upper data quality objective
ES1327805	LJ_MW01	16/12/2013	2-Chlorophenol-D4	98.5	14	94	Recovery greater than upper data quality objective
ES1327805	LJ_MW01	16/12/2013	2-Fluorobiphenyl	112	20	104	Recovery greater than upper data quality objective
ES1327805	LO_MW10	16/12/2013	2-Fluorobiphenyl	106	20	104	Recovery greater than upper data quality objective
ES1327805	R01_161213_JN	16/12/2013	2-Fluorobiphenyl	107	20	104	Recovery greater than upper data quality objective
ES1327805	R01_161213_TH	16/12/2013	2-Fluorobiphenyl	105	20	104	Recovery greater than upper data quality objective
ES1327888	LO_MW11	17/12/2013	4-Terphenyl-d14	120	32	112	Recovery greater than upper data quality objective
ES1327888	LO_MW08	17/12/2013	Phenol-d6	44.7	10	44	Recovery greater than upper data quality objective
ES1327888	LO_MW08	17/12/2013	4-Terphenyl-d14	118	32	112	Recovery greater than upper data quality objective
ES1327888	LO_MW08	17/12/2013	2-Chlorophenol-D4	94.7	14	94	Recovery greater than upper data quality objective
ES1327893	LO_MW02	17/12/2013	2.4.6-Tribromophenol	126	17	125	Recovery greater than upper data quality objective
ES1327893	LB_MW14	17/12/2013	Phenol-d6	45.1	10	44	Recovery greater than upper data quality objective
ES1327964	LB_MW06	18/12/2013	2.4.6-Tribromophenol	14.9	17	125	Recovery less than lower data quality objective
ES1327964	R01_181213_SC	18/12/2013	2.4.6-Tribromophenol	14.8	17	125	Recovery less than lower data quality objective
ES1328114	LR_MW01	19/12/2013	2-Chlorophenol-D4	12.2	14	94	Recovery less than lower data quality objective
ES1328184	LV_MW03	20/12/2013	4-Terphenyl-d14	117	32	112	Recovery greater than upper data quality objective
ES1328184	LV_MW03	20/12/2013	2-Fluorobiphenyl	105	20	104	Recovery greater than upper data quality objective

SDG	Matrix_Ty	SampleCode	OriginalChemName	Recovery	Unit	Comments
ES1327422	SOIL	3837698-007_ES1327422	Vinyl Acetate	29.4	%	Recovery less than lower control limit

SDG	SampleCode	OriginalChemName	Recovery %	Unit	Comments
ES1325573	3796977-007_ES1325573	Phenol	64.4	%	Recovery greater than upper control limit
ES1326680	3818388-002_ES1326680	Phenol	66.2	%	Recovery greater than upper control limit
ES1326680	3818388-002_ES1326680	2-Chlorophenol	63.5	%	Recovery less than lower control limit

SDG	SampleCode	Sampled_Date	Compound	Recovery %	Comments
ES1327422	3836548-005_ES1327427002_ES1327422	6/12/2013	Phenol-d6	45	Recovery greater than upper data quality objective

SDG	SampleCode	Sampled_Date	Compound	Recovery %	Comments
ES1325845	3808815-005_ES1325845010_ES1325845	25/11/2013	Phenol-d6	57.3	Recovery greater than upper data quality objective
ES1326216	3811488-027_ES1326215001_ES1326216	28/11/2013	Mercury	24.4	Recovery less than lower data quality objective
ES1326216	3811692-004_ES1326215001_ES1326216	28/11/2013	Phenol-d6	70.5	Recovery greater than upper data quality objective
ES1326680	3819837-006_ES1326680004_ES1326680	29/11/2013	Mercury	10.8	Recovery less than lower data quality objective
ES1326711	3826153-006_ES1326503002_ES1326711	4/12/2013	Mercury	31.4	Recovery less than lower data quality objective
ES1327443	3836548-005_ES1327427002_ES1327443	6/12/2013	Phenol-d6	44.5	Recovery greater than upper data quality objective
ES1328114	3854231-006_ES1328114002_ES1328114	18/12/2013	Mercury	62	Recovery less than lower data quality objective

SDG	Lab_Duplicate	Field_ID	Compound	Parent_Result	Dupe_Result	Result_Unit	EQL	RPD
ES1324727	3777732-036_ES1324727004_ES1324727	LE_MW06_0.1	Chromium	17	26	mg/kg	2 mg/kg	42
ES1325014	3787449-022_ES1324881006_ES1325014		Arsenic	24	46	mg/kg	5 mg/kg	63
ES1325014	3787449-022_ES1324881006_ES1325014		Copper	18	32	mg/kg	5 mg/kg	56
ES1325014	3787449-022_ES1324881006_ES1325014		Zinc	48	71	mg/kg	5 mg/kg	39
ES1325014	3787449-054_ES1325205019_ES1325014		Zinc	53	35	mg/kg	5 mg/kg	41
ES1325574	3796287-004_ES1325419002_ES1325574		Sum of PAHs	4.5	1.6	mg/kg	0.5 mg/kg	95
ES1325458	3799554-004_ES1325458001_ES1325458	LA_MW03_0.1	Lead	60	42	mg/kg	5 mg/kg	35
ES1325458	3799554-036_ES1325458023_ES1325458	LE_MW03_2.8	Copper	6	11	mg/kg	5 mg/kg	59
ES1325574	3799554-036_ES1325458023_ES1325574		Copper	6	11	mg/kg	5 mg/kg	59
ES1325885	3802667-004_ES1325762001_ES1325885		Mercury	0.1	0.2	mg/kg	0.1 mg/kg	67
ES1325885	3802667-022_ES1325780006_ES1325885		Arsenic	16	8	mg/kg	5 mg/kg	67
ES1325885	3802667-022_ES1325780006_ES1325885		Chromium	22	15	mg/kg	2 mg/kg	38
ES1325843	3809778-022_ES1325843011_ES1325843	LE_SB09_3.0	Arsenic	14	<5	mg/kg	5 mg/kg	95
ES1325847	3809778-022_ES1325843011_ES1325847		Arsenic	14	<5	mg/kg	5 mg/kg	95
ES1325886	3808837-004_ES1325886001_ES1325886	LP_SB03_3.0	Nickel	16	7	mg/kg	2 mg/kg	78
ES1325886	3808837-004_ES1325886001_ES1325886	LP_SB03_3.0	Cadmium	1	2	mg/kg	1 mg/kg	67
ES1325888	3808837-004_ES1325886001_ES1325888		Nickel	16	7	mg/kg	2 mg/kg	78
ES1325888	3808837-004_ES1325886001_ES1325888		Cadmium	1	2	mg/kg	1 mg/kg	67
ES1326152	3811920-004_ES1326079001_ES1326152		Zinc	40	15	mg/kg	5 mg/kg	91
ES1326152	3811920-054_ES1326183002_ES1326152		Zinc	48	13	mg/kg	5 mg/kg	115
ES1326681	3820171-004_ES1326681001_ES1326681	LQ_SB02_0.1	Nickel	18	30	mg/kg	2 mg/kg	50
ES1326683	3820171-004_ES1326681001_ES1326683		Nickel	18	30	mg/kg	2 mg/kg	50
ES1326683	3820171-022_ES1326683001_ES1326683	LL_SB14_1.4	Lead	8	15	mg/kg	5 mg/kg	61
ES1326681	3820171-022_ES1326683001_ES1326681		Lead	8	15	mg/kg	5 mg/kg	61
ES1326689	3821194-036_ES1326689003_ES1326689	LQ_SB02_1.3	Zinc	36	51	mg/kg	5 mg/kg	34
ES1326974	3842055-022_ES1326941012_ES1326974		Nickel	14	8	mg/kg	2 mg/kg	55
ES1327002	3830135-062_ES1326990007_ES1327002		Chromium	9	17	mg/kg	2 mg/kg	62
ES1327002	3830135-062_ES1326990007_ES1327002		Copper	12	21	mg/kg	5 mg/kg	55
ES1327373	3842808-004_ES1327097001_ES1327373		Lead	60	41	mg/kg	5 mg/kg	38
ES1327373	3842808-004_ES1327097001_ES1327373		Nickel	7	4	mg/kg	2 mg/kg	55
ES1327178	3844706-022_ES1327227009_ES1327178		Lead	74	51	mg/kg	5 mg/kg	37
ES1327178	3844706-022_ES1327227009_ES1327178		Nickel	4	<2	mg/kg	2 mg/kg	67
ES1327178	3844706-022_ES1327227009_ES1327178		Zinc	159	112	mg/kg	5 mg/kg	35
ES1327785	3844706-036_ES1327325001_ES1327785		Cadmium	2	1	mg/kg	1 mg/kg	67
ES1327786	3844706-036_ES1327325001_ES1327786		Cadmium	2	1	mg/kg	1 mg/kg	67
ES1327422	3839153-036_ES1327422032_ES1327422	LO_SB04_2.0	Arsenic	20	9	mg/kg	5 mg/kg	76
ES1327430	3839153-036_ES1327422032_ES1327430		Arsenic	20	9	mg/kg	5 mg/kg	76
ES1327439	3839153-036_ES1327422032_ES1327439		Arsenic	20	9	mg/kg	5 mg/kg	76
ES1327441	3839153-036_ES1327422032_ES1327441		Arsenic	20	9	mg/kg	5 mg/kg	76
ES1327440	3842808-036_ES1327423005_ES1327440		Nickel	2	4	mg/kg	2 mg/kg	67
ES1327527	3842808-036_ES1327423005_ES1327527		Nickel	2	4	mg/kg	2 mg/kg	67
ES1327433	3839158-004_ES1327433013_ES1327433	LO_MW10_0.5	Nickel	14	8	mg/kg	2 mg/kg	55
ES1327433	3839158-004_ES1327433013_ES1327433	LO_MW10_0.5	Arsenic	14	34	mg/kg	5 mg/kg	83
ES1327521	3839158-004_ES1327433013_ES1327521		Nickel	14	8	mg/kg	2 mg/kg	55
ES1327521	3839158-004_ES1327433013_ES1327521		Arsenic	14	34	mg/kg	5 mg/kg	83
ES1327433	3839158-022_ES1327433023_ES1327433	LB_MW11_0.5	Cobalt	22	32	mg/kg	2 mg/kg	37
ES1327786	3844706-054_ES1327786001_ES1327786	LB_MW05_0.5	Titanium	110	80	mg/kg	10 mg/kg	32
ES1327785	3844706-054_ES1327786001_ES1327785		Titanium	110	80	mg/kg	10 mg/kg	32
ES1327894	3848794-036_ES1327894001_ES1327894	LI_MW09_0.2	Chromium	2	4	mg/kg	2 mg/kg	67
ES1327894	3848794-054_ES1327894010_ES1327894	D01_161213_JG	Arsenic	42	12	mg/kg	5 mg/kg	111

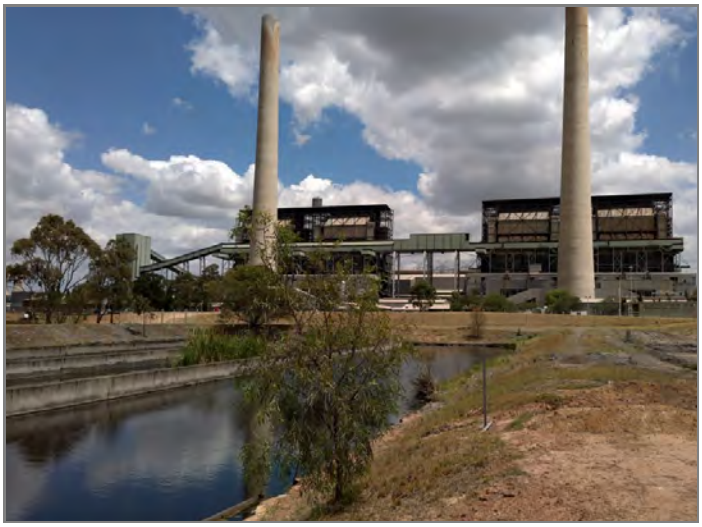
SDG	Lab_Duplicate	Field_ID	Compound	Parent_Result	Dupe_Result	Result_Unit	EQL	RPD
ES1325573	3798552-019_ES1325588008_ES1325573		Arsenic	0.001	0.002	mg/L	0.001 mg/L	67
ES1326680	3821353-006_ES1326680005_ES1326680	RINSATE_291113_TH	Zinc	1	2	µg/L	1 µg/L	67
ES1327437	3838718-028_ES1327437001_ES1327437	LL_MW01	Cadmium	<0.0001	0.0002	mg/L	0.0001 mg/L	67
ES1327437	3841772-031_ES1327457004_ES1327437		Nickel	0.002	<0.001	mg/L	0.001 mg/L	67
ES1327443	3841772-031_ES1327457004_ES1327443		Nickel	0.002	<0.001	mg/L	0.001 mg/L	67
ES1327787	3847749-033_ES1327897003_ES1327787		Arsenic	0.002	0.004	mg/L	0.001 mg/L	67
ES1328114	3854558-006_ES1327963002_ES1328114		Lead	<0.1	0.3	µg/L	0.1 µg/L	100

Annex G

Photographic Log

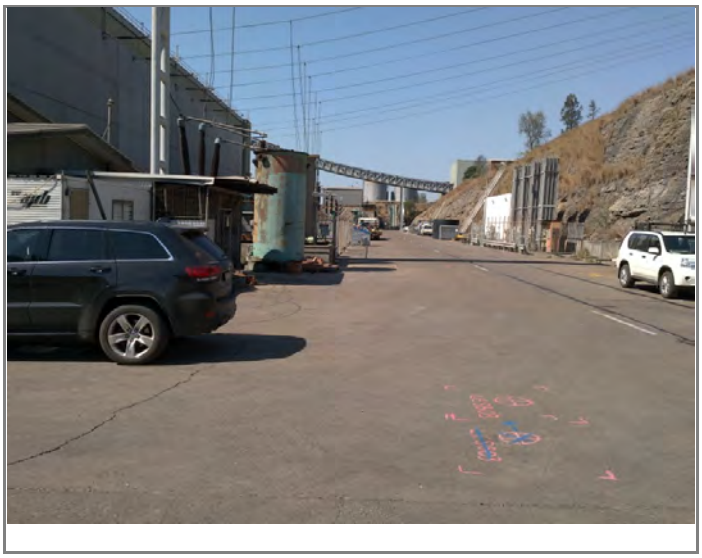
Photograph 1

Liddell solar farm in the foreground with the Liddell operational area in the background.



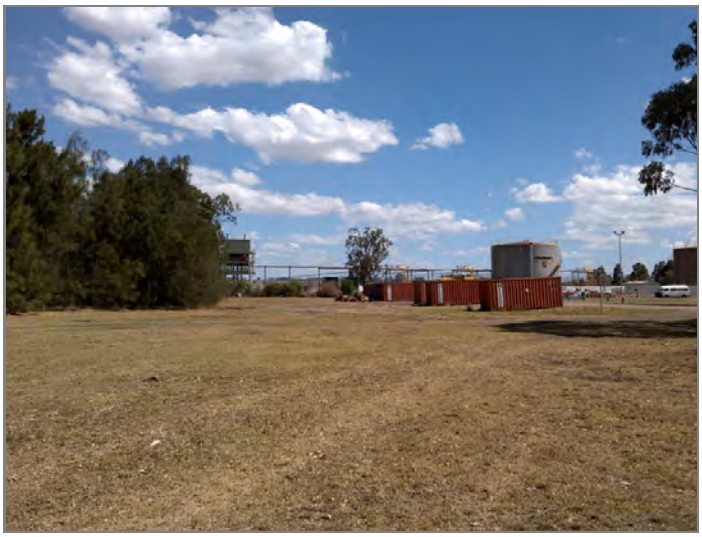
Photograph 2

Representative photo of the stacks and operational area in the background, with the oil and grit traps in the foreground.



Photograph 3

Representative photograph of the Liddell operational area (AEC LQ – Transformer Area).

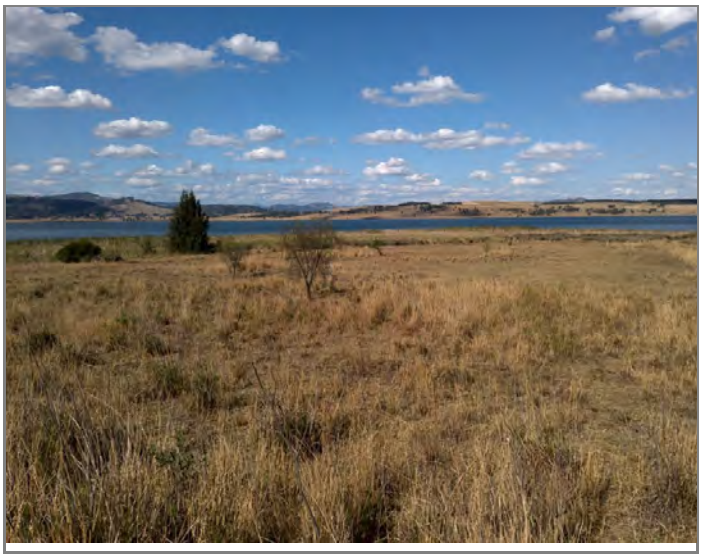


Photograph 4

Open area surrounding the operational area in the foreground with part of the fuel tank farm in the background.

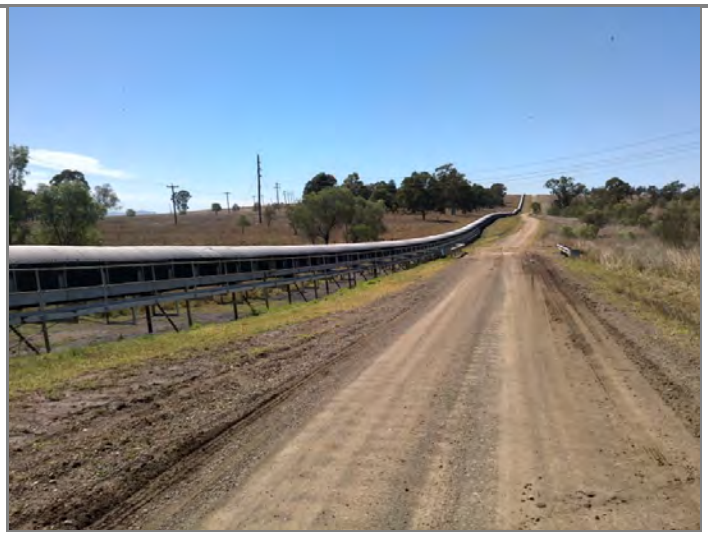
Photograph 5

Liddell fuel tank farm.



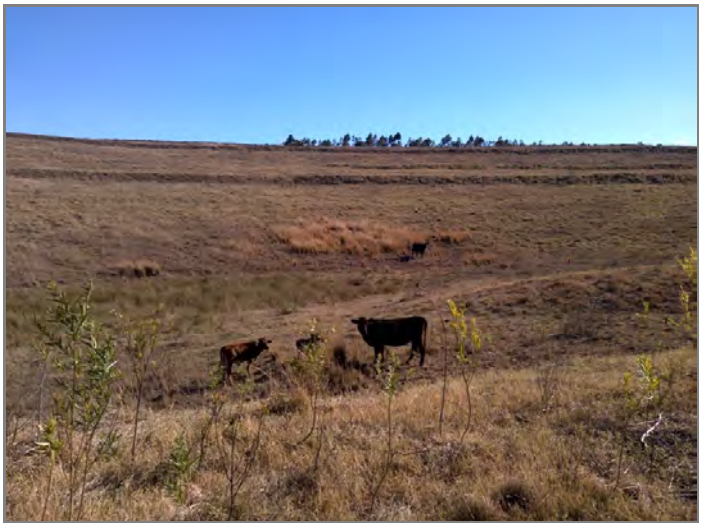
Photograph 6

Open land surrounding Lake Liddell in the foreground and Lake Liddell in the background.



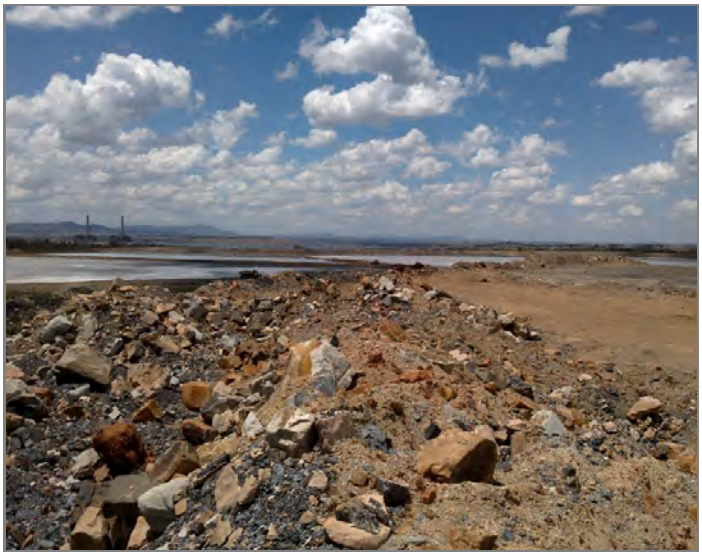
Photograph 7

Coal conveyor located to the south-east of the operational area.



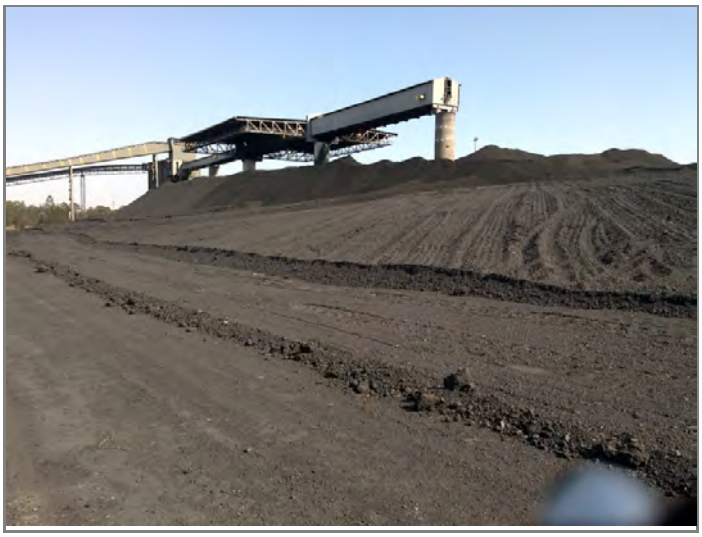
Photograph 8

Representative photo showing mixed land use for some areas of the Liddell site (some open land is shared with graziers).



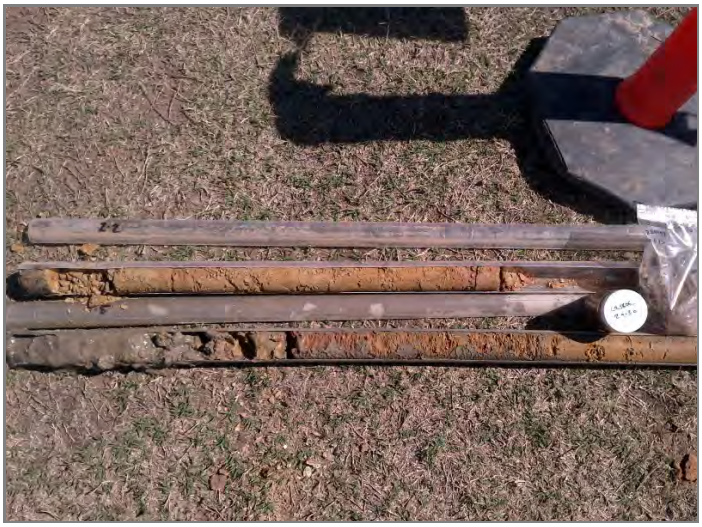
Photograph 9

Representative photograph of the Liddell ash dam with areas of ash placement in the background with dam walls comprised of mine spoil in the foreground.



Photograph 10

The Liddell coal stockpile area and the conveyor infrastructure for transporting coal.



Photograph 11

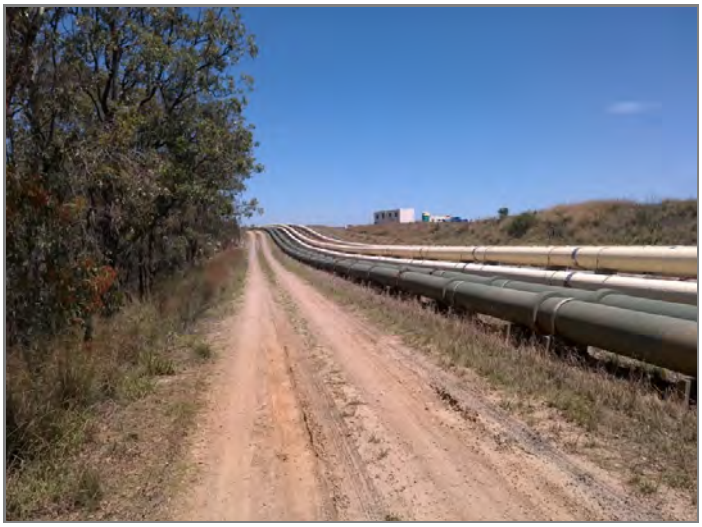
Example soil profile from AEC LO. Soil consisted of natural clay with trace sand.

Photograph 12

Example of a completed groundwater monitoring well with a flush-mounted steel cover (AEC LO).

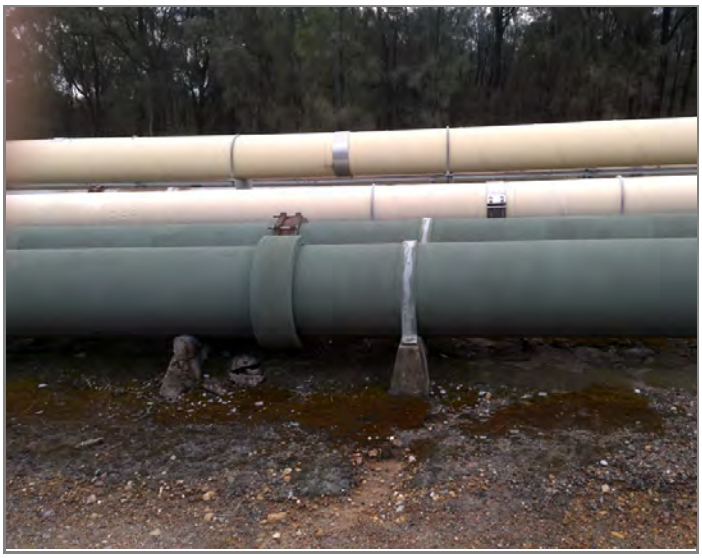
Photograph 13

ACM pipelines to Liddell Ash Dam, showing coating on surface and unsealed ground beneath.



Photograph 14

ACM pipelines to Liddell Ash Dam to the north-west of the operational area.



Photograph 15

ACM pipelines to Liddell Ash Dam, showing area of bitumen sealing beneath.

Annex H

Laboratory Reports

ERM 3

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 4372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4958 8133 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville@alsenvironmental.com.au
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: ERM	TURNAROUND REQUIREMENTS: ☑ Standard TAT (List due date);	FOR LABORATORY USE ONLY (Circle)	
OFFICE: SYDNEY	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☐ Non Standard or urgent TAT (List due date):	Custody Seal Intact?	Yes / No / N/A
PROJECT: Project Symphony	ALS QUOTE NO.: SY/784/13	Free ice / frozen ice bricks present upon receipt	Yes / No / N/A
ORDER NUMBER: 0224198	SITE: BAYSWATER / LIDDELL	Random Sample Temperature on Receipt	4.6 °C
PROJECT MANAGER: JOE FERRING	CONTACT PH:	Other comment:	
SAMPLER: T. ARNANI	SAMPLER MOBILE: 0408406395	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): John Ewing &			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
T. ARNANI			KAMNESH
DATE/TIME: 8.11.13 / 1700	DATE/TIME: 8/11/13 1700	DATE/TIME: 11/11/13 1700	DATE/TIME: 11/11/13 19:00

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Asbestos ⊘ EN

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 (refer to codes below)	TOTAL CONTAINERS	S-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 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 likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	T/BLANK		WATER		1												TRH / BTEX
2	T/SPIKE		Soil		1												BTEX
3	RQL 081113_TA	8.11.13	WATER		3												TRH/BTEX/Pb
4	LN_MW02_0.5		Soil		1	*		*	*	*							HOLD
5	LN_MW02_1.5				1	X		X	X	X							
6	LN_MW02_0.1				1	*		*	*					X			
7	LN_MW03_0.1				1	*		*						X			
8	LN_MW03_0.5				1	X		X	X	X							
9	LP_MW04_0.1				1	*		*						X			
10	LP_MW04_0.5				1	X		X									
11	LP_SB07_0.1				1									X			
12	LP_SB07_0.5				1	X		X									

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 Speciation bottle; SP = Sulfuric Preserved Plastic
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
ES1324460

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Telephone : +61-2-8784 8555

10764

Date Received: 13/11
Time Received: 13:00
Received by: SAS
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

ERM 3

ALS Environmental

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: [illegible]
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: ERM	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics) ☒ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE: SYDNEY	ALS QUOTE NO.: SY/794/13
PROJECT: Project Symphony	SITE: BAYSWATER (MODEL)
ORDER NUMBER: 0204198	COC SEQUENCE NUMBER (Circle) COC: 1 (2) 3 4 5 6 7 OF: 1 (2) 3 4 5 6 7
PROJECT MANAGER: Joe Ferring	CONTACT PH:
SAMPLER: T. ARNANI	SAMPLER MOBILE: 0408406395
COC emailed to ALS? (YES / NO)	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):	

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: 4 °C
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
T. ARNANI	[signature]	[signature]	Ravinesh
DATE/TIME: 8.11.13/1700	DATE/TIME: 8/11/13 1700	DATE/TIME: 11/11/13 1700	DATE/TIME: 11/11/13 1700

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Asbestos @ EN (except for LP_SB08_0.1 : requires split to be sent back)

ALS USE LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to 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, Tl, 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)	Additional Information: Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	LP_SB09 0.1	8.11.13	SOIL		1									X			
14	LPSB09_0.5				1	X		X									
15	DO1_081113_TA				1	X		X									
16	LP_MW03_0.1				2	X		X						X			
17	LP_SB06_0.1				1									X			
18	LP_SB06_0.5				1	X		X									~~Send to Envirolab~~
24	TO1_081113_TA				1	X		X									Send to Envirolab
19	LP_SB06_1.5				1	X		X									
20	LP_SB10_0.1				2									X			
21	LP_SB08_0.1				1	X		X						X			
22	LP_SB08_0.5				1	X		X									
23	TSC				1												
[redacted]					23												

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 Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = 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: Joe Ferring

Sample log in details:

Your reference:	**0207423, Symphony**
Envirolab Reference:	**100767**
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

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

CERTIFICATE OF ANALYSIS 100767

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	100767-1
Your Reference	----------	T01_081113-TA
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	%	82

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	100767-1
Your Reference	----------	T01_081113-TA
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	%	81

PAHs in Soil		
Our Reference:	UNITS	100767-1
Your Reference	----------	T01_081113-TA
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 TEQ NEPM B1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	97

Total Phenolics in Soil		
Our Reference:	UNITS	100767-1
Your Reference	----------	T01_081113-TA
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	100767-1
Your Reference	----------	T01_081113-TA
Date Sampled	----------	08/11/2013
Type of sample		Soil
Date digested	-	14/11/2013
Date analysed	-	15/11/2013
Arsenic	mg/kg	5
Cadmium	mg/kg	<0.4
Chromium	mg/kg	15
Copper	mg/kg	8
Lead	mg/kg	9
Mercury	mg/kg	<0.1
Nickel	mg/kg	3
Zinc	mg/kg	9

Moisture		
Our Reference:	UNITS	100767-1
Your Reference	----------	T01_081113-TA
Date Sampled	----------	08/11/2013
Type of sample		Soil
Date prepared	-	14/11/2013
Date analysed	-	15/11/2013
Moisture	%	19

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 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.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			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%
QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			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%
QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			14/11/2013	[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%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
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 Total Phenolics in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
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 Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date digested	-			14/11/2013	[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	100%
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 Moisture	UNITS	PQL	METHOD	Blank
Date prepared	-			[NT]
Date analysed	-			[NT]
Moisture	%	0.1	Inorg-008	[NT]

Report Comments:

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

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

Quality Control Definitions

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

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

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

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

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

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in 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 →

CLIENT:	ERM
OFFICE:	Sydney
PROJECT:	Project Symphony
ORDER NUMBER:	0224198
PROJECT MANAGER:	Joseph Perry
SAMPLER:	Joshua Kovacs
COC emailed to ALS? (YES / NO)	
Email Reports to (will default to PM if no other addresses are listed)	John Ewing - Symphony.Mergers@erm.com
Email Invoice to (will default to PM if no other addresses are listed):	

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)

ALS QUOTE NO.: SY/794/13

SITE: BAYSWATER / LIDDELL

CONTACT PH:

SAMPLER MOBILE:

EDD FORMAT (or default):

COC SEQUENCE NUMBER (Circle): COC: 0 1 2 3 4 5 6 7; SOF: 0 1 2 3 4 5 6 7

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:		°C	
Other comment:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Joshua Kovacs			A-Weir ELS
DATE/TIME: 15/11/13	DATE/TIME: 15/11/13 1600	DATE/TIME: 15/11/13 1700	DATE/TIME: 18/11/13 15:45

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 (refer to 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, Tl, 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	LI_MW02_0.1	15/11	SOIL		1 Tub	X													
2	LI-MW03_0.1																		
3	LI_MW04-0.5																		
4	LI_MW05_0.5																		
5	DOL_151113_JK					X		X											
6	TOL_151113_JK																		
7	LI_MW06_0.5																		
8	LI_MW07_0.5																		
	LI_MW8_0.5																		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved; S = Sulfuric Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag

Additional Information: ENVIROLAB — Comments on likely contaminant levels, dilutions, or samples requiring specific QC analyses etc. Job No: 100964
Date Received: 18/11/13
Time Received: 15:45
Received by: AW
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Send to Envirolab

Sub-Contract Forward Lab / Split WO
Lab / Analysis: Envirolab / TOL_151113_JK
Organised By / Date: [illegible]
Relinquished By / Date:
Connote / Courier:
WO No:
Attach By PC / Internal Sheet:

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

Environmental Division
Sydney
Work Order
ES1324841

Telephone : +61-2-8784 8555

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, Joshua Kowald

Sample log in details:

Your reference:	**0224198, Project Symphony**
Envirolab Reference:	**100964**
Date received:	18/11/13
Date results expected to be reported:	**25/11/13**

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
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

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

CERTIFICATE OF ANALYSIS 100964

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway
NSW 2007

Attention: Joseph Ferring, Joshua Kowald

Sample log in details:

Your Reference:	**0224198, Project Symphony**
No. of samples:	1 Soil
Date samples received / completed instructions received	18/11/13 / 18/11/13

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:	25/11/13 / 22/11/13
Date of Preliminary Report:	Not issued

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Results Approved By:

Jacinta Hurst
Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	100964-1
Your Reference	----------	T01_151113_JK
Date Sampled	----------	15/11/2013
Type of sample		Soil
Date extracted	-	19/11/2013
Date analysed	-	20/11/2013
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	%	138

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	100964-1
Your Reference	----------	T01_151113_JK
Date Sampled	----------	15/11/2013
Type of sample		Soil
Date extracted	-	19/11/2013
Date analysed	-	20/11/2013
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	%	97

PAHs in Soil		
Our Reference:	UNITS	100964-1
Your Reference	----------	T01_151113_JK
Date Sampled	----------	15/11/2013
Type of sample		Soil
Date extracted	-	19/11/2013
Date analysed	-	20/11/2013
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 TEQ NEPM B1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	111

Total Phenolics in Soil		
Our Reference:	UNITS	100964-1
Your Reference	----------	T01_151113_JK
Date Sampled	----------	15/11/2013
Type of sample		Soil
Date extracted	-	20/11/2013
Date analysed	-	20/11/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil		
Our Reference:	UNITS	100964-1
Your Reference	----------	T01_151113_JK
Date Sampled	----------	15/11/2013
Type of sample		Soil
Date digested	-	20/11/2013
Date analysed	-	20/11/2013
Arsenic	mg/kg	12
Cadmium	mg/kg	<0.4
Chromium	mg/kg	17
Copper	mg/kg	24
Lead	mg/kg	17
Mercury	mg/kg	<0.1
Nickel	mg/kg	13
Zinc	mg/kg	53
Selenium	mg/kg	<2

Moisture		
Our Reference:	UNITS	100964-1
Your Reference	----------	T01_151113_JK
Date Sampled	----------	15/11/2013
Type of sample		Soil
Date prepared	-	19/11/2013
Date analysed	-	20/11/2013
Moisture	%	14

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 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.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			19/11/2013	[NT]	[NT]	LCS-2	19/11/2013
Date analysed	-			20/11/2013	[NT]	[NT]	LCS-2	20/11/2013
TRHC$_6$ - C$_9$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	112%
TRHC$_6$ - C$_{10}$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	112%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-2	111%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-2	116%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	111%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-2	112%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	112%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	101	[NT]	[NT]	LCS-2	102%
QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			19/11/2013	[NT]	[NT]	LCS-2	19/11/2013
Date analysed	-			20/11/2013	[NT]	[NT]	LCS-2	20/11/2013
TRHC$_{10}$ - C$_{14}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	108%
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	98%
TRH>C$_{10}$-C$_{16}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	108%
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	98%
Surrogate o-Terphenyl	%		Org-003	92	[NT]	[NT]	LCS-2	120%
QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			19/11/2013	[NT]	[NT]	LCS-2	19/11/2013
Date analysed	-			20/11/2013	[NT]	[NT]	LCS-2	20/11/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	88%
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	86%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	86%
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	84%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-2	86%
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	83%
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	94%
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	105	[NT]	[NT]	LCS-2	97%
QUALITY CONTROL Total Phenolics in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			20/11/2013	[NT]	[NT]	LCS-1	20/11/2013
Date analysed	-			20/11/2013	[NT]	[NT]	LCS-1	20/11/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	89%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date digested	-			20/11/2013	[NT]	[NT]	LCS-5	20/11/2013
Date analysed	-			20/11/2013	[NT]	[NT]	LCS-5	20/11/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-5	101%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-5	108%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	104%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	102%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	102%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-5	96%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	103%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	103%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Selenium	mg/kg	2	Metals-020 ICP-AES	<2	[NT]	[NT]	LCS-5	102%

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

Report Comments:

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

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

Quality Control Definitions

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

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

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

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

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

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in 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.

[…]nd Floor, 33 Saunders Street, Pyrmont, NSW, 2009. (ph) 02 8584 8888 (fax) 02 8584 8800
Level 3, Tower 3, Yarra Tower, WTC, 18-38 Siddeley Street, Docklands, VIC, 3005. (ph) 03 9696 8011 (fax) 03 9690 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
Hunter Valley 53 Bonville Avenue, Thornton, NSW, 2322. (ph) 02 4964 2150 (fax) 02 4964 2152
☐ North Coast Suite 3/146 Gordon Street, Port Macquarie, NSW, 2444. (ph) 02 6584 7155 (fax) 02 6584 7160
☐ Other

Project No:
Project Name:
Project Location:
Project Manager:
Sampler:

COC Number **A 17020**

Laboratory

General Analysis Requirements

	Yes (tick)
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 exluded 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?	

Other Comments on sample (eg: high voc, highly contaminated, special detection limits etc etc)

Laboratory Number	Sample ID	Sample Depth	Sample Date	Sample Time	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Preservation: Filter	Preservation: Other	Containers (number/type)	BTEX	TPH (C6-C9 P & T) + TPH (C10-C36)	Speciated TPH	VOC Scan (USEPA 8260 List)	SVOC Scan (USEPA 8270 List)	OC OP Pesticides	PAH	Phenols	PCB	Metals* (dissolved / total)	TRH	Asbestos	Other Comments on sample
8	LPD01	–			X			X				1 JAR	X						X	X		X	X	X	
26	LNMW06_0.1																								
9	LNMW06_0.5												X						X	X		X	X	X	
27	LNMW06_1.0																								
28	LNMW07_0.1	NOT REC'D IN ER - Please remove as per client email																							
10	LNMW07_0.5												X						X	X		X	X	X	
29	LNMW07_1.0																								
30	LNMW01_0.1																								
11	LNMW01_0.5												X						X	X		X	X	X	
31	LNMW1_1.0																								
	~~2034~~																								
32	LOSB064_0.1																								
12	LOSB064_0.5												X									X	X	X	
13	R01					X						3	X										X		
	EXTRA SAMPLES REC IN ER																								
33	021381??		7/11		X							1 JAR													
1- 34	ETL-PO		7/11		X							1 JAR													
																							Emailed		

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 100965
Date Received: 18/11/13
Time Received: 15:45
Received by: AD
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Comments:

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

Relinquished by: Signed: Date/Time: Received by: Date/Time:

Relinquished by: Signed: 10 NW Date/Time: 14/11/13 1700 Received by: ELS A.Weir Date/Time: 18/11/13 15:45

2/2

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: Gavin Powell, Jonathon Lekawski

Sample log in details:

Your reference:	**0207420, Symphony - MP**
Envirolab Reference:	**100965**
Date received:	18/11/13
Date results expected to be reported:	

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
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

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

CERTIFICATE OF ANALYSIS 100965

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway
NSW 2007

Attention: Gavin Powell, Jonathon Lekawski

Sample log in details:

Your Reference:	**0207420, Symphony - MP**
No. of samples:	1 Soil
Date samples received / completed instructions received	18/11/13 / 20/11/13

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:	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	100965-1
Your Reference	----------	ETL_P01
Date Sampled	----------	07/11/2013
Type of sample		Soil
Date extracted	-	21/11/2013
Date analysed	-	21/11/2013
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	%	93

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	100965-1
Your Reference	----------	ETL_P01
Date Sampled	----------	07/11/2013
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	%	94

PAHs in Soil		
Our Reference:	UNITS	100965-1
Your Reference	----------	ETL_P01
Date Sampled	----------	07/11/2013
Type of sample		Soil
Date extracted	-	21/11/2013
Date analysed	-	21/11/2013
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 TEQ NEPM B1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	110

Total Phenolics in Soil		
Our Reference:	UNITS	100965-1
Your Reference	----------	ETL_P01
Date Sampled	----------	07/11/2013
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	100965-1
Your Reference	----------	ETL_P01
Date Sampled	----------	07/11/2013
Type of sample		Soil
Date digested	-	21/11/2013
Date analysed	-	21/11/2013
Arsenic	mg/kg	10
Cadmium	mg/kg	<0.4
Chromium	mg/kg	17
Copper	mg/kg	17
Lead	mg/kg	12
Mercury	mg/kg	<0.1
Nickel	mg/kg	12
Zinc	mg/kg	30
Selenium	mg/kg	<2

Moisture		
Our Reference:	UNITS	100965-1
Your Reference	----------	ETL_P01
Date Sampled	----------	07/11/2013
Type of sample		Soil
Date prepared	-	21/11/2013
Date analysed	-	22/11/2013
Moisture	%	17

Asbestos ID - soils		
Our Reference:	UNITS	100965-1
Your Reference	----------	ETL_P01
Date Sampled	----------	07/11/2013
Type of sample		Soil
Date analysed	-	25/11/2013
Sample mass tested	g	Approx 40g
Sample Description	-	Brown fine-grained clayey soil
Asbestos ID in soil	-	No asbestos detected at reporting limit of 0.1g/kg
Trace Analysis	-	No respirable fibres detected

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 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.
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			21/11/2013	[NT]	[NT]	LCS-1	21/11/2013
Date analysed	-			21/11/2013	[NT]	[NT]	LCS-1	21/11/2013
TRHC$_6$ - C$_9$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	75%
TRHC$_6$ - C$_{10}$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	75%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-1	70%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-1	69%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	78%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-1	79%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	80%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	95	[NT]	[NT]	LCS-1	89%
QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			21/11/2013	[NT]	[NT]	LCS-1	21/11/2013
Date analysed	-			21/11/2013	[NT]	[NT]	LCS-1	21/11/2013
TRHC$_{10}$ - C$_{14}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	110%
TRHC$_{15}$ - C$_{28}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	113%
TRHC$_{29}$ - C$_{36}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	91%
TRH>C$_{10}$-C$_{16}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	110%
TRH>C$_{16}$-C$_{34}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	113%
TRH>C$_{34}$-C$_{40}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	91%
Surrogate o-Terphenyl	%		Org-003	95	[NT]	[NT]	LCS-1	126%
QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			21/11/2013	[NT]	[NT]	LCS-1	21/11/2013
Date analysed	-			21/11/2013	[NT]	[NT]	LCS-1	21/11/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	92%
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	94%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	91%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	89%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	95%
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	85%
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	94%
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-1	104%
QUALITY CONTROL Total Phenolics in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
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%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date digested	-			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%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Selenium	mg/kg	2	Metals-020 ICP-AES	<2	[NT]	[NT]	LCS-3	102%

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

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

Report Comments:

Asbestos: A portion of the supplied sample was sub-sampled for asbestos analysis according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sample. Envirolab recommends supplying 40-50g of sample in its own container.

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

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

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

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

Quality Control Definitions

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

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

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

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

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

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in 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 -TOY

~~Subcon~~ / ~~Forward~~ Lab / Split WO
Lab / Analysis: ~~Newcastle / ...~~ (9)
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No:
Attach By PO / Internal Sheet:

1 x CLIP SEAS = ASBESTOS KEPT @ EN.

CHAIN OF CUSTODY

ALS

ALS Laboratory, please tick ->

CLIENT: ERM	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☑ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):
OFFICE: Sydney	
PROJECT: Project Symphony	ALS QUOTE NO.: SY/794/13
ORDER NUMBER: 0224198	SITE: BAYSWATER / LIDDELL (circled: LIDDELL)
PROJECT MANAGER: Joseph Canning	CONTACT PH:
SAMPLER: Josh Kandel	SAMPLER MOBILE:
COC emailed to ALS? (YES / NO) (NO circled)	EDD FORMAT (or default):
Email Reports to (will default to PM if no other addresses are listed): Symphony.manager@erm.com	
Email Invoice to (will default to PM if no other addresses are listed):	

COC SEQUENCE NUMBER (Circle)
COC: 1 2 3 4 5 6 7
OF: 1 2 3 4 5 6 7

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Josh Kandel	Spm	Spm	
DATE/TIME: 25/11/13	DATE/TIME: 28/11/13 10:30	DATE/TIME: 28/11/13 12:00	DATE/TIME:

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: °C
Other comment:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

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

Job No: 101604
Date Received: 29/11
Time Received: 3pm
Received by: TS
Temp: Cool/Ambient (Cool circled) 12°
Cooling: Ice/Icepack (circled)
Security: Intact/Broken/None (Intact circled)

ALS USE LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to 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, Tl, Se)	S-24 TRH(C6-C40)/BTEXN, PAH, Phenols	VOC Target Scan	PCB	pH (1:5)	~~Exchangeable Cations (ED007)~~ EC	PFOS/PFOA	Asbestos (absence/presence)	Particle Sizing to 75µm (Sieve)	Organic Matter plus Total Organic Carbon (EP004)	Additional Information: Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	LO_MW5_0.5	25/11/13	SOIL			X		X						X			
2	LI_MW5_3.0		S			X		X									
3	ROL_251113_JK		W														BTEX/TRH
4	LA_SB02_3.0					X		X									
5	LA_MW01_2.1					X		X									
6	DOI_251113_TA					X		X									
7	LA_MW02_3.0					X		X									
1 – ~~8~~	TOI_251113_TA					X		X									Send to Envirolab
8 ~~9~~	LA_MW03_3.0					X		X			X						
9 ~~10~~	LA_MW03_3.9											X			X		
10 ~~11~~	LA_SB02_3.0					X		X									

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 Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved
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
ES1325840

Telephone : +61-2-8784 8555

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:	**0224198, Symphony**
Envirolab Reference:	**101604**
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

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

CERTIFICATE OF ANALYSIS 101604

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway
NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference:	**0224198, 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

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	101604-1
Your Reference	----------	T01-251113-TA
Date Sampled	----------	25/11/2013
Type of sample		Soil
Date extracted	-	02/12/2013
Date analysed	-	02/12/2013
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	%	119

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	101604-1
Your Reference	----------	T01-251113-TA
Date Sampled	----------	25/11/2013
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	%	90

PAHs in Soil		
Our Reference:	UNITS	101604-1
Your Reference	----------	T01-251113-TA
Date Sampled	----------	25/11/2013
Type of sample		Soil
Date extracted	-	02/12/2013
Date analysed	-	03/12/2013
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 TEQ NEPM B1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	99

Total Phenolics in Soil		
Our Reference:	UNITS	101604-1
Your Reference	----------	T01-251113-TA
Date Sampled	----------	25/11/2013
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	101604-1
Your Reference	----------	T01-251113-TA
Date Sampled	----------	25/11/2013
Type of sample		Soil
Date digested	-	02/12/2013
Date analysed	-	02/12/2013
Arsenic	mg/kg	10
Cadmium	mg/kg	<0.4
Chromium	mg/kg	11
Copper	mg/kg	8
Lead	mg/kg	31
Mercury	mg/kg	<0.1
Nickel	mg/kg	4
Zinc	mg/kg	19

Moisture		
Our Reference:	UNITS	101604-1
Your Reference	----------	T01-251113-TA
Date Sampled	----------	25/11/2013
Type of sample		Soil
Date prepared	-	2/12/2013
Date analysed	-	3/12/2013
Moisture	%	13

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 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.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			02/12/2013	[NT]	[NT]	LCS-4	02/12/2013
Date analysed	-			02/12/2013	[NT]	[NT]	LCS-4	02/12/2013
TRHC$_6$ - C$_9$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-4	107%
TRHC$_6$ - C$_{10}$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-4	107%
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	109%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-4	111%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-4	111%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	120	[NT]	[NT]	LCS-4	122%
QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			02/12/2013	[NT]	[NT]	LCS-4	02/12/2013
Date analysed	-			03/12/2013	[NT]	[NT]	LCS-4	03/12/2013
TRHC$_{10}$ - C$_{14}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-4	118%
TRHC$_{15}$ - C$_{28}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-4	118%
TRHC$_{29}$ - C$_{36}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-4	121%
TRH>C$_{10}$-C$_{16}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-4	118%
TRH>C$_{16}$-C$_{34}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-4	118%
TRH>C$_{34}$-C$_{40}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-4	121%
Surrogate o-Terphenyl	%		Org-003	95	[NT]	[NT]	LCS-4	135%
QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			02/12/2013	[NT]	[NT]	LCS-4	02/12/2013
Date analysed	-			03/12/2013	[NT]	[NT]	LCS-4	03/12/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	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-4	104%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	99%
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	99%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-4	105%
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	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-4	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-4	98%
QUALITY CONTROL Total Phenolics in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
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%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date digested	-			02/12/2013	[NT]	[NT]	LCS-1	02/12/2013
Date analysed	-			02/12/2013	[NT]	[NT]	LCS-1	02/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-1	110%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-1	115%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	109%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	105%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	114%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-1	81%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	111%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-1	115%

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

Report Comments:

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

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

Quality Control Definitions

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

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

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

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

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

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in 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.

ES1326152

Enviro

CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT:	ERM (MacGen)
OFFICE:	PYRMONT
PROJECT:	Project Symphony
ORDER NUMBER:	0224198
PROJECT MANAGER:	JOE FERRING
CONTACT PH:	
SAMPLER:	JOSH GIRVIN
SAMPLER MOBILE:	
COC emailed to ALS? (YES / NO)	
EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed):	symphony.macgen@erm.com
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. Ultra Trace Organics)
- ☑ Standard TAT (List due date):
- ☐ Non Standard or urgent TAT (List due date):

ALS QUOTE NO.: SY/794/13

SITE: BAYSWATER / LIDDELL (LIDDELL circled)

COC SEQUENCE NUMBER (Circle)
COC: 1 2 3 4 5 6 7
OF: 1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)
- Custody Seal Intact? Yes (circled) No N/A
- Free ice / frozen ice bricks present upon receipt? Yes (circled) No N/A
- Random Sample Temperature on Receipt: °C
- Other comment: 4.8

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
	Src	[signature]	[signature]
DATE/TIME:	DATE/TIME: 2/12/13 11:15	DATE/TIME: 2/12/13 1230	DATE/TIME: 2/12/13 1900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

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).

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to 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, Tl, 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 likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	T01_281113_JG	28/11/13	SOIL	1 Jar	1	X		X		X							Fwd. to Envirolab

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

Job No: 101720
Date Received: 3 Dec 2013
Time Received: 13:45pm
Received by: Ho
Temp: Cool/Ambient
Cooling: Ice/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 - 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 Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = 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: Joe Ferring

Sample log in details:

Your reference:	**0224198, Symphony**
Envirolab Reference:	**101720**
Date received:	03/12/13
Date results expected to be reported:	**10/12/13**

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	Standard
Temperature on receipt (°C)	9.7
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

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

CERTIFICATE OF ANALYSIS 101720

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway
NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference:	**0224198, Symphony**		
No. of samples:	1 Soil		
Date samples received / completed instructions received	03/12/13	/	03/12/13

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:	10/12/13	/	6/12/13
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	101720-1
Your Reference	----------	T01-281113-JG
Date Sampled	----------	28/11/2013
Type of sample		Soil
Date extracted	-	04/12/2013
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	%	85

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	101720-1
Your Reference	----------	T01-281113-JG
Date Sampled	----------	28/11/2013
Type of sample		Soil
Date extracted	-	04/12/2013
Date analysed	-	05/12/2013
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	%	109

PAHs in Soil		
Our Reference:	UNITS	101720-1
Your Reference	----------	T01-281113-JG
Date Sampled	----------	28/11/2013
Type of sample		Soil
Date extracted	-	04/12/2013
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 TEQ NEPM B1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	92

Total Phenolics in Soil		
Our Reference:	UNITS	101720-1
Your Reference	----------	T01-281113-JG
Date Sampled	----------	28/11/2013
Type of sample		Soil
Date extracted	-	04/12/2013
Date analysed	-	04/12/2013
Total Phenolics (as Phenol)	mg/kg	<5

PCBs in Soil		
Our Reference:	UNITS	101720-1
Your Reference	----------	T01-281113-JG
Date Sampled	----------	28/11/2013
Type of sample		Soil
Date extracted	-	04/12/2013
Date analysed	-	04/12/2013
Arochlor 1016	mg/kg	<0.1
Arochlor 1221	mg/kg	<0.1
Arochlor 1232	mg/kg	<0.1
Arochlor 1242	mg/kg	<0.1
Arochlor 1248	mg/kg	<0.1
Arochlor 1254	mg/kg	<0.1
Arochlor 1260	mg/kg	<0.1
Surrogate TCLMX	%	95

Acid Extractable metals in soil		
Our Reference:	UNITS	101720-1
Your Reference	----------	T01-281113-JG
Date Sampled	----------	28/11/2013
Type of sample		Soil
Date digested	-	04/12/2013
Date analysed	-	05/12/2013
Arsenic	mg/kg	8
Cadmium	mg/kg	<0.4
Chromium	mg/kg	8
Copper	mg/kg	6
Lead	mg/kg	4
Mercury	mg/kg	<0.1
Nickel	mg/kg	3
Zinc	mg/kg	16

Moisture		
Our Reference:	UNITS	101720-1
Your Reference	----------	T01-281113-JG
Date Sampled	----------	28/11/2013
Type of sample		Soil
Date prepared	-	04/12/2013
Date analysed	-	05/12/2013
Moisture	%	16

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 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.
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.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			04/12/2013	[NT]	[NT]	LCS-1	04/12/2013
Date analysed	-			04/12/2013	[NT]	[NT]	LCS-1	04/12/2013
TRHC$_6$ - C$_9$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	96%
TRHC$_6$ - C$_{10}$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	96%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-1	85%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-1	81%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	102%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-1	105%
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	87	[NT]	[NT]	LCS-1	93%
QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			04/12/2013	[NT]	[NT]	LCS-1	04/12/2013
Date analysed	-			05/12/2013	[NT]	[NT]	LCS-1	05/12/2013
TRHC$_{10}$ - C$_{14}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	118%
TRHC$_{15}$ - C$_{28}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	121%
TRHC$_{29}$ - C$_{36}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	105%
TRH>C$_{10}$-C$_{16}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	118%
TRH>C$_{16}$-C$_{34}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	121%
TRH>C$_{34}$-C$_{40}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	105%
Surrogate o-Terphenyl	%		Org-003	100	[NT]	[NT]	LCS-1	109%
QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			04/12/2013	[NT]	[NT]	LCS-1	04/12/2013
Date analysed	-			04/12/2013	[NT]	[NT]	LCS-1	04/12/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	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-1	91%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	89%
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	88%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	89%
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	84%
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	98%
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	91	[NT]	[NT]	LCS-1	85%
QUALITY CONTROL Total Phenolics in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			04/12/2013	[NT]	[NT]	LCS-1	04/12/2013
Date analysed	-			04/12/2013	[NT]	[NT]	LCS-1	04/12/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	87%
QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			04/12/2013	[NT]	[NT]	LCS-1	04/12/2013
Date analysed	-			04/12/2013	[NT]	[NT]	LCS-1	04/12/2013
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-1	111%
Arochlor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		Org-006	89	[NT]	[NT]	LCS-1	80%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date digested	-			05/12/2013	[NT]	[NT]	LCS-2	04/12/2013
Date analysed	-			05/12/2013	[NT]	[NT]	LCS-2	05/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-2	97%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-2	104%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-2	102%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-2	100%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-2	100%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-2	91%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-2	99%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-2	102%

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

Report Comments:

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

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

Quality Control Definitions

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

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

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

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

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

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in 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 →

CLIENT: ERM	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☑ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Pyrmont		Custody Seal Intact? Yes No N/A
PROJECT: Project Symphony	ALS QUOTE NO.: SY/794/13	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 0224198	SITE: BAYSWATER / LIDDELL	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: JOE FERRING	CONTACT PH:	COC SEQUENCE NUMBER (Circle): COC: 1 2 3 4 5 6 7; OF: 1 2 3 4 5 6 7
SAMPLER: JOSH GIRVIN	SAMPLER MOBILE:	Other comment:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	RELINQUISHED BY: / DATE/TIME: / RECEIVED BY: French ELS / DATE/TIME: 6/12/13 16:05
Email Reports to (will default to PM if no other addresses are listed):		RELINQUISHED BY: / DATE/TIME: / RECEIVED BY: / 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 (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 (refer to 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, Tl, 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 likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	TOL_301113_JG	30/11/13	SOIL	1 Jar	1	X		X	X	X			X				Pls. Fwd. to Enviro lab.

ENVIROLAB GROUP

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

Job No: 10945
Date Received: 6/12/13
Time Received: 16:05
Received by:
Temp: Cool/Ambient
Cooling: Ice/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 = 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 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 Sulphate Soils; B = 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: Joe Ferring

Sample log in details:

Your reference:	**0224198, Pyrmont**
Envirolab Reference:	**101945**
Date received:	06/12/2013
Date results expected to be reported:	**17/12/13**

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.

PFOS results ready 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

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

CERTIFICATE OF ANALYSIS 101945

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway
NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference:	**0224198, Pyrmont**		
No. of samples:	1 Soil		
Date samples received / completed instructions received	06/12/2013	/	06/12/2013

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:	17/12/13	/	19/12/13
Date of Preliminary Report:	18/12/2013		

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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	101945-1
Your Reference	----------	T01_301113_JG
Date Sampled	----------	30/11/2013
Type of sample		Soil
Date extracted	-	09/12/2013
Date analysed	-	10/12/2013
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:	UNITS	101945-1
Your Reference	----------	T01_301113_JG
Date Sampled	----------	30/11/2013
Type of sample		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	%	87
Surrogate aaa-Trifluorotoluene	%	92
Surrogate Toluene-d_8	%	101
Surrogate 4-Bromofluorobenzene	%	87

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	101945-1
Your Reference	----------	T01_301113_JG
Date Sampled	----------	30/11/2013
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	<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	101945-1
Your Reference	----------	T01_301113_JG
Date Sampled	----------	30/11/2013
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	%	97

PAHs in Soil		
Our Reference:	UNITS	101945-1
Your Reference	----------	T01_301113_JG
Date Sampled	----------	30/11/2013
Type of sample		Soil
Date extracted	-	09/12/2013
Date analysed	-	09/12/2013
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 TEQ NEPM B1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	94

Total Phenolics in Soil		
Our Reference:	UNITS	101945-1
Your Reference	----------	T01_301113_JG
Date Sampled	----------	30/11/2013
Type of sample		Soil
Date extracted	-	10/12/2013
Date analysed	-	10/12/2013
Total Phenolics (as Phenol)	mg/kg	<5

PCBs in Soil		
Our Reference:	UNITS	101945-1
Your Reference	----------	T01_301113_JG
Date Sampled	----------	30/11/2013
Type of sample		Soil
Date extracted	-	09/12/2013
Date analysed	-	10/12/2013
Arochlor 1016	mg/kg	<0.1
Arochlor 1221	mg/kg	<0.1
Arochlor 1232	mg/kg	<0.1
Arochlor 1242	mg/kg	<0.1
Arochlor 1248	mg/kg	<0.1
Arochlor 1254	mg/kg	<0.1
Arochlor 1260	mg/kg	<0.1
Surrogate TCLMX	%	99

Acid Extractable metals in soil		
Our Reference:	UNITS	101945-1
Your Reference	----------	T01_301113_JG
Date Sampled	----------	30/11/2013
Type of sample		Soil
Date digested	-	09/12/2013
Date analysed	-	09/12/2013
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	3

Moisture		
Our Reference:	UNITS	101945-1
Your Reference	----------	T01_301113_JG
Date Sampled	----------	30/11/2013
Type of sample		Soil
Date prepared	-	09/12/2013
Date analysed	-	10/12/2013
Moisture	%	20

Perfluorochemicals in Soil		
Our Reference:	UNITS	101945-1
Your Reference	----------	T01_301113_JG
Date Sampled	----------	30/11/2013
Type of sample		Soil
PFOS (Branched and Linear)	µg/kg	<1.0
Perfluorooctanoate PFOA	µg/kg	<0.50
Surrogate 1 Recovery	%	146
Date Analysed	-	17/12/2013
Date Extracted	-	18/12/2013

Method ID	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.
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.
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.

QUALITY CONTROL VOCs in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			09/12/2013	[NT]	[NT]	LCS-1	09/12/2013
Date analysed	-			10/12/2013	[NT]	[NT]	LCS-1	10/12/2013
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-1	96%
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-1	87%
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-1	87%
1,1,1-trichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-1	91%
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-1	78%
bromodichloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-1	82%
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-1	76%
1,2-dibromoethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
tetrachloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-1	91%
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]

QUALITY CONTROL VOCs in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
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	85	[NT]	[NT]	LCS-1	93%
Surrogate aaa-Trifluorotoluene	%		Org-014	95	[NT]	[NT]	LCS-1	93%
Surrogate Toluene-d_8	%		Org-014	101	[NT]	[NT]	LCS-1	100%
Surrogate 4-Bromofluorobenzene	%		Org-014	89	[NT]	[NT]	LCS-1	87%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			09/12/2013	[NT]	[NT]	LCS-1	09/12/2013
Date analysed	-			10/12/2013	[NT]	[NT]	LCS-1	10/12/2013
$TRHC_6$ - C_9	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	96%
$TRHC_6$ - C_{10}	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	96%
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	91%
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	101%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	103%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	95	[NT]	[NT]	LCS-1	94%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			09/12/2013	[NT]	[NT]	LCS-2	09/12/2013
Date analysed	-			09/12/2013	[NT]	[NT]	LCS-2	09/12/2013
$TRHC_{10}$ - C_{14}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	126%
$TRHC_{15}$ - C_{28}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	114%
$TRHC_{29}$ - C_{36}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	106%
$TRH>C_{10}$-C_{16}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-2	126%
$TRH>C_{16}$-C_{34}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	114%
$TRH>C_{34}$-C_{40}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-2	106%
Surrogate o-Terphenyl	%		Org-003	97	[NT]	[NT]	LCS-2	100%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			09/12/2013	[NT]	[NT]	LCS-1	09/12/2013
Date analysed	-			09/12/2013	[NT]	[NT]	LCS-1	09/12/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	91%
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	90%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	88%
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	89%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	92%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	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-1	97%
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	91	[NT]	[NT]	LCS-1	94%
QUALITY CONTROL Total Phenolics in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
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%
QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			09/12/2013	[NT]	[NT]	LCS-2	09/12/2013
Date analysed	-			10/12/2013	[NT]	[NT]	LCS-2	10/12/2013
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-2	118%
Arochlor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		Org-006	99	[NT]	[NT]	LCS-2	89%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date digested	-			09/12/2013	[NT]	[NT]	LCS-3	09/12/2013
Date analysed	-			09/12/2013	[NT]	[NT]	LCS-3	09/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-3	102%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-3	111%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	106%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	105%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	103%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-3	88%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	106%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-3	104%

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

QUALITY CONTROL Perfluorochemicals in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD
PFOS (Branched and Linear)	µg/kg	1	Ext-038	[NT]	101945-1	<1.0 || <1.0
Perfluorooctanoate PFOA	µg/kg	0.50	Ext-038	[NT]	101945-1	<0.50 || <0.50
Surrogate 1 Recovery	%		Ext-038	[NT]	101945-1	146 || 127 || RPD: 14
Date Analysed	-		Ext-038	[NT]	101945-1	17/12/2013 || 17/12/2013
Date Extracted	-		Ext-038	[NT]	101945-1	18/12/2013 || 18/12/2013

Report Comments:

PFCS analysed by Advanced Analytical Australia. Report No.A13/6269.

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.

ALS | **CHAIN OF CUSTODY**

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: ERM
OFFICE: Sydney
PROJECT: Project Symphony
ORDER NUMBER: 0224198
PROJECT MANAGER:
SAMPLER: Josha Kaad
COC emailed to ALS? (YES / NO)
Email Reports to (will default to PM if no other addresses are listed): John Ewing, Symphony. Marga@erm.com
Email Invoice to (will default to PM if no other addresses are listed):
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

CONTACT PH:
SAMPLER MOBILE:
EDD FORMAT (or default):

TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)
☑ Standard TAT (List due date):
☐ Non Standard or urgent TAT (List due date):
ALS QUOTE NO.: SY/794/13
SITE: BAYSWATER / LIDDELL

COC SEQUENCE NUMBER (Circle)
COC: 1 2 3 4 5 6 7
OF: 1 2 3 4 5 6 7

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: °C
Other comment:

RELINQUISHED BY: Josha Kaad
DATE/TIME: 2/12/13

RECEIVED BY: Frank ALS
DATE/TIME: 4.12.13 1900

RELINQUISHED BY:
DATE/TIME:

RECEIVED BY:
DATE/TIME:

ALS USE LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to 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, Tl, 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)	Additional Information: Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1 ✓	LU_MW02_0.1		SOIL			X		X									
2 ✓	LU_SB01_0.1					X		X									
3 ✓	LI_MW01_0.1					X		X									
4 ✓	D01_2/12/13_JK					X		X									
1 * ✓	T01_2/12/13_JK					X		X									
5 ✓	LU_SB02_0.1					X		X									Send to Enviro lab
6 ✓	LU_SB04_0.1					X		X									
7 ✓	LQ_MW01_0.5					X		X									
8 ✓	LQ_MW04_0.5					X		X	X	X							
9 ✓	LQ_MW03_0.5					X		X									
10	R01_2/12/13_JK																
11, 12	Trip Blank Spike																Btex, Trh, Metals
13	TSC																

Environmental Division
Sydney
Work Order
ES1326685
Telephone : +61-2-8784 8555

ENVIROLAB GROUP
Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200
Job No: 101948
Date Received: 6/12/13
Time Received: 10:45
Received by:
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Subcontract / Forward Lab / Split WO
Lab / Analysis: ENVIROLAB : T01_2/12/13_JK
Relinquished By / Date:
Connote / Courier:
WO No: ES1326685
Attach By PO / Internal Sheet:

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 Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = 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: JK

Sample log in details:

Your reference:	**0224198, Project Symphony**
Envirolab Reference:	**101948**
Date received:	06/12/2013
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

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

CERTIFICATE OF ANALYSIS 101948

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway
NSW 2007

Attention: JK

Sample log in details:

Your Reference:	**0224198, Project Symphony**
No. of samples:	1 Soil
Date samples received / completed instructions received	06/12/2013 / 06/12/2013

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:	13/12/13 / 12/12/13
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	101948-1
Your Reference	----------	T01_21213
Date Sampled	----------	2/12/2013
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	<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	%	83

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	101948-1
Your Reference	----------	T01_21213
Date Sampled	----------	2/12/2013
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	101948-1
Your Reference	----------	T01_21213
Date Sampled	----------	2/12/2013
Type of sample		Soil
Date extracted	-	09/12/2013
Date analysed	-	10/12/2013
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 TEQ NEPM B1	mg/kg	<0.5
Total +ve PAH's	mg/kg	0.21
Surrogate p-Terphenyl-d14	%	102

Total Phenolics in Soil		
Our Reference:	UNITS	101948-1
Your Reference	----------	T01_21213
Date Sampled	----------	2/12/2013
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	101948-1
Your Reference	----------	T01_21213
Date Sampled	----------	2/12/2013
Type of sample		Soil
Date digested	-	09/12/2013
Date analysed	-	09/12/2013
Arsenic	mg/kg	8
Cadmium	mg/kg	<0.4
Chromium	mg/kg	14
Copper	mg/kg	12
Lead	mg/kg	13
Mercury	mg/kg	<0.1
Nickel	mg/kg	9
Zinc	mg/kg	39

Moisture		
Our Reference:	UNITS	101948-1
Your Reference	----------	T01_21213
Date Sampled	----------	2/12/2013
Type of sample		Soil
Date prepared	-	09/12/2013
Date analysed	-	10/12/2013
Moisture	%	10

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 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.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			09/12/2013	[NT]	[NT]	LCS-6	09/12/2013
Date analysed	-			10/12/2013	[NT]	[NT]	LCS-6	10/12/2013
$TRHC_6$ - C_9	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-6	105%
$TRHC_6$ - C_{10}	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-6	105%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-6	90%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-6	75%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-6	118%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-6	122%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-6	123%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	107	[NT]	[NT]	LCS-6	98%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			09/12/2013	[NT]	[NT]	LCS-6	09/12/2013
Date analysed	-			09/12/2013	[NT]	[NT]	LCS-6	09/12/2013
$TRHC_{10}$ - C_{14}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-6	105%
$TRHC_{15}$ - C_{28}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-6	104%
$TRHC_{29}$ - C_{36}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-6	120%
$TRH>C_{10}$-C_{16}	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-6	105%
$TRH>C_{16}$-C_{34}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-6	104%
$TRH>C_{34}$-C_{40}	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-6	120%
Surrogate o-Terphenyl	%		Org-003	97	[NT]	[NT]	LCS-6	119%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			09/12/2013	[NT]	[NT]	LCS-6	09/12/2013
Date analysed	-			10/12/2013	[NT]	[NT]	LCS-6	10/12/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-6	92%
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	96%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-6	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-6	93%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-6	95%
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	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-6	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-6	102%
QUALITY CONTROL Total Phenolics in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
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%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date digested	-			09/12/2013	[NT]	[NT]	LCS-6	09/12/2013
Date analysed	-			09/12/2013	[NT]	[NT]	LCS-6	09/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-6	99%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-6	111%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	105%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	104%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	102%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-6	91%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	104%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-6	102%

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

Report Comments:

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

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

Quality Control Definitions

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

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

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

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

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

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in 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.

Additional / Forward Lab / Split WO
Lab / Analysis: ENVIROLAB - TOL_041213_SP
Organised By / Date: Frank
Relinquished By / Date:
Courier / Courier:
WO No: ES1326976
Attach to PO / Internal Sheets

CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT: FRM	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Sydney	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☑ Non Standard or urgent TAT (List due date): 3 day TAT	Custody Seal Intact?	Yes / No / N/A
PROJECT: Project Symphony	ALS QUOTE NO.: SY/794/13	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 0224169	SITE: BAYSWATER / KIDDELL	coc: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: 26 °C
PROJECT MANAGER: Joe Fleming	CONTACT PH:	or: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Sean Penzo	SAMPLER MOBILE: 0412614304	RELINQUISHED BY: Sean Penzo	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 5/12/13	DATE/TIME: 10/12/13 1430
Email Reports to (will default to PM if no other addresses are listed):	John.ewing@hotmail.com	RELINQUISHED BY:	RECEIVED BY: Frank ALS
Email Invoice to (will default to PM if no other addresses are listed):	and Symphony.Invoices@frm.com	DATE/TIME: 10/12/13 1700	DATE/TIME: 10-12-13 1900
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 (refer to 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)/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 (SP804)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	LJ_SB02_2.0	4/12/13 0810	SOIL	Jar	1													HOLD
2	LJ_SB02_3.0	" 0820																
3	LJ_MW04_3.5	" 0850																HOLD
4	LJ_SB03_3.0	" 1140																
5	LJ_SB04_2.0	" 1255																
6	LJ_SB06_1.5	" 1355																
7	LJ_MW02_1.0	" 1500																
8	LJ_MW02_3.0	" 1540																
9	LJ_SB07_0.5	" 1610																
10	DOL_041213_SP	" -																
*	TOL_041213_SP	" -	↓	↓	↓													Please Forward to EnviroLab

Environmental Division
Sydney
Work Order
ES1326976

Telephone : +61-2-8784 8555

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

Job No: 102225

Date Received:
Time Received: 1420
Received by: NIC
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

TAT

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 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 Sulphate Soils; B = 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: Joe Ferring

Sample log in details:

Your reference:	**0224189, Project Symphony**
Envirolab Reference:	**102225**
Date received:	11/12/13
Date results expected to be reported:	**14/12/13**

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	72hr
Temperature on receipt (°C)	8.4
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

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

CERTIFICATE OF ANALYSIS 102225

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway
NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference:	**0224189, Project Symphony**
No. of samples:	1 Soil
Date samples received / completed instructions received	11/12/13 / 11/12/13

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:	14/12/13 / 16/12/13
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:	UNITS	102225-1
Your Reference	----------	T01_041213_SP
Date Sampled	----------	4/12/2013
Type of sample		Soil
Date extracted	-	12/12/2013
Date analysed	-	13/12/2013
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 Date Sampled Type of sample	UNITS ---------- ---------- 	102225-1 T01_041213_SP 4/12/2013 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	%	112
Surrogate aaa-Trifluorotoluene	%	119
Surrogate Toluene-d_8	%	97
Surrogate 4-Bromofluorobenzene	%	81

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	102225-1
Your Reference	----------	T01_041213_SP
Date Sampled	----------	4/12/2013
Type of sample		Soil
Date extracted	-	12/12/2013
Date analysed	-	13/12/2013
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	%	119

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	102225-1
Your Reference	----------	T01_041213_SP
Date Sampled	----------	4/12/2013
Type of sample		Soil
Date extracted	-	12/12/2013
Date analysed	-	12/12/2013
$TRHC_{10}$ - 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	102225-1
Your Reference	----------	T01_041213_SP
Date Sampled	----------	4/12/2013
Type of sample		Soil
Date extracted	-	12/12/2013
Date analysed	-	12/12/2013
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 TEQ NEPM B1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	98

PCBs in Soil		
Our Reference:	UNITS	102225-1
Your Reference	----------	T01_041213_SP
Date Sampled	----------	4/12/2013
Type of sample		Soil
Date extracted	-	12/12/2013
Date analysed	-	13/12/2013
Arochlor 1016	mg/kg	<0.1
Arochlor 1221	mg/kg	<0.1
Arochlor 1232	mg/kg	<0.1
Arochlor 1242	mg/kg	<0.1
Arochlor 1248	mg/kg	<0.1
Arochlor 1254	mg/kg	<0.1
Arochlor 1260	mg/kg	<0.1
Surrogate TCLMX	%	100

Total Phenolics in Soil		
Our Reference:	UNITS	102225-1
Your Reference	----------	T01_041213_SP
Date Sampled	----------	4/12/2013
Type of sample		Soil
Date extracted	-	12/12/2013
Date analysed	-	12/12/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil		
Our Reference:	UNITS	102225-1
Your Reference	----------	T01_041213_SP
Date Sampled	----------	4/12/2013
Type of sample		Soil
Date digested	-	12/12/2013
Date analysed	-	12/12/2013
Arsenic	mg/kg	9
Cadmium	mg/kg	<0.4
Chromium	mg/kg	10
Copper	mg/kg	16
Nickel	mg/kg	9
Lead	mg/kg	10
Zinc	mg/kg	54
Mercury	mg/kg	<0.1

Moisture		
Our Reference:	UNITS	102225-1
Your Reference	----------	T01_041213_SP
Date Sampled	----------	4/12/2013
Type of sample		Soil
Date prepared	-	12/12/2013
Date analysed	-	13/12/2013
Moisture	%	17

Method ID	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 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.

QUALITY CONTROL VOCs in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			12/12/2013	[NT]	[NT]	LCS-1	12/12/2013
Date analysed	-			13/12/2013	[NT]	[NT]	LCS-1	13/12/2013
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-1	110%
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-1	106%
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-1	102%
1,1,1-trichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-1	121%
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-1	104%
bromodichloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-1	99%
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-1	90%
1,2-dibromoethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
tetrachloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-1	115%
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]

QUALITY CONTROL VOCs in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
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	100	[NT]	[NT]	LCS-1	101%
Surrogate aaa-Trifluorotoluene	%		Org-014	123	[NT]	[NT]	LCS-1	114%
Surrogate Toluene-d_8	%		Org-014	98	[NT]	[NT]	LCS-1	97%
Surrogate 4-Bromofluorobenzene	%		Org-014	84	[NT]	[NT]	LCS-1	88%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			12/12/2013	[NT]	[NT]	LCS-1	12/12/2013
Date analysed	-			13/12/2013	[NT]	[NT]	LCS-1	13/12/2013
TRHC$_6$ - C$_9$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	115%
TRHC$_6$ - C$_{10}$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-1	115%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-1	111%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-1	112%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	114%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-1	120%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-1	120%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	123	[NT]	[NT]	LCS-1	99%
QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			12/12/2013	[NT]	[NT]	LCS-1	12/12/2013
Date analysed	-			12/12/2013	[NT]	[NT]	LCS-1	12/12/2013
TRHC$_{10}$ - C$_{14}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	105%
TRHC$_{15}$ - C$_{28}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	101%
TRHC$_{29}$ - C$_{36}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	84%
TRH>C$_{10}$-C$_{16}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	105%
TRH>C$_{16}$-C$_{34}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	101%
TRH>C$_{34}$-C$_{40}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	84%
Surrogate o-Terphenyl	%		Org-003	92	[NT]	[NT]	LCS-1	101%
QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			12/12/2013	[NT]	[NT]	LCS-1	12/12/2013
Date analysed	-			12/12/2013	[NT]	[NT]	LCS-1	12/12/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	98%
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	101%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	101%
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	98%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	104%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	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-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	90	[NT]	[NT]	LCS-1	96%
QUALITY CONTROL PCBs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			12/12/2013	[NT]	[NT]	LCS-1	12/12/2013
Date analysed	-			13/12/2013	[NT]	[NT]	LCS-1	13/12/2013
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-1	79%
Arochlor 1260	mg/kg	0.1	Org-006	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		Org-006	102	[NT]	[NT]	LCS-1	96%
QUALITY CONTROL Total Phenolics in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			12/12/2013	[NT]	[NT]	LCS-1	12/12/2013
Date analysed	-			12/12/2013	[NT]	[NT]	LCS-1	12/12/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	82%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date digested	-			12/12/2013	[NT]	[NT]	LCS-5	12/12/2013
Date analysed	-			12/12/2013	[NT]	[NT]	LCS-5	12/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-5	102%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-5	107%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	107%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	106%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	108%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	103%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	100%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-5	98%

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

Report Comments:

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

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

Quality Control Definitions

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

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

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

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

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

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in 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 →

CLIENT: ERM	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date): 48 HRS please	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Pyrmont	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☒ Non Standard or urgent TAT (List due date):	Custody Seal Intact?	Yes / No / N/A
PROJECT: Project Symphony	ALS QUOTE NO.: SY/794/13	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 0224198	SITE: BAYSWATER / LIDDELL	COC: 1 2 3 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
PROJECT MANAGER: Joe Ferring	CONTACT PH:	OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
SAMPLER: Josh Gimh	SAMPLER MOBILE: 0427404462	RELINQUISHED BY:	RECEIVED BY: RA
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		DATE/TIME: 13/12/13 1645
Email Reports to (will default to PM if no other addresses are listed):	Symphony.Macgen@erm.com	DATE/TIME:	RELINQUISHED BY: KL
Email Invoice to (will default to PM if no other addresses are listed):			DATE/TIME: 13/12/13 1700
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Please batch with other Liddell Soil samples arriving today ~~Batch QC~~			RECEIVED BY: Alwer DATE/TIME: 16/12/13 17:00

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 (refer to 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, Tl, 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	Tol_101213	10/12/13	SOIL	1 Jar	1		X	X									Pls Fwd. to Envirolab

TAT

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 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 Sulphate Soils; B = Unpreserved Bag

ENVIROLAB GROUP

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

Job No: 102635
Date Received: 16/12/13
~~Time Received:~~ 17:00
Received by: AW
Temp: Cool/Ambient
Cooling: Ice/Icepack 12.1°C
Security: Intact/Broken/None

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, Pyrmont**
Envirolab Reference:	**102635**
Date received:	16/12/13
Date results expected to be reported:	**18/12/13**

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	48hr
Temperature on receipt (°C)	12.1
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

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

CERTIFICATE OF ANALYSIS 102635

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway
NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference:	**0224198, 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:	18/12/13 / 18/12/13
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	102635-1
Your Reference	----------	T01_101213
Date Sampled	----------	10/12/2013
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	%	104

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	102635-1
Your Reference	----------	T01_101213
Date Sampled	----------	10/12/2013
Type of sample		Soil
Date extracted	-	17/12/2013
Date analysed	-	17/12/2013
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	102635-1
Your Reference	----------	T01_101213
Date Sampled	----------	10/12/2013
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 TEQ NEPM B1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	96

Total Phenolics in Soil		
Our Reference:	UNITS	102635-1
Your Reference	----------	T01_101213
Date Sampled	----------	10/12/2013
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	102635-1
Your Reference	----------	T01_101213
Date Sampled	----------	10/12/2013
Type of sample		Soil
Date digested	-	17/12/2013
Date analysed	-	17/12/2013
Arsenic	mg/kg	6
Cadmium	mg/kg	<0.4
Chromium	mg/kg	13
Copper	mg/kg	8
Lead	mg/kg	9
Mercury	mg/kg	0.2
Nickel	mg/kg	13
Zinc	mg/kg	31
Barium	mg/kg	77
Beryllium	mg/kg	<1
Cobalt	mg/kg	6
Manganese	mg/kg	130
Boron	mg/kg	<3
Molybdenum	mg/kg	<1
Selenium	mg/kg	<2
Thallium	mg/kg	<2
Vanadium	mg/kg	26

Moisture		
Our Reference:	UNITS	102635-1
Your Reference	----------	T01_101213
Date Sampled	----------	10/12/2013
Type of sample		Soil
Date prepared	-	17/12/2013
Date analysed	-	18/12/2013
Moisture	%	13

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 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.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/12/2013	102635-1	17/12/2013 || 17/12/2013	LCS-12	17/12/2013
Date analysed	-			18/12/2013	102635-1	18/12/2013 || 18/12/2013	LCS-12	18/12/2013
TRHC$_6$ - C$_9$	mg/kg	25	Org-016	<25	102635-1	<25 || <25	LCS-12	114%
TRHC$_6$ - C$_{10}$	mg/kg	25	Org-016	<25	102635-1	<25 || <25	LCS-12	114%
Benzene	mg/kg	0.2	Org-016	<0.2	102635-1	<0.2 || <0.2	LCS-12	109%
Toluene	mg/kg	0.5	Org-016	<0.5	102635-1	<0.5 || <0.5	LCS-12	133%
Ethylbenzene	mg/kg	1	Org-016	<1	102635-1	<1 || <1	LCS-12	105%
m+p-xylene	mg/kg	2	Org-016	<2	102635-1	<2 || <2	LCS-12	111%
o-Xylene	mg/kg	1	Org-016	<1	102635-1	<1 || <1	LCS-12	109%
naphthalene	mg/kg	1	Org-014	<1	102635-1	<1 || <1	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	100	102635-1	104 || 105 || RPD: 1	LCS-12	104%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/12/2013	102635-1	17/12/2013 || 17/12/2013	LCS-12	17/12/2013
Date analysed	-			17/12/2013	102635-1	17/12/2013 || 17/12/2013	LCS-12	17/12/2013
TRHC$_{10}$ - C$_{14}$	mg/kg	50	Org-003	<50	102635-1	<50 || <50	LCS-12	111%
TRHC$_{15}$ - C$_{28}$	mg/kg	100	Org-003	<100	102635-1	<100 || <100	LCS-12	103%
TRHC$_{29}$ - C$_{36}$	mg/kg	100	Org-003	<100	102635-1	<100 || <100	LCS-12	104%
TRH>C$_{10}$-C$_{16}$	mg/kg	50	Org-003	<50	102635-1	<50 || <50	LCS-12	111%
TRH>C$_{16}$-C$_{34}$	mg/kg	100	Org-003	<100	102635-1	<100 || <100	LCS-12	103%
TRH>C$_{34}$-C$_{40}$	mg/kg	100	Org-003	<100	102635-1	<100 || <100	LCS-12	104%
Surrogate o-Terphenyl	%		Org-003	94	102635-1	86 || 86 || RPD: 0	LCS-12	138%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/12/2013	102635-1	17/12/2013 || 17/12/2013	LCS-1	17/12/2013
Date analysed	-			17/12/2013	102635-1	17/12/2013 || 17/12/2013	LCS-1	17/12/2013
Naphthalene	mg/kg	0.1	Org-012 subset	<0.1	102635-1	<0.1 || <0.1	LCS-1	95%
Acenaphthylene	mg/kg	0.1	Org-012 subset	<0.1	102635-1	<0.1 || <0.1	[NR]	[NR]
Acenaphthene	mg/kg	0.1	Org-012 subset	<0.1	102635-1	<0.1 || <0.1	[NR]	[NR]
Fluorene	mg/kg	0.1	Org-012 subset	<0.1	102635-1	<0.1 || <0.1	LCS-1	96%
Phenanthrene	mg/kg	0.1	Org-012 subset	<0.1	102635-1	<0.1 || <0.1	LCS-1	95%
Anthracene	mg/kg	0.1	Org-012 subset	<0.1	102635-1	<0.1 || <0.1	[NR]	[NR]
Fluoranthene	mg/kg	0.1	Org-012 subset	<0.1	102635-1	<0.1 || <0.1	LCS-1	92%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	102635-1	<0.1 || <0.1	LCS-1	97%
Benzo(a)anthracene	mg/kg	0.1	Org-012 subset	<0.1	102635-1	<0.1 || <0.1	[NR]	[NR]
Chrysene	mg/kg	0.1	Org-012 subset	<0.1	102635-1	<0.1 || <0.1	LCS-1	92%
Benzo(b+k)fluoranthene	mg/kg	0.2	Org-012 subset	<0.2	102635-1	<0.2 || <0.2	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	Org-012 subset	<0.05	102635-1	<0.05 || <0.05	LCS-1	100%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-012 subset	<0.1	102635-1	<0.1 || <0.1	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-012 subset	<0.1	102635-1	<0.1 || <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-012 subset	<0.1	102635-1	<0.1 || <0.1	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		Org-012 subset	95	102635-1	96 || 93 || RPD: 3	LCS-1	97%

QUALITY CONTROL Total Phenolics in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
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%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base || Duplicate || %RPD	Spike Sm#	Spike % Recovery
Date digested	-			17/12/2013	102635-1	17/12/2013 || 17/12/2013	LCS-9	17/12/2013
Date analysed	-			17/12/2013	102635-1	17/12/2013 || 17/12/2013	LCS-9	17/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	102635-1	6 || 6 || RPD: 0	LCS-9	91%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	102635-1	<0.4 || <0.4	LCS-9	99%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	102635-1	13 || 12 || RPD: 8	LCS-9	97%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	102635-1	8 || 8 || RPD: 0	LCS-9	97%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	102635-1	9 || 9 || RPD: 0	LCS-9	92%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	102635-1	0.2 || <0.1	LCS-9	89%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	102635-1	13 || 13 || RPD: 0	LCS-9	97%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	102635-1	31 || 31 || RPD: 0	LCS-9	95%

Client Reference: 0224198, Project Symphony

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Barium	mg/kg	1	Metals-020 ICP-AES	<1	102635-1	77 || 89 || RPD: 14	LCS-9	95%
Beryllium	mg/kg	1	Metals-020 ICP-AES	<1	102635-1	<1 || <1	LCS-9	89%
Cobalt	mg/kg	1	Metals-020 ICP-AES	<1	102635-1	6 || 5 || RPD: 18	LCS-9	94%
Manganese	mg/kg	1	Metals-020 ICP-AES	<1	102635-1	130 || 120 || RPD: 8	LCS-9	99%
Boron	mg/kg	3	Metals-020 ICP-AES	<3	102635-1	<3 || <3	LCS-9	90%
Molybdenum	mg/kg	1	Metals-020 ICP-AES	<1	102635-1	<1 || <1	LCS-9	100%
Selenium	mg/kg	2	Metals-020 ICP-AES	<2	102635-1	<2 || <2	LCS-9	90%
Thallium	mg/kg	2	Metals-020 ICP-AES	<2	102635-1	<2 || <2	LCS-9	90%
Vanadium	mg/kg	1	Metals-020 ICP-AES	<1	102635-1	26 || 25 || RPD: 4	LCS-9	97%

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

Report Comments:

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

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

Quality Control Definitions

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

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

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

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

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

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in 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.

TAT

CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT: ERM	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date): (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) ☑ Non Standard or urgent TAT (List due date): 48 hr TAT	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Sydney		Custody Seal Intact?	Yes No N/A
PROJECT: Project Symphony	ALS QUOTE NO.: SY/794/13	Free ice / ~~frozen ice~~ bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 8224198	SITE: BAYSWATER / HIDDEN	Random Sample Temperature on Receipt:	12 °C
PROJECT MANAGER: J. Fielding	CONTACT PH:	Other comment:	
SAMPLER: T. ARNANI	SAMPLER MOBILE:	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): Symphony.Norgen@erm.com			
Email Invoice to (will default to PM if no other addresses are listed):			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
T ARNANI			A Weir
DATE/TIME: 12.12.13 / 1500	DATE/TIME: 13/12/13 1402	DATE/TIME: 13/12/13 1700	DATE/TIME: 16/12/13 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 (refer to 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)/BTEXN, PAH, Phenols	VOC Target Scan	PCB	pH (1:5)	Exchangeable Cations (EP007)	PFOS/PFOA	Asbestos (absence/presence)	Particle Sizing to 75µm (Sieve)	Organic Matter plus Total Organic Carbon (EP004)	
12	LV-MW06 0-8	11.12.13	SOIL		1	X		X									
13	LV MW01 0.45	11.12.13			1	X		X									
14	LV-MW01 0.05	11.12.13			2	X		X						X			
15	LB_MW02_0.1	10.12.13			1									X			
16	LB_MW12_3.0	12.12.13			1		X	X									
17	TOL_121213_TA	12.12.13			1		X	X									Send to Envirolab
18	LS_MW02_2.0	12.12.13			1						X	X			X	X	
19	LV-MW05 0.5				1	X		X									
20	LV-MW05.0.1				1									X			
21	LV_MW04_0.1				1									X			
22	LV_MW05_0.5*				1	X		X									
23	LB_MW11_3.0				2		X	X				X			X	X	
24	LB_MW10_1.6				1		X	X									

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 Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag

*received LV-MW04-0.5

ENVIROLAB

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

Job No: 102636
Date Received: 16/12/13
Time Received: 12:00
Received by: AW
Temp: Cool/Ambient
Cooling: Ice/Icepack 12.1°C
Security: Intact/Broken/None

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:	**0224198, Project Symphony**
Envirolab Reference:	**102636**
Date received:	16/12/2013
Date results expected to be reported:	**18/12/13**

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	48hr
Temperature on receipt (°C)	12.1
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

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

CERTIFICATE OF ANALYSIS 102636

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway
NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference:	**0224198, Project Symphony**
No. of samples:	1 Soil
Date samples received / completed instructions received	16/12/2013 / 16/12/2013

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:	18/12/13 / 18/12/13
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	102636-1
Your Reference	----------	T01_121213 -TA
Date Sampled	----------	12/12/2013
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	%	102

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	102636-1
Your Reference	----------	T01_121213 -TA
Date Sampled	----------	12/12/2013
Type of sample		Soil
Date extracted	-	17/12/2013
Date analysed	-	17/12/2013
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	%	91

PAHs in Soil		
Our Reference:	UNITS	102636-1
Your Reference	----------	T01_121213 -TA
Date Sampled	----------	12/12/2013
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 TEQ NEPM B1	mg/kg	<0.5
Total +ve PAH's	mg/kg	NIL (+)VE
Surrogate p-Terphenyl-d14	%	100

Total Phenolics in Soil		
Our Reference:	UNITS	102636-1
Your Reference	----------	T01_121213 -TA
Date Sampled	----------	12/12/2013
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	102636-1
Your Reference	----------	T01_121213 -TA
Date Sampled	----------	12/12/2013
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	16
Copper	mg/kg	7
Lead	mg/kg	9
Mercury	mg/kg	<0.1
Nickel	mg/kg	16
Zinc	mg/kg	27
Barium	mg/kg	66
Beryllium	mg/kg	<1
Cobalt	mg/kg	8
Manganese	mg/kg	170
Vanadium	mg/kg	25
Thallium	mg/kg	<2
Boron	mg/kg	<3
Molybdenum	mg/kg	<1
Selenium	mg/kg	<2

Moisture		
Our Reference:	UNITS	102636-1
Your Reference	----------	T01_121213 -TA
Date Sampled	----------	12/12/2013
Type of sample		Soil
Date prepared	-	17/12/2013
Date analysed	-	18/12/2013
Moisture	%	15

Method ID	Methodology Summary
Org-016	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 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.

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			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%
QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			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%
QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
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%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
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%
QUALITY CONTROL Total Phenolics in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
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%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date digested	-			17/12/2013	[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%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
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%
Vanadium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-9	90%
Thallium	mg/kg	2	Metals-020 ICP-AES	<2	[NT]	[NT]	LCS-9	100%
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	90%
Selenium	mg/kg	2	Metals-020 ICP-AES	<2	[NT]	[NT]	LCS-9	97%

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

Report Comments:

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

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

Quality Control Definitions

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

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

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

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

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

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in 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 Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 102699.

Date Received: 17/12/13.
Time Received: 1300
Received by: SYH
Temp: Cool/Ambient 9.3
Cooling: Ice/Icepack
Security: Intact/Broken/None

Enviro

Environmental Division
Sydney
Work Order
ES1327527

Telephone : +61-2-8784 8555

CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT: ERM
OFFICE: Sydney
PROJECT: Project Symphony
ORDER NUMBER: 0224189
PROJECT MANAGER: Joe Ferring
SAMPLER: Sean Penza
COC emailed to ALS? (YES / NO)
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.macgen@erm.com
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)
☐ Standard TAT (List due date):
☑ Non Standard or urgent TAT (List due date): 3 Day
ALS QUOTE NO.: SY/794/13
SITE: BAYSWATER / LIDDELL
CONTACT PH:
SAMPLER MOBILE: 0402614304
EDD FORMAT (or default):

COC SEQUENCE NUMBER (Circle)
COC: 1 2 3 4 5 6 7
OF: 1 2 3 4 5 6 7
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Sean Penza	KA	KA	KAL
DATE/TIME: 5/12/13	DATE/TIME: 13/12/13 1645	DATE/TIME: 13/12/13 1700	DATE/TIME: 13/12/13 19:00

John (ELS) 17/12/13 1300

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: °C

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 (refer to 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, Tl, 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 likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	LJ_SB12_0.5	5/12/13 0835	SOIL	1 jar, 1 bag	2	X		X	X	X				X			
2	LS_SB11_0.5	0855	↓	" "	2	X		X	X	X				X			
3	LO_MW03_1.0	0920	↓	" "	2	X		X	X				X		X		
4	LO_MW04_1.5	1015	↓	1 jar	1	X		X	X				X				
5	LO_MW04_4.0	1150	↓	"	1	(scribbled out)		X	X				X				
6	LO_MW05_1.5	1325	↓	"	1	X		X	X				X				
7	LO_MW05_3.0	1405	↓	"	1	(scribbled out)		X	X				X				
8	LO_MW06_1.0	1615	↓	"	1	X		X	X				X				
9	LO_MW06_5.0	1655	↓	"	1	(scribbled out)		X	X				X				
10	DO1_051213_SP	–	↓	"	1	X		X	X				X				
11	TO1_051213_SP	–	↓	"	1	X		X	X				X				Please Forward to Envirolab

Analysis: AFET / Asbestos
Organised By / Date: Enviro - Fup Particle size
WO No:

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 Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = 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: Joe Ferring

Sample log in details:

Your reference:	**0224189, Project Symphony**
Envirolab Reference:	**102699**
Date received:	16/12/13
Date results expected to be reported:	**20/12/13**

Samples received in appropriate condition for analysis:	YES
No. of samples provided	1 Soil
Turnaround time requested:	72hr
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.

PFOS will take 15-20 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

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

CERTIFICATE OF ANALYSIS 102699

Client:

Environmental Resources Management Australia
Locked Bag 24
Broadway
NSW 2007

Attention: Joe Ferring

Sample log in details:

Your Reference:	**0224189, 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:	20/12/13	/	30/12/13
Date of Preliminary Report:	20/12/2013		

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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	102699-1
Your Reference	----------	T01_051213_SP
Date Sampled	----------	5/12/2013
Type of sample		Soil
Date extracted	-	18/12/2013
Date analysed	-	19/12/2013
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:	UNITS	102699-1
Your Reference	----------	T01_051213_SP
Date Sampled	----------	5/12/2013
Type of sample		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	%	115
Surrogate aaa-Trifluorotoluene	%	97
Surrogate Toluene-d_8	%	89
Surrogate 4-Bromofluorobenzene	%	87

vTRH(C6-C10)/BTEXN in Soil		
Our Reference:	UNITS	102699-1
Your Reference	----------	T01_051213_SP
Date Sampled	----------	5/12/2013
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	%	97

svTRH (C10-C40) in Soil		
Our Reference:	UNITS	102699-1
Your Reference	----------	T01_051213_SP
Date Sampled	----------	5/12/2013
Type of sample		Soil
Date extracted	-	18/12/2013
Date analysed	-	19/12/2013
TRHC$_{10}$ - C$_{14}$	mg/kg	87
TRHC$_{15}$ - C$_{28}$	mg/kg	300
TRHC$_{29}$ - C$_{36}$	mg/kg	<100
TRH>C$_{10}$-C$_{16}$	mg/kg	200
TRH>C$_{10}$ - C$_{16}$ less Naphthalene (F2)	mg/kg	200
TRH>C$_{16}$-C$_{34}$	mg/kg	180
TRH>C$_{34}$-C$_{40}$	mg/kg	<100
Surrogate o-Terphenyl	%	123

PAHs in Soil		
Our Reference:	UNITS	102699-1
Your Reference	----------	T01_051213_SP
Date Sampled	----------	5/12/2013
Type of sample		Soil
Date extracted	-	18/12/2013
Date analysed	-	19/12/2013
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	0.1
Fluorene	mg/kg	0.2
Phenanthrene	mg/kg	0.4
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Benzo(a)pyrene TEQ NEPM B1	mg/kg	<0.5
Total +ve PAH's	mg/kg	0.67
Surrogate p-Terphenyl-d14	%	98

Total Phenolics in Soil		
Our Reference:	UNITS	102699-1
Your Reference	----------	T01_051213_SP
Date Sampled	----------	5/12/2013
Type of sample		Soil
Date extracted	-	18/12/2013
Date analysed	-	18/12/2013
Total Phenolics (as Phenol)	mg/kg	<5

Acid Extractable metals in soil		
Our Reference:	UNITS	102699-1
Your Reference	----------	T01_051213_SP
Date Sampled	----------	5/12/2013
Type of sample		Soil
Date digested	-	18/12/2013
Date analysed	-	18/12/2013
Arsenic	mg/kg	13
Cadmium	mg/kg	1.2
Chromium	mg/kg	10
Copper	mg/kg	21
Nickel	mg/kg	71
Lead	mg/kg	13
Zinc	mg/kg	110
Mercury	mg/kg	0.1

Moisture		
Our Reference:	UNITS	102699-1
Your Reference	----------	T01_051213_SP
Date Sampled	----------	5/12/2013
Type of sample		Soil
Date prepared	-	18/12/2013
Date analysed	-	19/12/2013
Moisture	%	20

Perfluorochemicals in Soil		
Our Reference:	UNITS	102699-1
Your Reference	----------	T01_051213_SP
Date Sampled	----------	5/12/2013
Type of sample		Soil
Date Analysed	-	18/12/2013
Date Extracted	-	18/12/2013
PFOS (Branched and Linear)	mg/kg	<0.0005
Perfluorooctanoate PFOA	mg/kg	<0.0005
6:2FTS	mg/kg	<0.005

Method ID	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.
Ext-038	Analysed by Advanced Analytical Australia Pty Ltd. NATA accreditation 15109.

QUALITY CONTROL VOCs in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/12/2013	[NT]	[NT]	LCS-2	18/12/2013
Date analysed	-			19/12/2013	[NT]	[NT]	LCS-2	19/12/2013
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-2	125%
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-2	119%
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-2	115%
1,1,1-trichloroethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-2	131%
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-2	111%
bromodichloromethane	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-2	92%
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-2	74%
1,2-dibromoethane	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
tetrachloroethene	mg/kg	1	Org-014	<1	[NT]	[NT]	LCS-2	120%
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]

QUALITY CONTROL VOCs in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
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	111	[NT]	[NT]	LCS-2	117%
Surrogate aaa-Trifluorotoluene	%		Org-014	115	[NT]	[NT]	LCS-2	112%
Surrogate Toluene-d_8	%		Org-014	90	[NT]	[NT]	LCS-2	89%
Surrogate 4-Bromofluorobenzene	%		Org-014	88	[NT]	[NT]	LCS-2	85%

QUALITY CONTROL vTRH(C6-C10)/BTEXN in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/12/2013	[NT]	[NT]	LCS-2	18/12/2013
Date analysed	-			19/12/2013	[NT]	[NT]	LCS-2	19/12/2013
TRHC$_6$ - C$_9$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	133%
TRHC$_6$ - C$_{10}$	mg/kg	25	Org-016	<25	[NT]	[NT]	LCS-2	133%
Benzene	mg/kg	0.2	Org-016	<0.2	[NT]	[NT]	LCS-2	120%
Toluene	mg/kg	0.5	Org-016	<0.5	[NT]	[NT]	LCS-2	121%
Ethylbenzene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	132%
m+p-xylene	mg/kg	2	Org-016	<2	[NT]	[NT]	LCS-2	139%
o-Xylene	mg/kg	1	Org-016	<1	[NT]	[NT]	LCS-2	139%
naphthalene	mg/kg	1	Org-014	<1	[NT]	[NT]	[NR]	[NR]
Surrogate aaa-Trifluorotoluene	%		Org-016	115	[NT]	[NT]	LCS-2	112%

QUALITY CONTROL svTRH (C10-C40) in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/12/2013	[NT]	[NT]	LCS-1	18/12/2013
Date analysed	-			19/12/2013	[NT]	[NT]	LCS-1	19/12/2013
TRHC$_{10}$ - C$_{14}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	98%
TRHC$_{15}$ - C$_{28}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	99%
TRHC$_{29}$ - C$_{36}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	129%
TRH>C$_{10}$-C$_{16}$	mg/kg	50	Org-003	<50	[NT]	[NT]	LCS-1	98%
TRH>C$_{16}$-C$_{34}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	99%
TRH>C$_{34}$-C$_{40}$	mg/kg	100	Org-003	<100	[NT]	[NT]	LCS-1	129%
Surrogate o-Terphenyl	%		Org-003	88	[NT]	[NT]	LCS-1	113%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/12/2013	[NT]	[NT]	LCS-1	18/12/2013
Date analysed	-			19/12/2013	[NT]	[NT]	LCS-1	19/12/2013
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	102%
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	100%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Pyrene	mg/kg	0.1	Org-012 subset	<0.1	[NT]	[NT]	LCS-1	105%
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	112%
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	99	[NT]	[NT]	LCS-1	94%
QUALITY CONTROL Total Phenolics in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			18/12/2013	[NT]	[NT]	LCS-1	18/12/2013
Date analysed	-			18/12/2013	[NT]	[NT]	LCS-1	18/12/2013
Total Phenolics (as Phenol)	mg/kg	5	Inorg-030	<5	[NT]	[NT]	LCS-1	94%
QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date digested	-			18/12/2013	[NT]	[NT]	LCS-5	18/12/2013
Date analysed	-			18/12/2013	[NT]	[NT]	LCS-5	18/12/2013
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	LCS-5	98%
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	LCS-5	103%
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	102%
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	98%
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	99%
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	91%
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	LCS-5	103%
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	LCS-5	102%

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

QUALITY CONTROL Perfluorochemicals in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date Analysed	-		Ext-038	18/12/2013	102699-1	18/12/2013 II 18/12/2013	LCS-1	18/12/2013
Date Extracted	-		Ext-038	18/12/2013	102699-1	18/12/2013 II 18/12/2013	LCS-1	18/12/2013
PFOS (Branched and Linear)	mg/kg	0.0005	Ext-038	<0.0005	102699-1	<0.0005 II <0.0005	LCS-1	70%
Perfluorooctanoate PFOA	mg/kg	0.0005	Ext-038	<0.0005	102699-1	<0.0005 II <0.0005	LCS-1	89%
6:2FTS	mg/kg	0.005	Ext-038	<0.005	102699-1	<0.005 II <0.005	LCS-1	61%

QUALITY CONTROL Perfluorochemicals in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date Analysed	-	[NT]	[NT]	102699-1	18/12/2013
Date Extracted	-	[NT]	[NT]	102699-1	18/12/2013
PFOS (Branched and Linear)	mg/kg	[NT]	[NT]	102699-1	70%
Perfluorooctanoate PFOA	mg/kg	[NT]	[NT]	102699-1	77%
6:2FTS	mg/kg	[NT]	[NT]	102699-1	61%

Report Comments:

PFOS analysed by ALS Group. Report No.ES1327757.

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.