

LEE WHARF 4, SAND WASTE CLASSIFICATION ASSESSMENT REPORT

REPORT PREPARED BY:

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SITE

The Lee Wharf 4 site comprises a portion of the Cottage Creek Precinct in Newcastle West, NSW. The site is surrounded by the following uses:

- North – Newcastle Harbour;
- West – a vacant property (Lee Wharf 5), further bounded by Cottage Creek and a commercial office building;
- East – a vacant property acting as temporary parking area to the east; and
- South – Honeysuckle Drive further bounded by commercial developments.

DESCRIPTION OF THE WASTE/MATERIAL

The surface of the site is generally covered by an asphalt/bitumen pavement. It is noted that historically coal tar pavements were known to be present within the area. The material underlying the pavement was generally identified in two visibly discernible soil profiles, which can be described as:

- Slag Fill – comprised of blast furnace slag and other deleterious materials (concrete and gravels), mixed with silty sands, dark brown to black in colour (subject of a separate report).
- Dredged Sand – comprised of light yellow and light brown medium grained silty sands, with some rounded gravels and shell fragments, consistent with dredged sands (subject of this report).

Material excavated as part of the waste classification for sampling was used to backfill each of the test pits/boreholes and remains in-situ.

POTENTIAL CONTAMINATING ACTIVITIES AT THE SITE

The site which is currently owned by Hunter Development Corporation (HDC) was formed by dredging activities between 1915 and 1950, followed by deposits of mixed slag and sands from the Newcastle Steelworks site. From the mid 1950's the site was used as a wharf facility and included railway lines, roadways and other port/wharf related infrastructure.

OBSERVATIONS

Soil logging during the waste classification confirmed the presence of two consistent and distinct layers across the site (Slag Fill and Dredged Sand) at varying depths.

Observations within the Sands layer throughout the investigations identified shell fragments and miscellaneous materials (wires etc) consistent with dredged sands. No observations of staining or odours were noted for materials within this soil profile.

SAMPLING

Sampling at the site has been completed over three events by three consultancies. A summary of the procedures implemented by each investigation is provided below:

PB 2002 Investigation

Site investigation works were conducted by experienced environmental engineers/scientists, in

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accordance with the PPK Sampling and Analysis Plan (2122128A:PR_0057, March 2002); and AS4482.1-1997 Guide to the sampling and investigation of potentially contaminated soil (Parts 1 and 2).

Soil samples were collected from excavated materials generated from boreholes (using a drill rig) and test pits (using a backhoe). All investigation locations were reinstated immediately after sampling. All soil samples collected were transferred into the appropriate laboratory jars. Samples were immediately placed into a chilled esky. A chain of custody (COC) was completed to accompany the samples to the laboratory. All soil sampling equipment (auger, trowel, push tube or split spoon sampler) was cleaned in a Decon 90 solution and rinsed with distilled water between sampling locations.

PB concluded that the sampling program had been conducted in accordance with standard procedures and requirements and that the sampling results were suitable for the purposes of their investigation.

JBS 2007 Investigation

Boreholes were drilled using solid and hollow flight augers. Samples were collected directly from the solid flights as the use of the push tube sampler was not appropriate for the material. Collected soil samples were immediately transferred to laboratory supplied sample jars and sealed with teflon lined lids. The samples were stored in a chilled esky for preservation prior to and during shipment to the testing laboratory. A chain-of-custody form was completed and forwarded with the samples to the testing laboratory.

JBS concluded that the sampling program had been conducted in accordance with standard procedures and requirements and that the sampling results were suitable for the purposes of their investigation.

Jacobs (formerly SKM) 2012 Investigation

All fieldwork was conducted in accordance with Jacobs (formerly SKM) Standard Sampling Procedures and the company's ISO 9001 certified QA/QC system. Sample collection and storage was conducted in general accordance with the methodology provided in AS 4482.1-2005 "Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds"

Soil samples were collected directly from an excavator bucket using disposable nitrile gloves for the collection of each individual sample. Samples were collected into glass soil jars and 500ml zip lock bags supplied by the laboratory. All samples were stored in cooled eskies and transported to the laboratory under chain of custody documentation.

SKM concluded that the sampling program had been conducted in accordance with standard procedures and requirements and that the sampling results were suitable for the purposes of their investigation.

Sampling Summary

The investigations undertaken by PB (2002), JBS (2007) and SKM/Jacobs (2012) appear to have been completed by suitably qualified and trained field personnel, in accordance with standard operating procedures and relevant guidelines. The results provided are therefore considered to be accurate and representative of the site conditions, and are deemed to be appropriate for use in this waste classification.

Appendix A provides the various sampling investigation locations from each consultancy.

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LABORATORY ANALYSIS

Selected soil samples were submitted for the following laboratory analysis:

- Asbestos Absence/Presence
- TRH/BTEX
- PAH
- Heavy metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg)
- QA/QC samples (Duplicates)

Analysis of the samples, was performed National Association of Testing Authorities (NATA) accredited laboratories for each investigation. Analytical summary tables compiling the results from each investigation are presented in **Appendix B** as Tables 1, 2 and 3.

The laboratory reports are provided in **Appendix C**.

WASTE CLASSIFICATION ASSESSMENT

The NSW EPA (November 2014) *Waste Classification Guidelines - Part 1: Classifying Waste* (the guidelines) were used to classify this material for offsite disposal. Under the guidelines in order to determine which classification applies to the waste, a six step process must be followed in the prescribed order (refer to the below).

Once the waste has been assigned a classification under a particular step, no further steps should be applied, the waste will be taken to have that classification and must be managed accordingly.

Step 1: Is the waste special waste? Yes ☐ No ☒

Special waste can consist of any of clinical and related waste, asbestos waste, waste tyres or anything classified as special waste under an EPA gazettal notice.

Step 2: Is the waste liquid waste? Yes ☐ No ☒

Step 3: Is the waste pre-classified? Yes ☐ No ☒

Step 4: Does the waste possess hazardous characteristics? Yes ☐ No ☒

Step 5: Determining a wastes classification using chemical assessment. Yes ☒ No ☐

The guidelines state 'Waste generators must chemically assess their waste in accordance with Step 5 to determine the waste's classification where it has not been classified under steps 1-4 of the Guidelines'.

Step 6: Is the waste putrescible or non-putrescible? Putrescible ☐ Non-putrescible ☒

Based on a comparison of the samples against the contaminant threshold limits (refer to Appendix B, Table 1) detailed in the guidelines, the Dredged Sand material tested as part of this assessment would be classified as **Hazardous Solid Waste (non-putrescible)** based on the concentrations of benzo(a)pyrene.

Selected samples were further subjected to toxicity characteristic leaching potential (TCLP) testing to enable comparison against the specific contaminant concentrations (SCC) and TCLP results (refer to Appendix B, Table 2). The TCLP assessment confirmed that the materials had low leaching potential (all results at or below the detection limits), however the concentration of

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one benzo(a)pyrene sample was detected above the SCC2 level.

A further review was conducted to compare all samples collected from within the Lee 4 Dredged Sands layer against the SCC levels (refer to Appendix B, Table 3), which identified the following:

- A total of 150 samples were collected from within the Lee 4 Dredged Sands Layer;
- 2 samples were detected above the SCC2 level (14W1-1.0 and 18W2-1.0);
- 4 Samples were detected above the SCC1 level (14W1-1.5, 16D-1.0, 17D-2.0, and 18W4-2.0)
- The analytical results of the remaining samples classified the material as General Solid Waste

The above review identified the following:

- Material from locations 14W1 and 18W2 is classified as hazardous waste based on total benzo(a)pyrene concentrations exceeding SCC2 levels (cannot be reduced with TCLP results)
- Material from locations 16D, 17D and 18W4 is classified as restricted solid waste based on total benzo(a)pyrene concentrations exceeding SCC1 levels (cannot be reduced with TCLP results).
- Material from other locations could be classified as general solid waste based on total benzo(a)pyrene concentrations below SCC1 levels. However this waste classification should be confirmed with additional TCLP testing.

Materials from and surrounding locations 14W1 and 18W2 is classified as hazardous waste and will require treatment prior to disposal at a licensed facility. The volume of hazardous waste will need to be confirmed through on site validation sampling and analysis.

Materials from and surrounding locations 16D, 17D and 18W4 is classified as restricted solid waste and can be disposed off-site at a licensed restricted solid waste landfill or treated prior to disposal at a licensed solid waste landfill. The volume of restricted solid waste will need to be confirmed through on site validation sampling and analysis.

Based on the analytical program undertaken on the remaining dredged sand, this material is likely to be classified as general solid waste (non-putrescible). It is recommended that additional TCLP testing be undertaken to confirm this waste classification.

This material should be handled, treated, transported and disposed of in accordance with the requirements specified by the NSW EPA for the category of waste determined in this assessment. Should any material differ from those described in the material description above, advice should be obtained from Jacobs and further sampling and analysis may be required.

REFERENCES

Parsons Brinckerhoff (November 2002), *Environmental Site Assessment, Lee 4, (Part Lot 1111 DP 1027135) Honeysuckle, NSW*, Ref: 2122128A.PR_0603_Rev A.

JBS Environmental (October 2007), *Supplementary Contamination Assessment, Lee 4 Honeysuckle Dr, Newcastle*, Ref: JBS40184-11274 (Rev 0).

SKM (2012), *Draft Lee Wharf 4 & 5 – Application for Specific Exemption, Application for Beneficial Reuse, Specific Exemption – Cottage Creek Precinct Material*, Ref EN03010, Rev A.

LIMITATIONS

The waste classification is based on site observations and the results of laboratory analysis and provides a reasonable interpretation of the general condition of material observed and sampled.

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Should materials or conditions be encountered other than those which have been described, further site investigation and/or supplementary testing will be required.

This report has been prepared by Jacobs for use by HDC.

SIGNED



Grant Moylan
Environmental Scientist

DATE

9 May 2017

APPENDICES

- A** Lee 4 Investigation Sampling Locations.
- B** Lee 4 Sands Analytical Summary Tables
- C** Laboratory Reports

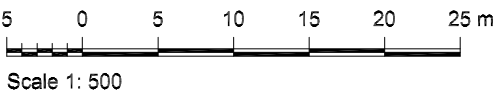
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APPENDIX A - LEE 4 INVESTIGATION SAMPLING LOCATIONS

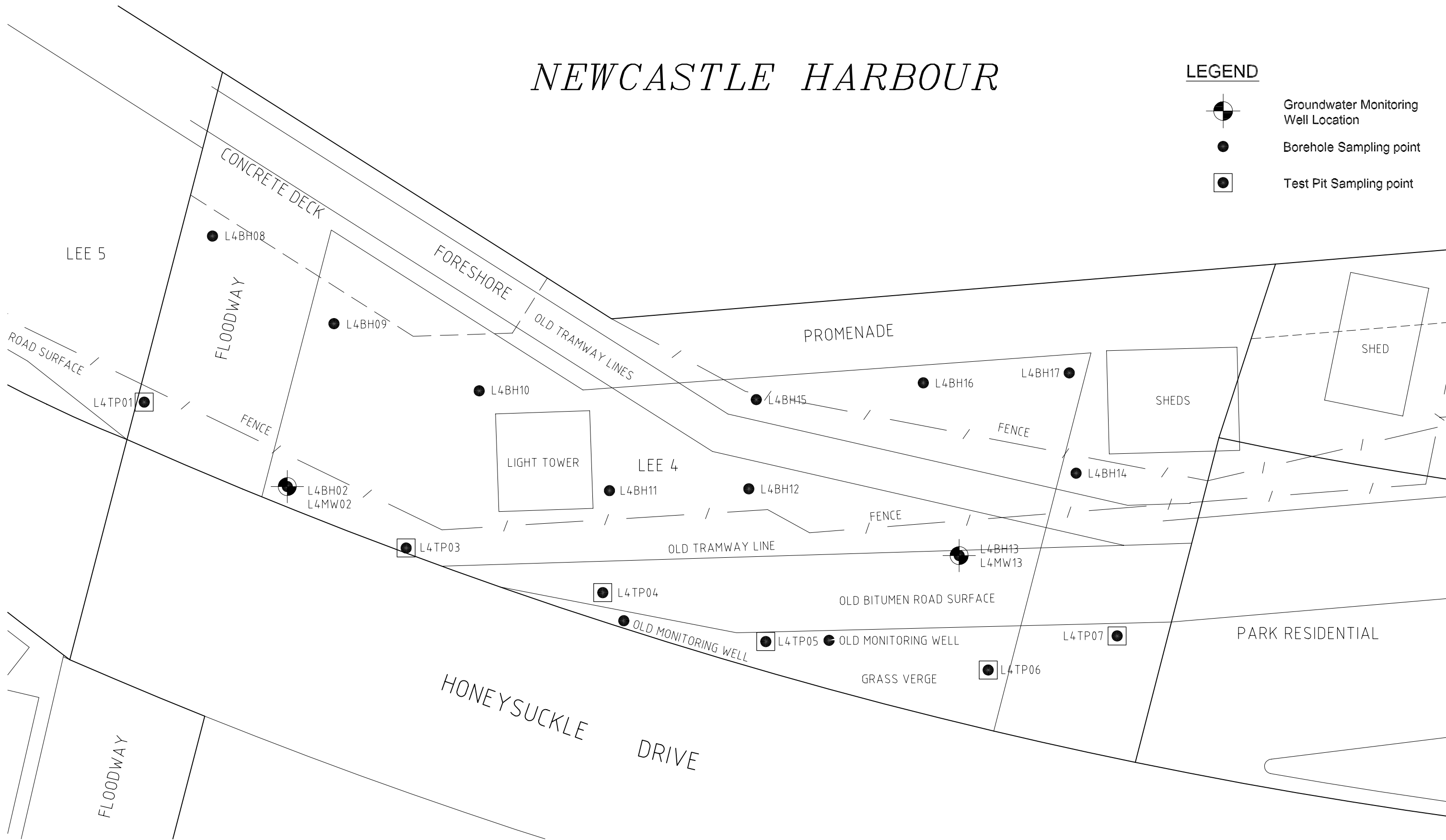
Client: Honeysuckle Development Corporation
Project: Environmental Site Assessment
Location: Honeysuckle Development



NEWCASTLE HARBOUR

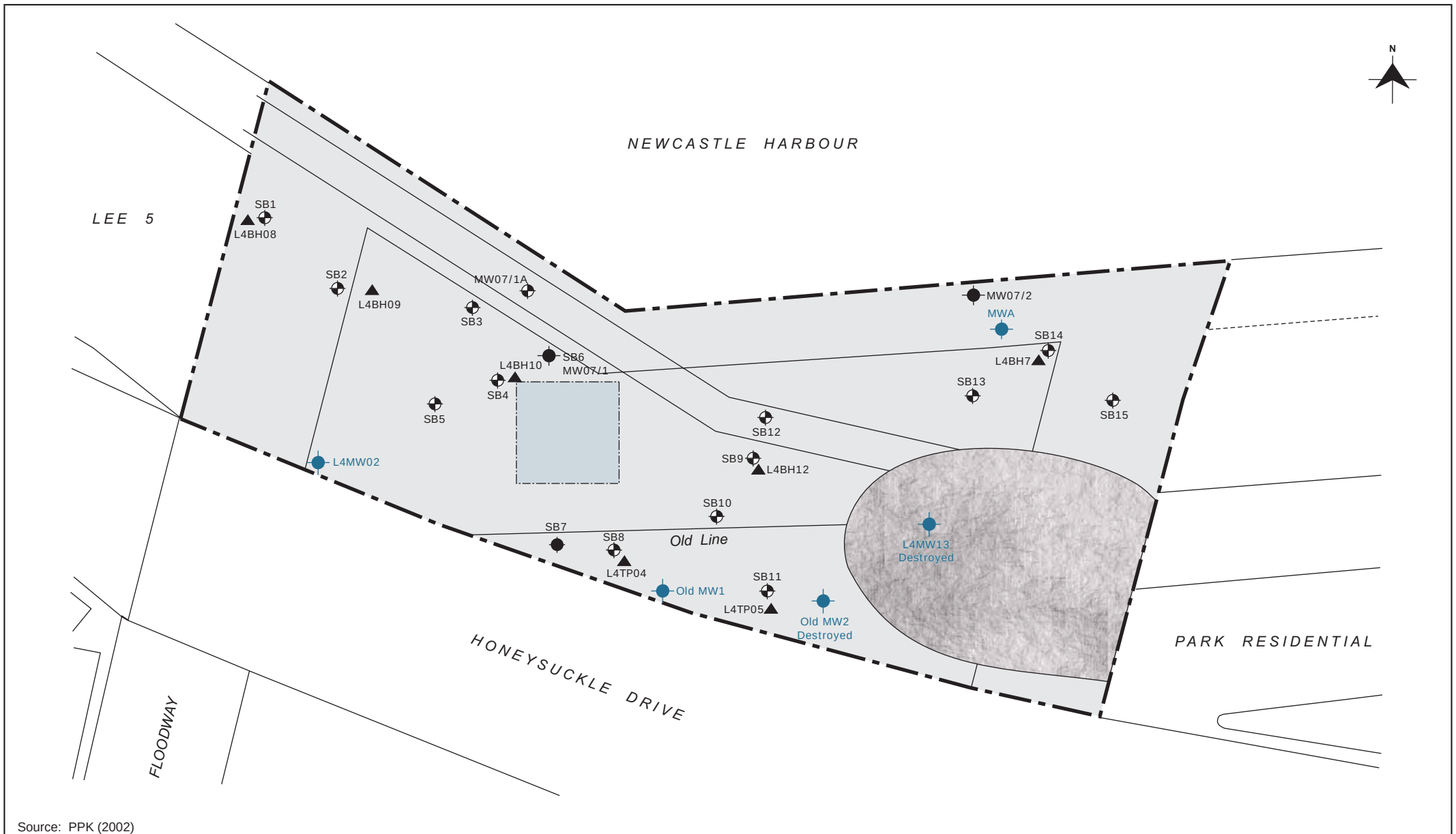
LEGEND

-  Groundwater Monitoring Well Location
-  Borehole Sampling point
-  Test Pit Sampling point



Site Layout & Soil Sampling Locations - Lee 4
Figure 2

BASE PLAN PROVIDED BY HONEYSUCKLE DEVELOPMENT CORPORATION. EXISTING FEATURES SHOWN BY PPK.



Source: PPK (2002)

Legend

-  Identified Area of Impact (PB, 2005)
-  Existing Monitoring Well
-  Soil Bore
-  Monitoring Well

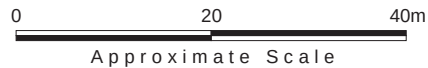


Figure 3
Lee 4 Investigation Sampling Locations

Client: Honeysuckle Development Corporation

Job Number: 40184

Site Address: Lee 4, Honeysuckle Drive, Newcastle, NSW

File Name: 40184_05.cdr

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FIGURE 1 | SAMPLING LOCATIONS



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APPENDIX B - LEE 4 SANDS ANALYTICAL SUMMARY TABLES

**TABLE 1: LEE WHARF 4, SANDS WASTE CLASSIFICATION
CONTAMINANT THRESHOLD ASSESSMENT**

[illegible]

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TABLE 2: LEE WHARF 4, SANDS WASTE CLASSIFICATION
SPECIFIC CONTAMINANT CONCENTRATION LEACHABILITY ASSESSMENT

EQL	Specific Contaminant Concentration (SCC)										Toxicity Characteristics Leaching Procedure (TCLP)										Waste Classification	
	Leachable Metals								PAH/Phenols		r Non & Semivolatiles	Leachable Metals								PAH/Phenols		
	Mercury	Arsenic	Cadmium	Chromium (III+VI)	Nickel	Lead	Manganese	Zinc	PAH (total)	Benzo(a) pyrene		Mercury	Arsenic	Cadmium	Chromium (III+VI)	Nickel	Lead	Manganese	Zinc	PAH (total)		Benzo(a) pyrene
mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	pH Units	pH Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		
NSW (2014), General Solid Waste - SCC1	1,500	500	100	1,900	1,050	1,500		200	10													
NSW (2014), Restricted Solid Waste - SCC2	6,000	2,000	400	7,600	4,200	6,000		800	23													
NSW (2014), General Solid Waste - TCLP 1												0.2	5	1	5	2	5			40		
NSW (2014), Restricted Solid Waste - TCLP2												0.8	20	4	20	8	20			160		

Site	Field ID	Sampled Date	Depth	Soil Profile	<0.1	<4	<1	17	4	10	350	19	5.3	0.5	8.9	1.5	<0.0005	<0.05	<0.01	0.02	0.05	0.15	4.7	0.43	<0.016	<1
Lee 4	SB1 5	29/03/2007	5	Sand	<0.1	<4	<1	17	4	10	350	19	5.3	0.5	8.9	1.5	<0.0005	<0.05	<0.01	0.02	0.05	0.15	4.7	0.43	<0.016	<1
Lee 4	SB4 1.5	28/03/2007	1.5	Sand	<0.1	<4	<1	<1	1.1	<1	32	51	0.25	0.05	9.2	1.4	<0.0005	<0.05	<0.01	<0.01	<0.02	0.07	0.14	1.1	<0.016	<1
Lee 4	SB10 1.5	28/03/2007	1.5	Sand	<0.1	<4	<1	1.4	<1	1.3	10	4.5	0.7	0.1	9.4	1.6	<0.0005	<0.05	<0.01	<0.01	<0.02	<0.03	0.14	0.17	0.004	<1
Lee 4	SB11 1.5	28/03/2007	1.5	Sand	<0.1	<4	<1	1.1	<1	<1	7.5	2.3	1.1	0.1	8.9	1.7	<0.0005	<0.05	<0.01	<0.01	<0.02	0.05	0.08	0.1	<0.016	<1
Lee 4	14B-2.0	5/12/2012	2	Sand	-	-	-	-	-	24	1510	534	0.7	8.6	9	1.6	-	-	-	-	-	<0.1	1.5	8.3	<0.0005	<0.5
Lee 4	17A-1.5	5/12/2012	1.5	Sand	-	-	-	-	-	<5	10	7	<0.5	<0.5	9.7	1.6	-	-	-	-	-	<0.1	<0.1	0.7	<0.0005	<0.5
Lee 4	18D-2.0	5/12/2012	2	Sand	-	-	-	-	-	<5	43	6	5	70.1	8.5	1.5	-	-	-	-	-	<0.1	0.4	0.6	<0.0005	<0.5
Lee 4	10C-2.0	6/12/2012	2	Sand	-	-	-	-	-	<5	73	10	<0.5	1.2	9.8	1.7	-	-	-	-	-	<0.1	0.2	0.4	<0.0005	<0.5
Lee 4	12E-1.0	6/12/2012	1	Sand	-	-	-	-	-	80	118	210	0.6	5.7	9.2	1.6	-	-	-	-	-	<0.1	0.7	2.8	<0.0005	<0.5
Lee 4	13B-1.0	6/12/2012	1	Sand	-	-	-	-	-	10	190	215	<0.5	<0.5	8.2	1.5	-	-	-	-	-	<0.1	0.2	5	<0.0005	<0.5
Lee 4	16A-1.5	6/12/2012	1.5	Sand	-	-	-	-	-	<5	20	<5	<0.5	3.6	7.7	1.5	-	-	-	-	-	<0.1	<0.1	1.1	<0.0005	<0.5

Waste Classification

General Solid Waste
General Solid Waste
General Solid Waste
General Solid Waste
General Solid Waste
General Solid Waste
General Solid Waste
Hazardous Solid Waste
General Solid Waste
General Solid Waste
General Solid Waste
General Solid Waste

Site	NSW (2014)	NSW (2014)	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4	Lee 4
Field ID			18E-2.0	18W-2.0	18E-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0	18W-2.0
Sample Date			5/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012	6/12/2012
Depth			2	1	1.5	2	1	1.5	2	1	1.5	2	1	1.5	2	1	1.5	2	1	1.5	2	1	1.5	2	1	1.5	2	1
Profile Soil			Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand
Benzo(a) pyrene	10	23	6.8	32	1	<0.5	<0.5	<0.5	<0.5	0.5	11.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	6.1	<0.5	<0.5	<0.5	1	<0.5	0.7	8.1

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APPENDIX C - LABORATORY REPORTS

Parsons Brinckerhoff (November 2002)

JBS Environmental (October 2007)

Jacobs (*formerly SKM*, 2012)

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS:
P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE(L4)

Batch: NE6394
Sub Batch: 0
LABORATORY: NEWCASTLE
DATE RECEIVED: 24/04/2002
DATE COMPLETED: 09/05/2002
SAMPLE TYPE: SOIL
No. of SAMPLES: 18

COMMENTS

Metals digested by USEPA method 200.2 (mod). Results reported on a dry weight basis. pH determined and reported on 1:5 soil/water extract. Sample L4/BH8/0.4 shows poor precision for Chromium and Manganese due to sample heterogeneity. Manganese spike recovery for sample L4/BH8/0.4 not determined due to background levels of this analyte. All analysis and Laboratory QC conducted in accordance with Schedule B(3) NEPM Guideline on Laboratory Analysis of Potentially Contaminated Soil (December 1999). Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

This is the Final Report and supersedes any preliminary reports with this batch number. All pages of this report have been checked and approved for release.

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Signatory



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Sydney
Newcastle
Mumbai

Hong Kong
Singapore
Kuala Lumpur
Auckland
Bogor

AMERICAS

Vancouver
Santiago
Antofagasta
Lima

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Batch: NE6394
Sub Batch: 0
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION											
				Laboratory I.D.		1	2	3	4	5	6	7	8	9	10
				Date Sampled		23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/BH8 0.4M	L4/BH8 2.5M	L4/BH10 0.1M	L4/BH10 1M	L4/BH11 1M	L4/BH11 2.5M	L4/BH12 0.1M	L4/BH12 0.1MA	L4/BH12 2M	L4/BH15 1M		
EA-002	pH Value		0.1	----	----	----	----	9.1	9.1	----	----	----	----		
EA-055	Moisture Content (dried @ 103°C)	%	0.1	24.6	11.6	27.7	23.4	31.5	17.5	36.4	42.9	23.0	24.4		
EG-005T	Arsenic - Total	mg/kg	1	3	6	3	5	3	2	4	3	4	3		
EG-005T	Cadmium - Total	mg/kg	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
EG-005T	Cobalt - Total	mg/kg	1	3	5	5	6	3	1	2	1	2	<1		
EG-005T	Chromium - Total	mg/kg	1	30	9	175	66	4	2	9	8	3	2		
EG-005T	Copper - Total	mg/kg	1	7	12	29	16	7	3	8	6	4	<1		
EG-005T	Manganese - Total	mg/kg	1	2190	1380	20.7g/kg	6830	121	48	4760	6980	49	10		
EG-005T	Nickel - Total	mg/kg	1	6	16	12	25	5	2	2	2	3	1		
EG-005T	Lead - Total	mg/kg	1	23	89	35	21	7	3	26	29	6	<1		
EG-005T	Zinc - Total	mg/kg	1	64	368	235	66	21	8	74	51	17	2		
EG-035T	Mercury - Total	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		

Batch: NE6394
Sub Batch: 0
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		11	12	13	14	15	16	20	21
				Date Sampled		23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/BH15 2M	L4/BH15 2MA	L4/BH16 1M	L4/BH16 2M	L4/BH17 0.1M	L4/BH17 2M	L4/BH14 1M	L4/BH14 2M		
EA-002	pH Value		0.1	----	----	----	----	----	----	8.3	7.9		
EA-055	Moisture Content (dried @ 103°C)	%	0.1	15.1	23.6	26.4	14.0	16.7	40.8	16.3	17.0		
EG-005T	Arsenic - Total	mg/kg	1	2	2	3	2	7	3	2	1		
EG-005T	Cadmium - Total	mg/kg	1	<1	<1	<1	<1	1	<1	<1	<1		
EG-005T	Cobalt - Total	mg/kg	1	<1	<1	<1	<1	4	1	<1	<1		
EG-005T	Chromium - Total	mg/kg	1	<1	<1	2	<1	8	3	<1	<1		
EG-005T	Copper - Total	mg/kg	1	<1	<1	1	<1	20	1	1	<1		
EG-005T	Manganese - Total	mg/kg	1	4	7	177	29	3720	298	21	9		
EG-005T	Nickel - Total	mg/kg	1	<1	<1	2	<1	4	3	<1	<1		
EG-005T	Lead - Total	mg/kg	1	<1	<1	1	<1	12	2	<1	<1		
EG-005T	Zinc - Total	mg/kg	1	8	2	7	3	398	22	2	2		
EG-035T	Mercury - Total	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		

Batch: NE6394
Sub Batch: 0
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION											
				Laboratory I.D.		1	1	1	1	11	11	21	21	200	201
				Date Sampled		23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002	24/04/2002	24/04/2002
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/BH8 0.4M_MS	L4/BH8 0.4M_CHK1	L4/BH8 0.4M_CHK2	L4/BH8 0.4M_CHK3	L4/BH15 2M_MS	L4/BH15 2M_CHK	L4/BH14 2M_MS	L4/BH14 2M_CHK	METHOD BLANK	LCS		
				CHECKS AND SPIKES											
EA-002	pH Value		0.1	----	----	----	----	----	----	----	----	----	----		
EA-055	Moisture Content (dried @ 103'C)	%	0.1	----	25.9	25.9	25.9	----	17.0	----	16.3	----	----		
EG-005T	Arsenic - Total	mg/kg	1	99.0%	2	4	5	107%	1	109%	2	<1	106%		
EG-005T	Cadmium - Total	mg/kg	1	93.0%	<1	<1	<1	106%	<1	109%	<1	<1	106%		
EG-005T	Cobalt - Total	mg/kg	1	93.0%	2	3	4	106%	<1	108%	<1	<1	----		
EG-005T	Chromium - Total	mg/kg	1	95.0%	67	28	68	105%	<1	108%	<1	<1	109%		
EG-005T	Copper - Total	mg/kg	1	93.0%	2	6	8	104%	<1	107%	<1	<1	109%		
EG-005T	Manganese - Total	mg/kg	1	Not Det'd	3860	2280	2810	112%	8	117%	13	<1	----		
EG-005T	Nickel - Total	mg/kg	1	92.0%	4	5	10	106%	<1	108%	<1	<1	109%		
EG-005T	Lead - Total	mg/kg	1	95.0%	15	41	23	106%	<1	109%	<1	<1	107%		
EG-005T	Zinc - Total	mg/kg	1	92.0%	43	50	64	110%	9	112%	2	<1	110%		
EG-035T	Mercury - Total	mg/kg	0.1	110%	<0.1	----	----	103%	<0.1	106%	<0.1	<0.1	100%		

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS: P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE(L4)

Batch: NE6394
Sub Batch: 1
LABORATORY: NEWCASTLE
DATE RECEIVED: 24/04/2002
DATE COMPLETED: 09/05/2002
SAMPLE TYPE: WATER
No. of SAMPLES: 1

COMMENTS

Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

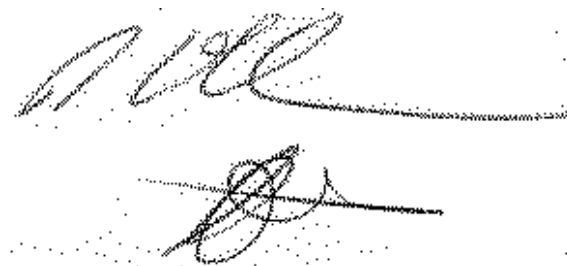
This is the Final Report and supersedes any preliminary reports with this batch number.
All pages of this report have been checked and approved for release.

ISSUING LABORATORY: NEWCASTLE

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Signatory



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Batch: NE6394
Sub Batch: 1
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION									
				Laboratory I.D.	18								
				Date Sampled	23/04/2002								
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	TRIP BLANK M									
EG-020F	Arsenic - Filtered	mg/L	0.001	<0.001									
EG-020F	Cadmium - Filtered	mg/L	0.001	<0.001									
EG-020F	Cobalt - Filtered	mg/L	0.001	<0.001									
EG-020F	Chromium - Filtered	mg/L	0.001	<0.001									
EG-020F	Copper - Filtered	mg/L	0.001	0.001									
EG-020F	Manganese - Filtered	mg/L	0.001	<0.001									
EG-020F	Nickel - Filtered	mg/L	0.001	<0.001									
EG-020F	Lead - Filtered	mg/L	0.001	<0.001									
EG-020F	Zinc - Filtered	mg/L	0.001	0.004									
EG-035F	Mercury - Filtered	mg/L	0.0001	<0.0001									

Batch: NE6394
Sub Batch: 1
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		200	201	202					
				Date Sampled		24/04/2002	24/04/2002	24/04/2002					
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	METHOD BLANK	LCS	MS							
				CHECKS AND SPIKES									
EG-020F	Arsenic - Filtered	mg/L	0.001	<0.001	94.0%	101%							
EG-020F	Cadmium - Filtered	mg/L	0.001	<0.001	96.0%	103%							
EG-020F	Cobalt - Filtered	mg/L	0.001	<0.001	94.0%	94.0%							
EG-020F	Chromium - Filtered	mg/L	0.001	<0.001	92.0%	95.0%							
EG-020F	Copper - Filtered	mg/L	0.001	<0.001	97.0%	85.0%							
EG-020F	Manganese - Filtered	mg/L	0.001	<0.001	93.0%	77.0%							
EG-020F	Nickel - Filtered	mg/L	0.001	<0.001	97.0%	94.0%							
EG-020F	Lead - Filtered	mg/L	0.001	<0.001	97.0%	96.0%							
EG-020F	Zinc - Filtered	mg/L	0.001	<0.001	93.0%	100%							
EG-035F	Mercury - Filtered	mg/L	0.0001	<0.0001	102%	101%							

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS:
P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE(L4)

Batch: NE6394
Sub Batch: 2
LABORATORY: NEWCASTLE
DATE RECEIVED: 24/04/2002
DATE COMPLETED: 09/05/2002
SAMPLE TYPE: SOIL
No. of SAMPLES: 3

COMMENTS

Samples analysed on an as received basis. Results reported on a dry weight basis. All analysis and Laboratory QC conducted in accordance with Schedule B(3) NEPM Guideline on Laboratory Analysis of Potentially Contaminated Soil (December 1999). Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

This is the Final Report and supersedes any preliminary reports with this batch number. All pages of this report have been checked and approved for release.

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Batch: NE6394
Sub Batch: 2
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		7	8	15					
				Date Sampled		23/04/2002	23/04/2002	23/04/2002					
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/BH12 0.1M	L4/BH12 0.1MA	L4/BH17 0.1M							
EA-055	Moisture Content (dried @ 103°C)	%	0.1	36.4	42.9	16.7							
EP-071-SS	TOTAL PETROLEUM HYDROCARBONS												
EP-071-SS	C6 - C9 Fraction	mg/kg	2	<2	159	<2							
EP-071-SS	C10 - C14 Fraction	mg/kg	50	186	<50	807							
EP-071-SS	C15 - C28 Fraction	mg/kg	100	8060	11.8g/kg	9190							
EP-071-SS	C29 - C36 Fraction	mg/kg	100	5840	8370	3820							
EP-080-SS	BTEX												
EP-080-SS	Benzene	mg/kg	0.2	<0.2	<0.2	<0.2							
EP-080-SS	Toluene	mg/kg	0.2	<0.2	<0.2	<0.2							
EP-080-SS	Chlorobenzene	mg/kg	0.2	<0.2	<0.2	<0.2							
EP-080-SS	Ethylbenzene	mg/kg	0.2	<0.2	<0.2	<0.2							
EP-080-SS	meta- & para-Xylene	mg/kg	0.2	<0.2	<0.2	<0.2							
EP-080-SS	ortho-Xylene	mg/kg	0.2	<0.2	<0.2	<0.2							
EP-080S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES												
EP-080S-SS	1,2-Dichloroethane-D4	%	1	116	108	104							
EP-080S-SS	Toluene-D8	%	1	115	102	103							
EP-080S-SS	4-Bromofluorobenzene	%	1	93	85	85							

Batch: NE6394
Sub Batch: 2
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		100	101	102	103	104			
				Date Sampled		24/04/2002	24/04/2002	24/04/2002	24/04/2002	24/04/2002			
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	METHOD BLANK	NTPHT3240 SCS	NTPHT3240 DCS	NTPHT3240 MS	NTPHT3240 MSD					
				CHECKS AND SPIKES									
EA-055	Moisture Content (dried @ 103°C)	%	0.1	----	----	----	----	----					
EP-071-SS	TOTAL PETROLEUM HYDROCARBONS												
EP-071-SS	C6 - C9 Fraction	mg/kg	2	<2	107%	96.0%	108%	104%					
EP-071-SS	C10 - C14 Fraction	mg/kg	50	<50	106%	111%	94.0%	87.0%					
EP-071-SS	C15 - C28 Fraction	mg/kg	100	<100	102%	104%	98.0%	91.0%					
EP-071-SS	C29 - C36 Fraction	mg/kg	100	<100	100%	98.0%	----	----					
EP-080-SS	BTEX												
EP-080-SS	Benzene	mg/kg	0.2	<0.2	101%	97.0%	97.0%	98.0%					
EP-080-SS	Toluene	mg/kg	0.2	<0.2	104%	102%	80.0%	80.0%					
EP-080-SS	Chlorobenzene	mg/kg	0.2	<0.2	99.0%	98.0%	91.0%	94.0%					
EP-080-SS	Ethylbenzene	mg/kg	0.2	<0.2	103%	101%	----	----					
EP-080-SS	meta- & para-Xylene	mg/kg	0.2	<0.2	98.0%	89.0%	----	----					
EP-080-SS	ortho-Xylene	mg/kg	0.2	<0.2	94.0%	87.0%	----	----					
EP-080S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES												
EP-080S-SS	1,2-Dichloroethane-D4	%	1	97	109	103	96	97					
EP-080S-SS	Toluene-D8	%	1	95	110	108	96	94					
EP-080S-SS	4-Bromofluorobenzene	%	1	100	98	94	74	80					

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS: P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE(L4)

Batch: NE6394
Sub Batch: 3
LABORATORY: NEWCASTLE
DATE RECEIVED: 24/04/2002
DATE COMPLETED: 09/05/2002
SAMPLE TYPE: WATER
No. of SAMPLES: 2

COMMENTS

Samples have been analysed for the volatile TPH components only as requested. Sample TRIP SPIKE contains volatile compounds spiked into the sample containers prior to dispatch from the laboratory. BTEX compounds spiked at 20ug/L. C6-C9 spiked at 520ug/L (theoretical), 460ug/L (average quantifiable). Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

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Signatory



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Batch: NE6394
Sub Batch: 3
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		17	19						
				Date Sampled		23/04/2002	23/04/2002						
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	TRIP BLANK	TRIP SPIKE								
EP-071-WS	TOTAL PETROLEUM HYDROCARBONS												
EP-071-WS	C6 - C9 Fraction	ug/L	20	<20	420								
EP-080-WS	BTEX												
EP-080-WS	Benzene	ug/L	1	<1	21								
EP-080-WS	Toluene	ug/L	2	<2	20								
EP-080-WS	Chlorobenzene	ug/L	2	<2	21								
EP-080-WS	Ethylbenzene	ug/L	2	<2	21								
EP-080-WS	meta- & para-Xylene	ug/L	2	<2	21								
EP-080-WS	ortho-Xylene	ug/L	2	<2	20								
EP-080S-WS	VOLATILE TPH/BTEX COMPOUND SURROGATES												
EP-080S-WS	1,2-Dichloroethane-D4	%	1	120	117								
EP-080S-WS	Toluene-D8	%	1	100	94								
EP-080S-WS	4-Bromofluorobenzene	%	1	84	97								

Batch: NE6394
Sub Batch: 3
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		100	101	102					
				Date Sampled		24/04/2002	24/04/2002	24/04/2002					
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	METHOD BLANK	NVOCW1166 SCS	NVOCW1166 DCS							
				CHECKS AND SPIKES									
EP-071-WS	TOTAL PETROLEUM HYDROCARBONS												
EP-071-WS	C6 - C9 Fraction	ug/L	20	<20	102%	102%							
EP-080-WS	BTEX												
EP-080-WS	Benzene	ug/L	1	<1	101%	108%							
EP-080-WS	Toluene	ug/L	2	<2	85.0%	104%							
EP-080-WS	Chlorobenzene	ug/L	2	<2	100%	105%							
EP-080-WS	Ethylbenzene	ug/L	2	<2	101%	101%							
EP-080-WS	meta- & para-Xylene	ug/L	2	<2	104%	106%							
EP-080-WS	ortho-Xylene	ug/L	2	<2	109%	107%							
EP-080S-WS	VOLATILE TPH/BTEX COMPOUND SURROGATES												
EP-080S-WS	1,2-Dichloroethane-D4	%	1	117	106	119							
EP-080S-WS	Toluene-D8	%	1	102	91	107							
EP-080S-WS	4-Bromofluorobenzene	%	1	84	115	113							

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS:
P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE(L4)

Batch: NE6394
Sub Batch: 4
LABORATORY: NEWCASTLE
DATE RECEIVED: 24/04/2002
DATE COMPLETED: 09/05/2002
SAMPLE TYPE: SOIL
No. of SAMPLES: 7

COMMENTS

Samples analysed on an as received basis. Results reported on a dry weight basis. All analysis and Laboratory QC conducted in accordance with Schedule B(3) NEPM Guideline on Laboratory Analysis of Potentially Contaminated Soil (December 1999). Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

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Batch: NE6394
Sub Batch: 4
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		1	5	7	8	10	13	15	
				Date Sampled		23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002	23/04/2002	
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/BH8 0.4M	L4/BH11 1M	L4/BH12 0.1M	L4/BH12 0.1MA	L4/BH15 1M	L4/BH16 1M	L4/BH17 0.1M			
EA-055	Moisture Content (dried @ 103°C)	%	0.1	24.6	31.5	36.4	42.9	24.4	26.4	16.7			
EP-076A-SS	POLYNUCLEAR AROMATIC HYDROCARBONS												
EP-076A-SS	Naphthalene	mg/kg	0.5	<0.5	<0.5	70.1	120	<0.5	1.8	333			
EP-076A-SS	Acenaphthylene	mg/kg	0.5	0.5	0.5	68.2	89.6	0.7	1.5	65.7			
EP-076A-SS	Acenaphthene	mg/kg	0.5	<0.5	<0.5	18.1	29.2	<0.5	0.7	56.5			
EP-076A-SS	Fluorene	mg/kg	0.5	<0.5	<0.5	28.1	42.9	<0.5	1.0	116			
EP-076A-SS	Phenanthrene	mg/kg	0.5	3.2	1.3	624	998	<0.5	16.7	1160			
EP-076A-SS	Anthracene	mg/kg	0.5	0.9	<0.5	129	192	<0.5	2.9	236			
EP-076A-SS	Fluoranthene	mg/kg	0.5	8.1	5.9	920	1290	0.7	17.4	1000			
EP-076A-SS	Pyrene	mg/kg	0.5	8.5	5.4	959	1330	0.7	16.6	1040			
EP-076A-SS	Benz(a)anthracene	mg/kg	0.5	4.1	3.0	267	384	<0.5	4.3	299			
EP-076A-SS	Chrysene	mg/kg	0.5	3.5	2.2	273	367	<0.5	4.5	281			
EP-076A-SS	Benzo(b)fluoranthene	mg/kg	0.5	5.4	2.9	358	489	<0.5	4.7	354			
EP-076A-SS	Benzo(k)fluoranthene	mg/kg	0.5	1.7	1.1	116	207	<0.5	1.7	149			
EP-076A-SS	Benzo(a)pyrene	mg/kg	0.5	4.2	2.3	328	414	<0.5	3.6	351			
EP-076A-SS	Indeno(1.2.3.cd)pyrene	mg/kg	0.5	2.6	1.1	219	290	<0.5	2.1	205			
EP-076A-SS	Dibenz(a.h)anthracene	mg/kg	0.5	0.7	<0.5	49.3	62.3	<0.5	<0.5	44.4			
EP-076A-SS	Benzo(g.h.i)perylene	mg/kg	0.5	3.3	1.3	300	391	<0.5	2.5	284			
EP-076S-SS	SURROGATE COMPOUNDS												
EP-076S-SS	2-Fluorobiphenyl	%	1	91	86	82	85	92	95	89			
EP-076S-SS	Anthracene-d10	%	1	95	91	75	76	91	99	80			
EP-076S-SS	p-Terphenyl-d14	%	1	114	104	78	77	106	113	101			

Batch: NE6394
Sub Batch: 4
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		100	101	102	103	104			
				Date Sampled		24/04/2002	24/04/2002	24/04/2002	24/04/2002	24/04/2002			
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	METHOD BLANK	NEPO76S535 SCS	NEPO76S535 DCS	NEPO76S535 MS	NEPO76S535 MSD					
				CHECKS AND SPIKES									
EA-055	Moisture Content (dried @ 103°C)	%	0.1	----	----	----	----	----					
EP-076A-SS	POLYNUCLEAR AROMATIC HYDROCARBONS												
EP-076A-SS	Naphthalene	mg/kg	0.5	<0.5	98.6%	93.1%	----	----					
EP-076A-SS	Acenaphthylene	mg/kg	0.5	<0.5	100%	95.7%	----	----					
EP-076A-SS	Acenaphthene	mg/kg	0.5	<0.5	104%	97.9%	80.5%	88.0%					
EP-076A-SS	Fluorene	mg/kg	0.5	<0.5	96.7%	91.7%	----	----					
EP-076A-SS	Phenanthrene	mg/kg	0.5	<0.5	97.8%	95.1%	----	----					
EP-076A-SS	Anthracene	mg/kg	0.5	<0.5	101%	96.3%	----	----					
EP-076A-SS	Fluoranthene	mg/kg	0.5	<0.5	100%	97.9%	----	----					
EP-076A-SS	Pyrene	mg/kg	0.5	<0.5	101%	96.6%	91.9%	101%					
EP-076A-SS	Benz(a)anthracene	mg/kg	0.5	<0.5	100%	96.4%	----	----					
EP-076A-SS	Chrysene	mg/kg	0.5	<0.5	95.1%	97.4%	----	----					
EP-076A-SS	Benzo(b)fluoranthene	mg/kg	0.5	<0.5	102%	95.9%	----	----					
EP-076A-SS	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	103%	92.6%	----	----					
EP-076A-SS	Benzo(a)pyrene	mg/kg	0.5	<0.5	103%	94.9%	----	----					
EP-076A-SS	Indeno(1.2.3.cd)pyrene	mg/kg	0.5	<0.5	99.9%	93.2%	----	----					
EP-076A-SS	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	99.8%	92.9%	----	----					
EP-076A-SS	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	98.3%	92.6%	----	----					
EP-076S-SS	SURROGATE COMPOUNDS												
EP-076S-SS	2-Fluorobiphenyl	%	1	97	105	94	87	97					
EP-076S-SS	Anthracene-d10	%	1	109	103	99	85	96					
EP-076S-SS	p-Terphenyl-d14	%	1	108	116	111	113	113					

BATCH QUALITY CONTROL -- DUPLICATE					
ALS EP-076 : Polynuclear Aromatic Hydrocarbons					
QC LOT No. :		NEP076S-535			
MATRIX :		Soils			
ANALYST:		E. FADJAR			
COMPOUND	LOR mg/kg	QC DUPLICATE RESULTS		RPD	
		ES33123	ES33123	RPD	Cont. Limit
		1	1D		
		mg/kg	mg/kg	%	
EP-076A : Polynuclear Aromatic Hydrocarbons					
Naphthalene	0.25	<0.25	<0.25	n/a	
Acenaphthylene	0.25	<0.25	<0.25	n/a	
Acenaphthene	0.25	<0.25	<0.25	n/a	
Fluorene	0.25	<0.25	<0.25	n/a	
Phenanthrene	0.25	<0.25	<0.25	n/a	
Anthracene	0.25	<0.25	<0.25	n/a	
Fluoranthene	0.25	<0.25	<0.25	n/a	
Pyrene	0.25	<0.25	<0.25	n/a	
Benzo(a)anthracene	0.25	<0.25	<0.25	n/a	
Chrysene	0.25	<0.25	<0.25	n/a	
Benzo(b)fluoranthene	0.25	<0.25	<0.25	n/a	
Benzo(k)fluoranthene	0.25	<0.25	<0.25	n/a	
Benzo(a)pyrene	0.25	<0.25	<0.25	n/a	
Indeno(1.2.4.cd)pyrene	0.25	<0.25	<0.25	n/a	
Dibenzo(a,h)anthracene	0.25	<0.25	<0.25	n/a	
Benzo(g,h,i)perylene	0.25	<0.25	<0.25	n/a	
EP-076S : PAH Surrogates					
2-Fluorobiphenyl	1%	93%	84.7%	9.34	0 - 20
Anthracene-d10	1%	92.8%	92.7%	0.108	0 - 20
4-Terphenyl-d14	1%	119%	119%	0	0 - 20

Note: The permitted range for RPD (relative percent deviation) is specified in ALS Method QWI-EN/38 and is dependent on the magnitude of results in comparison to the level of reporting:

Result < 10 times LOR, no limit.

Result between 10 and 20 times LOR, 0% - 50%.

Results > 20 times LOR, 0% - 20%.

BATCH QUALITY CONTROL -- DUPLICATE					
ALS EP-076 : Polynuclear Aromatic Hydrocarbons					
QC LOT No. :		NEP076S-535			
MATRIX :		Soils			
ANALYST:		E. FADJAR			
COMPOUND	LOR mg/kg	QC DUPLICATE RESULTS		RPD	
		ES33123	ES33123	RPD	Cont. Limit
		2	2D		
		mg/kg	mg/kg	%	
EP-076A : Polynuclear Aromatic Hydrocarbons					
Naphthalene	0.25	<0.25	<0.25	n/a	
Acenaphthylene	0.25	<0.25	<0.25	n/a	
Acenaphthene	0.25	<0.25	<0.25	n/a	
Fluorene	0.25	<0.25	<0.25	n/a	
Phenanthrene	0.25	<0.25	<0.25	n/a	
Anthracene	0.25	<0.25	<0.25	n/a	
Fluoranthene	0.25	<0.25	<0.25	n/a	
Pyrene	0.25	<0.25	<0.25	n/a	
Benzo(a)anthracene	0.25	<0.25	<0.25	n/a	
Chrysene	0.25	<0.25	<0.25	n/a	
Benzo(b)fluoranthene	0.25	<0.25	<0.25	n/a	
Benzo(k)fluoranthene	0.25	<0.25	<0.25	n/a	
Benzo(a)pyrene	0.25	<0.25	<0.25	n/a	
Indeno(1.2.4.cd)pyrene	0.25	<0.25	<0.25	n/a	
Dibenzo(a,h)anthracene	0.25	<0.25	<0.25	n/a	
Benzo(g,h,i)perylene	0.25	<0.25	<0.25	n/a	
EP-076S : PAH Surrogates					
2-Fluorobiphenyl	1%	92.3%	85%	8.23	0 - 20
Anthracene-d10	1%	91.2%	85.7%	6.22	0 - 20
4-Terphenyl-d14	1%	111%	108%	2.74	0 - 20

Note: The permitted range for RPD (relative percent deviation) is specified in ALS Method QWI-EN/38 and is dependent on the magnitude of results in comparison to the level of reporting:

Result < 10 times LOR, no limit.

Result between 10 and 20 times LOR, 0% - 50%.

Results > 20 times LOR, 0% - 20%.

BATCH QUALITY CONTROL -- MATRIX SPIKE/DUPLICATE							
ALS EP-076 : Polynuclear Aromatic Hydrocarbons QC LOT No. : NEP076S-535 ANALYST : E. FADJAR MATRIX: Soils Sample ID: ES33123-2							
COMPOUND	Sample Results	Spike Level	SPIKE QC RESULTS				Cont. Limit
			MS Rec.	MSD Rec.	Average Rec.	RPD	RPD
	mg/kg	mg/kg	%	%	%	%	%
EP-076A : Polynuclear Aromatic Hydrocarbons							
Acenaphthene	<0.25	10	80.5	88	84.3	8.9	0 - 35
Pyrene	<0.25	10	91.9	101	96.5	9.43	0 - 35
EP-076S : PAH Surrogates							
2-Fluorobiphenyl	92.3%	4	87.3	97.1	92.2	10.6	0 - 35
Anthracene-d10	91.2%	4	85.2	96.1	90.7	12	0 - 35
4-Terphenyl-d14	111%	4	113	113	113	0	0 - 35

COMMENTS:

- 1) The RPD control limits are fixed.
- 2) *: RPD falls outside the recommended control limit.

BATCH QUALITY CONTROL -- CONTROL SPIKE/DUPLICATE									
ALS EP-076 : Polynuclear Aromatic Hydrocarbons									
QC LOT No. :		NEP076S-535				ANALYST E. FADJAR			
MATRIX:		Soils							
COMPOUND	Blank Conc	Spike Level	SPIKE QC RESULTS				Control Limits		
			SCS Rec.	DCS Rec.	Average Rec.	RPD	Rec.		RPD
	mg/kg	mg/kg	%		%	%	Low	High	%
EP-076A : Polynuclear Aromatic Hydrocarbons									
Naphthalene	<0.25	4.0	98.6	93.1	95.9	5.74	77.6	124	0 - 20
Acenaphthylene	<0.25	4.0	100	95.7	97.9	4.39	74	124	0 - 20
Acenaphthene	<0.25	4.0	104	97.9	101	6.04	77	120	0 - 20
Fluorene	<0.25	4.0	96.7	91.7	94.2	5.31	72.8	124	0 - 20
Phenanthrene	<0.25	4.0	97.8	95.1	96.5	2.8	73.8	125	0 - 20
Anthracene	<0.25	4.0	101	96.3	98.7	4.76	83.5	116	0 - 20
Fluoranthene	<0.25	4.0	100	97.9	99	2.12	73.6	128	0 - 20
Pyrene	<0.25	4.0	101	96.6	98.8	4.45	71.7	130	0 - 20
Benzo(a)anthracene	<0.25	4.0	100	96.4	98.2	3.67	66.3	125	0 - 20
Chrysene	<0.25	4.0	95.1	97.4	96.3	2.39	85.2	122	0 - 20
Benzo(b)fluoranthene	<0.25	4.0	101	95.9	98.5	5.18	65	122	0 - 20
Benzo(k)fluoranthene	<0.25	4.0	102	92.6	97.3	9.66	78.7	125	0 - 20
Benzo(a)pyrene	<0.25	4.0	103	94.9	99	8.19	70.1	122	0 - 20
Indeno(1.2.4.cd)pyrene	<0.25	4.0	99.9	93.2	96.6	6.94	73.6	121	0 - 20
Dibenzo(a.h)anthracene	<0.25	4.0	99.8	92.9	96.4	7.16	70.5	118	0 - 20
Benzo(g,h,i)perylene	<0.25	4.0	98.3	92.6	95.5	5.97	68.1	127	0 - 20
EP-076S : PAH Surrogates									
2-Fluorobiphenyl	97.3%	4.0	105	93.5	99.3	11.6	73.4	128	0 - 20
Anthracene-d10	109%	4.0	103	98.7	101	4.26	83.5	118	0 - 20
4-Terphenyl-d14	108%	4.0	116	111	114	4.41	96.6	133	0 - 20

COMMENTS:

- 1) The recovery control limits are based on ALS laboratory statistical data. (Method QWI-ORG/07)
- 2) The control limits on RPD (relative percent deviation) are fixed.
- 3) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL - CONTROL SPIKE/DUPLICATE

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

Vol QC Lot : NVOCS3240
Semivol QC Lot : NTPHT3240

MATRIX : Soil

COMPOUND	BATCH ADJ. (MDL)	Blank Conc.	Spike Conc.	Spike Results				Control Limits		
				SCS Conc.	DCS Conc.	Av. Rec.	RPD	Recovery %		RPD
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C6-C9	2.0	<LOR	20	21.5	19.2	102	11	92	109	20
C10-C14	25	<LOR	200	212	222	109	5	77	119	20
C15-C28	50	<LOR	200	204	208	103	2	77	116	20
C29-C36	50	<LOR	200	200	196	99	2	75	126	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.
- 3) MDL = Method Detection Limit
- 4) LOR = Level Of Reporting

BATCH QUALITY CONTROL - CONTROL SPIKE/DUPLICATE

ALS EP-080 : BTEX ANALYSIS

QC Lot No. : NVOC3240

MATRIX : Soil

COMPOUND	BATCH	Blank	Spike	Spike Results				Control Limits		
	ADJ.	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(MDL)			Conc.	Conc.	Rec.		%		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
Benzene	0.1	<LOR	1.0	1.01	0.97	99	4	86	111	20
Toluene	0.1	<LOR	1.0	1.04	1.02	103	3	81	115	20
Chlorobenzene	0.1	<LOR	1.0	0.99	0.98	99	2	84	112	20
Ethylbenzene	0.1	<LOR	1.0	1.03	1.01	102	3	85	112	20
m- & p-Xylene	0.1	<LOR	1.0	0.98	0.89	94	9	84	110	20
o-Xylene	0.1	<LOR	1.0	0.94	0.87	90	8	86	108	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.
- 3) MDL = Method Detection Limit
- 4) LOR = Level Of Reporting

BATCH QUALITY CONTROL - MATRIX SPIKE/DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

Vol QC Lot : NVOC3240
Semivol QC Lot : NTPHT3240

SPIKED SAMPLE : NE6260-10
MATRIX : SOIL

COMPOUND	Sample Results	Spike Level	Spike Results				Control Limits
			MS Conc	MSD Conc	Av. Rec.	RPD	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	RPD
C6-C9	<LOR	10	10.8	10.4	106	3	20
C10-C14	<LOR	430	404	374	90	8	20
C15-C28	<LOR	1570	1544	1430	95	8	20
C29-C36	<LOR	N/A	--	--	--	--	--

COMMENTS :

- 1) LOR: level of reporting
- 2) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 3) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL - MATRIX SPIKE/DUPLICATE**ALS EP-080 : BTEX ANALYSIS**

QC Lot No. : NVOCS3240

SPIKED SAMPLE : NE6260-10

MATRIX : SOIL

COMPOUND	Sample Results	Spike Level	Spike Results				Control Limits
			MS Conc	MSD Conc	Av. Rec.	RPD	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	RPD
Benzene	<LOR	2.5	2.4	2.5	97	2	20
Toluene	<LOR	2.5	2.0	2.0	80	1	20
Chlorobenzene	<LOR	2.5	2.3	2.4	93	3	20

COMMENTS :

- 1) LOR: level of reporting
- 2) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 3) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

SEMIVOLATILES QC LOT NO.: NTPHT3240
VOLATILES QC LOT No.: NVOCS3240

ANALYST: NENSI.K.
MATRIX : Soil

SEMIVOLATILES
VOLATILES QC I

COMPOUND	QC DUPLICATE RESULTS		
	NE6260	NE6260	RPD
	3	3DUP	
	mg/kg	mg/kg	%
C 6-C 9	<LOR	<LOR	--
C10-C14	<LOR	<LOR	--
C15-C28	<LOR	<LOR	--
C29-C36	<LOR	<LOR	--

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-080 : BTEX ANALYSIS**

QC Lot No. : NVOCS3240
MATRIX : Soil

Analyst : A.ROSSI

QC Lot No. :
MATRIX :

QC DUPLICATE RESULTS			
COMPOUND	NE6260	NE6260	RPD
	3	3DUP	
	mg/kg	mg/kg	%
Benzene	<LOR	<LOR	--
Toluene	<LOR	<LOR	--
Chlorobenzene	<LOR	<LOR	--
Ethylbenzene	<LOR	<LOR	--
m- & p-Xylene	<LOR	<LOR	--
o-Xylene	<LOR	<LOR	--

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

QC LOT NO.: NTPHT3240
LOT No.: NVOCS3240

ANALYST: NENSI.K.
MATRIX : Soil

COMPOUND	QC DUPLICATE RESULTS		
	NE6260	NE6260	RPD
	10	10DUP	
	mg/kg	mg/kg	%
C 6-C 9	<LOR	<LOR	--
C10-C14	<LOR	<LOR	--
C15-C28	<LOR	<LOR	--
C29-C36	<LOR	<LOR	--

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-080 : BTEX ANALYSIS**

NVOC3240
Soil

Analyst : A.ROSSI

QC DUPLICATE RESULTS			
COMPOUND	NE6260 10	NE6260 10DUP	RPD
	mg/kg	mg/kg	%
Benzene	<LOR	<LOR	--
Toluene	<LOR	<LOR	--
Chlorobenzene	<LOR	<LOR	--
Ethylbenzene	<LOR	<LOR	--
m- & p-Xylene	<LOR	<LOR	--
o-Xylene	<LOR	<LOR	--

BATCH QUALITY CONTROL - CONTROL SPIKE/DUPLICATE

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

Vol QC Lot : NVOCW1166
Semi-Vol QC Lot : NTPHW

MATRIX : Water

COMPOUND	BATCH ADJ. (MDL)	Blank Conc. ug/L	Spike Conc. ug/L	Spike Results				Control Limits		
				SCS Conc.	DCS Conc.	Av. Rec.	RPD	Recovery %		RPD
				ug/L	ug/L	%	%	Low	High	%
C6-C9	20	<LOR	200	204	204	102	0	94	106	20
C10-C14	25	<LOR	200	0	0	0 *	#### #	70	113	20
C15-C28	25	<LOR	200	0	0	0 *	#### #	82	115	20
C29-C36	25	<LOR	200	0	0	0 *	#### #	74	119	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.
- 3) MDL = Method Detection Limit
- 4) LOR = Level Of Reporting

BATCH QUALITY CONTROL - CONTROL SPIKE/DUPLICATE

ALS EP-080 : BTEX ANALYSIS

QC Lot No. : NVOCW1166

MATRIX : Water

COMPOUND	BATCH	Blank	Spike	Spike Results				Control Limits		
	ADJ.	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(MDL)			Conc.	Conc.	Rec.		%		
	ug/L	ug/L	ug/L	ug/L	ug/L	%	%	Low	High	%
Benzene	1.0	<LOR	10	10.07	10.76	104	7	87	115	20
Toluene	1.0	<LOR	10	8.53	10.40	95	20	87	114	20
Chlorobenzene	1.0	<LOR	10	10.01	10.51	103	5	89	112	20
Ethylbenzene	1.0	<LOR	10	10.09	10.06	101	0	88	115	20
m- & p-Xylene	1.0	<LOR	10	10.41	10.57	105	2	89	115	20
o-Xylene	1.0	<LOR	10	10.88	10.70	108	2	89	114	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.
- 3) MDL = Method Detection Limit
- 4) LOR = Level Of Reporting

BATCH QUALITY CONTROL - MATRIX SPIKE/DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

Vol QC Lot : NVOCW1166
Semi-Vol QC Lot : NTPHW

SPIKED SAMPLE : ES
MATRIX : WATER

COMPOUND	Sample Results	Spike Level	Spike Results			
			MS	MSD	Av.	RPD
			Conc	Conc	Rec.	
	ug/L	ug/L	ug/L	ug/L	%	%
C6-C9	<LOR	100	0.0	0.0	0	#### #
C10-C14	<LOR	200	0	0	0	#### #
C15-C28	<LOR	200	0	0	0	#### #
C29-C36	<LOR	200	0	0	0	#### #

COMMENTS :

- 1) LOR: level of reporting
- 2) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 3) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL - MATRIX SPIKE/DUPLICATE**ALS EP-080 : BTEX ANALYSIS**

QC Lot No. : NVOCW1166

SPIKED SAMPLE : ES
MATRIX : WATER

COMPOUND	Sample Results	Spike Level	Spike Results			
			MS Conc	MSD Conc	Av. Rec.	RPD
	ug/L	ug/L	ug/L	ug/L	%	%
Benzene	<LOR	10	0.0	0.0	0	#### #
Toluene	<LOR	10	0.0	0.0	0	#### #
Chlorobenzene	<LOR	10	0.0	0.0	0	#### #

COMMENTS :

- 1) LOR: level of reporting
- 2) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 3) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

SEMIVOLATILES QC LOT No.: NTPHW
VOLATILES QC LOT No.: NVOCW1166

ANALYST : 0
MATRIX : Water

COMPOUND	QC DUPLICATE RESULTS		
	NE6313	NE6313	RPD
	XX	XX	
	ug/L	ug/L	%
C 6-C 9	<LOR	<LOR	--
C10-C14	<LOR	<LOR	--
C15-C28	<LOR	<LOR	--
C29-C36	<LOR	<LOR	--

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-080 : BTEX ANALYSIS**

QC Lot No. : NVOCW1166
MATRIX : Water

Analyst : A.ROSSI

QC DUPLICATE RESULTS			
COMPOUND	NE6313	NE6313	RPD
	XX	XX	
	µg/L	µg/L	%
Benzene	<LOR	<LOR	--
Toluene	<LOR	<LOR	--
Chlorobenzene	<LOR	<LOR	--
Ethylbenzene	<LOR	<LOR	--
m- & p-Xylene	<LOR	<LOR	--
o-Xylene	<LOR	<LOR	--

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

SEMIVOLATILES QC LOT No.: NTPHW
VOLATILES QC LOT No.: NVOCW1166

ANALYST : 0
MATRIX : Water

COMPOUND	QC DUPLICATE RESULTS		
	NE6313	NE6313	RPD
	XX	XX	
	ug/L	ug/L	%
C 6-C 9	<LOR	<LOR	--
C10-C14	<LOR	<LOR	--
C15-C28	<LOR	<LOR	--
C29-C36	<LOR	<LOR	--

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-080 : BTEX ANALYSIS**

QC Lot No. : NVOCW1166
MATRIX : Water

Analyst : A.ROSSI

QC DUPLICATE RESULTS			
COMPOUND	NE6313	NE6313	RPD
	XX	XX	
	µg/L	µg/L	%
Benzene	<LOR	<LOR	--
Toluene	<LOR	<LOR	--
Chlorobenzene	<LOR	<LOR	--
Ethylbenzene	<LOR	<LOR	--
m- & p-Xylene	<LOR	<LOR	--
o-Xylene	<LOR	<LOR	--

COPY

ORGANICS QUALITY CONTROL REPORT

BATCH NO: NE6394

DATE BATCH RECEIVED: 26/04/02

CLIENT: PPK E & I, NSW

DATE BATCH COMPLETED: 9/05/02

PROJECT: 2122128A - Honeysuckle

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
EP-071	TPH(SV)	Soil	Tumbler	USEPA 8015A	NTPHT3240	29/04/02	01/05/02
EP-071/80	TPH(V)/BTEX	Water	USEPA 5030A	USEPA 8260A	NVOCW1166	03/05/02	03/05/02
EP-071/80	TPH(V)/BTEX	Soil	USEPA 5030A	USEPA 8260A	NVOCW3240	29/04/02	03/05/02
EP-076	PAH (USEPA	Soil	Tumbler	USEPA 8270C	NEP076S-535	29/04/02	30/05/02

Where applicable, internal standards are added to sample extracts prior to instrumental analysis. Absolute peak areas and retention times fall within the criteria specified in the individual methods. Continuing Calibration (CC) standards are run at the frequency of 1 in every 20 samples.

Abbreviations: SV = semivolatile, V = volatile

*: In-house methods

CHAIN OF CUSTODY



ALS Environmental

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Suite 1, 3rd Floor
55 Bolton Street
PO Box 1162
Newcastle NSW 2300

Final Report & Invoice To: Strider Duerinckx
Fax Results To: Strider Duerinckx
Electronic Results To: sduerinckx@ppk.com.au
(ENMRG Format)

Standard ALS Analysis

TAT

7 - 10 Days ☒*

48 Hrs ☐*

24 Hrs ☐*

*Surcharge Applies

ALS Quote No: SYN/534/01

Project: Haneysuckle (2122128A)

Project Director: Strider Duerinckx

Ph: (02) 4929 3900 **Fax:** (02) 4929 7299

SAMPLE INFORMATION

ANALYSIS REQUIRED

COMMENTS

SITE	SAMPLE ID	DATE	MATRIX	No. SAMPLE CONTAINERS	TPH / BTEX /	PAH	PAH	VOC	PHENOLS	pH	OC/PCB	OP	ASBESTOS	Hg	As, Cd, Co, Cr, Cu, Pb, Ni, Zn	Mn	TPH/BTEX	BTEX
L4	L4 B48 0.4m	23/4/02	Soil															
	L4 B48 1m	23/4/02	Soil															
	L4 B48 2.5m	23/4/02	Soil															
	L4 B48 5m	23/4/02	Soil															
	L4 B410 0.1m	23/4/02	Soil															
	L4 B410 1m	23/4/02	Soil															
	L4 B411 0.1m	23/4/02	Soil															
	L4 B411 1m	23/4/02	Soil															
	L4 B411 2.5m	23/4/02	Soil															
	L4 B412 0.1m	23/4/02	Soil															
	L4 B412 0.1m	23/4/02	Soil															
	L4 B412 1m	23/4/02	Soil															
	L4 B412 2m	23/4/02	Soil															
	L4 B415 0.1m	23/4/02	Soil															
	L4 B415 1m	23/4/02	Soil															

Batch No: NE6394

Batch Date: 24/4/02

☒ Soil ☐ Ambient

☒ Water ☐ Chilled

☐ Other ☐ °C

☐ Subcontract Work

☐ Bottle Return

☐ Imm, Anal, Actioned

18 x 500ml HCL

9 x 250ml HCL

1 x 250ml HCL

4 x 60ml HCL

Notes:

NOT SOILS NOT SUPPLIED

OK'ed with client 24/4/02

RELINQUISHED BY (SIGN / PRINT):

DATE: 24/4/02

RECEIVED BY (SIGN / PRINT):

A. K. K. K. K.

DATE:

24/4/02

OF:

TIME:

26-4-2

TIME:

9.00 am

PLEASE SIGN AND FAX TO STRIDER DUERINCKX UPON RECEIPT

ALSTRALIAN LABORATORY SERVICES PTY LTD ARN 81 009 936 070

CHAIN OF CUSTODY

CLIENT: PPK Suite 1, 3rd Floor 55 Bolton Street PO Box 1162 Newcastle NSW 2300	Final Report & Invoice To: Strider Duerinckx Fax Results To: Strider Duerinckx Electronic Results To: sduerinckx@ppk.com.au (ENMRG Format)
ALS Quote No: SYN/534/01 Project: Honeysuckle (2122128A) Project Director: Strider Duerinckx Ph: (02) 4929 3900 Fax: (02) 4929 7299	Standard ALS Analysis TAT 7 - 10 Days ☒ 48 Hrs ☐ 24 Hrs ☐ *Surcharge Applies



ALS Environmental
ALS Environmental
5 Rosegum Close, Warabrook NSW 2304
Ph: 02 4968 9433 Fax: 02 4968 0349

SAMPLE INFORMATION					ANALYSIS REQUIRED											COMMENTS		
SITE	SAMPLE ID	DATE	MATRIX	No. SAMPLE CONTAINERS	TPH / BTEX /	PAH	PAH	VOC	PHENOLS	pH	DC/PCB	OP	ASBESTOS	Hg	As, Cd, Co, Cr, Cu, Pb, Ni, Zn	Mn	TPH/BTEX	BTEX
L4	L4 BH15 2m	23/4/02	Soil															
	L4 BH15 2m	12																
	L4 BH16 0.1m	13																
	L4 BH16 1m	14																
	L4 BH16 2m	15																
	L4 BH17 0.1m																	
	L4 BH17 1m																	
	L4 BH17 2m																	
	Trip blank																	
	Trip blank (metals)																	
	Trip spike																	
	L4 BH14 0.1m																	
	L4 BH14 1m																	
	L4 BH14 2m																	

Notes:

RELINQUISHED BY (SIGN / PRINT):	DATE 24/4/02	RECEIVED BY (SIGN / PRINT):	DATE 26-4-02
OF: <i>[Signature]</i>	TIME	OF: <i>[Signature]</i>	TIME

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS:
P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE-L4

Batch: NE6292
Sub Batch: 0
LABORATORY: NEWCASTLE
DATE RECEIVED: 16/04/2002
DATE COMPLETED: 29/04/2002
SAMPLE TYPE: SOIL
No. of SAMPLES: 18

COMMENTS

Samples as received digested by USEPA method 200.2 (mod) prior to the determination of metals. Results reported on a dry weight basis. pH determined and reported on 1:5 soil/water extract. All analysis and Laboratory QC conducted in accordance with Schedule B(3) NEPM Guideline on Laboratory Analysis of Potentially Contaminated Soil (December 1999). Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

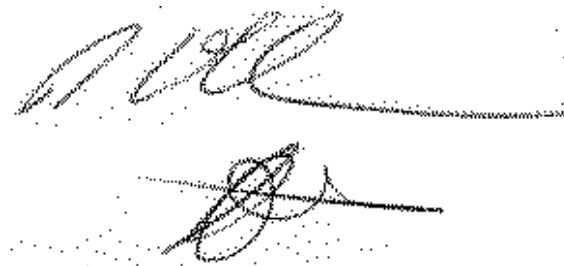
This is the Final Report and supersedes any preliminary reports with this batch number. All pages of this report have been checked and approved for release.

ISSUING LABORATORY: NEWCASTLE

Address
5 Rosegum Close
Warabrook NSW 2304
Australia

Phone: 61-2-4968 9433
Fax: 61-2-6363 1189
Email: kathryn.mcdermott@alsenviro.com

Signatory



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Batch: NE6292
Sub Batch: 0
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE-L4

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION											
				Laboratory I.D.		1	2	3	4	5	6	7	8	9	10
				Date Sampled		12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/TP1/ 1M	L4/TP1/ 1.8M	L4/TP3/ 0.2M	L4/TP3/ 2M	L4/TP4/ 0.3M	L4/TP4/ 2M	L4/TP5/ 4M	L4/TP6/ 0.1M	L4/TP6/ 1M	L4/TP7/ 0.2M		
EA-002	pH Value		0.1	----	----	----	9.7	----	----	----	----	----	----		
EA-055	Moisture Content (dried @ 103°C)	%	0.1	5.3	8.2	4.3	3.4	4.0	11.6	6.0	4.2	3.1	7.3		
EG-005T	Arsenic - Total	mg/kg	1	3	3	10	3	3	2	6	6	3	16		
EG-005T	Cadmium - Total	mg/kg	1	<1	<1	<1	<1	<1	1	5	2	<1	13		
EG-005T	Cobalt - Total	mg/kg	1	<1	<1	2	<1	3	<1	1	3	<1	2		
EG-005T	Chromium - Total	mg/kg	1	1	<1	3	<1	13	<1	21	3	<1	12		
EG-005T	Copper - Total	mg/kg	1	<1	<1	25	<1	12	1	47	55	<1	55		
EG-005T	Manganese - Total	mg/kg	1	12	7	179	16	6460	11	412	730	23	246		
EG-005T	Nickel - Total	mg/kg	1	<1	<1	3	<1	1	11	6	10	2	6		
EG-005T	Lead - Total	mg/kg	1	1	<1	52	<1	23	2	104	25	1	161		
EG-005T	Zinc - Total	mg/kg	1	4	2	82	3	56	51	188	780	133	833		
EG-035T	Mercury - Total	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	0.1		

Batch: NE6292
Sub Batch: 0
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE-L4

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		11	12	13	14	15	16	17	18
				Date Sampled		12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/TP7/ 1M	L4/TP6/ 1.8M	L4BH9/ 0.1M	L4BH9/ 1M	L4BH9/ 2M	L4BH9/ 3.1M	L4BH2/ 1.5M	L4BH2/ 2.5M		
EA-002	pH Value		0.1	----	----	----	----	----	----	----	9.3		
EA-055	Moisture Content (dried @ 103°C)	%	0.1	2.7	6.2	2.4	4.1	13.5	15.7	4.6	14.2		
EG-005T	Arsenic - Total	mg/kg	1	3	5	2	3	4	4	2	2		
EG-005T	Cadmium - Total	mg/kg	1	<1	<1	<1	<1	<1	<1	<1	<1		
EG-005T	Cobalt - Total	mg/kg	1	<1	<1	3	4	3	2	<1	<1		
EG-005T	Chromium - Total	mg/kg	1	<1	1	256	3	18	27	1	<1		
EG-005T	Copper - Total	mg/kg	1	<1	1	19	<1	230	36	<1	<1		
EG-005T	Manganese - Total	mg/kg	1	7	21	21.4g/kg	292	824	930	11	8		
EG-005T	Nickel - Total	mg/kg	1	<1	<1	6	2	8	4	<1	<1		
EG-005T	Lead - Total	mg/kg	1	<1	3	11	4	105	36	1	2		
EG-005T	Zinc - Total	mg/kg	1	2	24	43	24	197	73	4	4		
EG-035T	Mercury - Total	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1		

Batch: NE6292
Sub Batch: 0
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE-L4

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		1	1	11	11	200	201	202	
				Date Sampled		12/04/2002	12/04/2002	12/04/2002	12/04/2002	16/04/2002	16/04/2002	16/04/2002	
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/TP1/ 0.1M_MS	L4/TP1/ 0.1M_CHK	L4/TP7/1M MS	L4/TP7/1M CHK	METHOD BLANK	LCS	MS			
				CHECKS AND SPIKES									
EA-002	pH Value		0.1	----	----	----	----	----	----	----			
EA-055	Moisture Content (dried @ 103°C)	%	0.1	----	4.9	----	3.2	----	----	----			
EG-005T	Arsenic - Total	mg/kg	1	107%	3	105%	2	<1	94.0%	107%			
EG-005T	Cadmium - Total	mg/kg	1	104%	<1	103%	<1	<1	99.0%	104%			
EG-005T	Cobalt - Total	mg/kg	1	104%	<1	102%	<1	<1	----	104%			
EG-005T	Chromium - Total	mg/kg	1	113%	1	103%	<1	<1	99.0%	113%			
EG-005T	Copper - Total	mg/kg	1	107%	1	104%	<1	<1	102%	107%			
EG-005T	Manganese - Total	mg/kg	1	101%	11	98.0%	5	<1	----	101%			
EG-005T	Nickel - Total	mg/kg	1	102%	<1	100%	<1	<1	100%	102%			
EG-005T	Lead - Total	mg/kg	1	105%	1	103%	<1	<1	100%	105%			
EG-005T	Zinc - Total	mg/kg	1	105%	4	104%	2	<1	105%	105%			
EG-035T	Mercury - Total	mg/kg	0.1	78.0%	<0.1	72.0%	<0.1	<0.1	100%	100%			

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS:
P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE

Batch: NE6292
Sub Batch: 1
LABORATORY: NEWCASTLE
DATE RECEIVED: 16/04/2002
DATE COMPLETED: 29/04/2002
SAMPLE TYPE: WATER
No. of SAMPLES: 1

COMMENTS

Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

This is the Final Report and supersedes any preliminary reports with this batch number.
All pages of this report have been checked and approved for release.

ISSUING LABORATORY: NEWCASTLE

Address
5 Rosegum Close
Warabrook NSW 2304
Australia

Phone: 61-2-4968 9433
Fax: 61-2-6363 1189
Email: kathryn.mcdermott@alsenviro.com

Signatory



LABORATORIES

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Batch: NE6292
Sub Batch: 1
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION									
				Laboratory I.D.	19								
				Date Sampled	12/04/2002								
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	TRIP BLANK									
EG-020F	Arsenic - Filtered	mg/L	0.001	<0.001									
EG-020F	Cadmium - Filtered	mg/L	0.001	<0.001									
EG-020F	Cobalt - Filtered	mg/L	0.001	<0.001									
EG-020F	Chromium - Filtered	mg/L	0.001	<0.001									
EG-020F	Copper - Filtered	mg/L	0.001	<0.001									
EG-020F	Manganese - Filtered	mg/L	0.001	<0.001									
EG-020F	Nickel - Filtered	mg/L	0.001	<0.001									
EG-020F	Lead - Filtered	mg/L	0.001	<0.001									
EG-020F	Zinc - Filtered	mg/L	0.001	0.006									
EG-035F	Mercury - Filtered	mg/L	0.0001	<0.0001									

Batch: NE6292
Sub Batch: 1
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		200	201	202					
				Date Sampled		16/04/2002	16/04/2002	16/04/2002					
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	METHOD BLANK	LCS	MS							
				CHECKS AND SPIKES									
EG-020F	Arsenic - Filtered	mg/L	0.001	<0.001	98.0%	114%							
EG-020F	Cadmium - Filtered	mg/L	0.001	<0.001	97.0%	106%							
EG-020F	Cobalt - Filtered	mg/L	0.001	<0.001	101%	----							
EG-020F	Chromium - Filtered	mg/L	0.001	<0.001	89.0%	101%							
EG-020F	Copper - Filtered	mg/L	0.001	<0.001	102%	103%							
EG-020F	Manganese - Filtered	mg/L	0.001	<0.001	92.0%	----							
EG-020F	Nickel - Filtered	mg/L	0.001	<0.001	99.0%	104%							
EG-020F	Lead - Filtered	mg/L	0.001	<0.001	100%	103%							
EG-020F	Zinc - Filtered	mg/L	0.001	<0.001	95.0%	111%							
EG-035F	Mercury - Filtered	mg/L	0.0001	<0.0001	94.0%	100%							

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS:
P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE

Batch: NE6292
Sub Batch: 2
LABORATORY: NEWCASTLE
DATE RECEIVED: 16/04/2002
DATE COMPLETED: 29/04/2002
SAMPLE TYPE: SOIL
No. of SAMPLES: 2

COMMENTS

Samples analysed on an as received basis. Results reported on a dry weight basis. All analysis and Laboratory QC conducted in accordance with Schedule B(3) NEPM Guideline on Laboratory Analysis of Potentially Contaminated Soil (December 1999). Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

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ISSUING LABORATORY: NEWCASTLE

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Phone: 61-2-4968 9433
Fax: 61-2-6363 1189
Email: kathryn.mcdermott@alsenviro.com

Signatory



LABORATORIES

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Sydney
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Hong Kong
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AMERICAS

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Batch: NE6292
Sub Batch: 2
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		5	17						
				Date Sampled		12/04/2002	12/04/2002						
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/TP4/ 0.3M	L4BH2/ 1.5M								
EA-055	Moisture Content (dried @ 103°C)	%	0.1	4.0	4.6								
EP-066-SS	Total Polychlorinated biphenyls	mg/kg	0.1	<0.1	<0.1								
EP-066S-SS	POLYCHLORINATED BIPHENYL SURROGATE												
EP-066S-SS	Decachlorobiphenyl	%	1	98	86								

Batch: NE6292
Sub Batch: 2
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		100	101	102	103	104			
				Date Sampled		16/04/2002	16/04/2002	16/04/2002	16/04/2002	16/04/2002			
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	METHOD BLANK	NPCBS472 SCS	NPCBS472 DCS	NPCBS472 MS	NPCBS472 MSD					
				CHECKS AND SPIKES									
EA-055	Moisture Content (dried @ 103'C)	%	0.1	----	----	----	----	----					
EP-066-SS	Total Polychlorinated biphenyls	mg/kg	0.1	<0.1	87.0%	85.0%	97.0	91.0					
EP-066S-SS	POLYCHLORINATED BIPHENYL SURROGATE												
EP-066S-SS	Decachlorobiphenyl	%	1	82	78	76	103	103					

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS:
P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE

Batch: NE6292
Sub Batch: 3
LABORATORY: NEWCASTLE
DATE RECEIVED: 16/04/2002
DATE COMPLETED: 29/04/2002
SAMPLE TYPE: SOIL
No. of SAMPLES: 2

COMMENTS

Samples analysed on an as received basis. Results reported on a dry weight basis. All analysis and Laboratory QC conducted in accordance with Schedule B(3) NEPM Guideline on Laboratory Analysis of Potentially Contaminated Soil (December 1999). Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

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Batch: NE6292
Sub Batch: 3
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE

CERTIFICATE OF ANALYSIS



		Laboratory I.D.		5	17	SAMPLE IDENTIFICATION							
		Date Sampled		12/04/2002	12/04/2002								
		UNIT	LOR	L4/TP4/ 0.3M	L4BH2/ 1.5M								
METHOD	ANALYSIS DESCRIPTION												
EA-055	Moisture Content (dried @ 103°C)	%	0.1	4.0	4.6								
EP-068A-SS	ORGANOCHLORINE PESTICIDES												
EP-068A-SS	alpha-BHC	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	HCB	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	beta-BHC & gamma-BHC	mg/kg	0.1	<0.1	<0.1								
EP-068A-SS	delta-BHC	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	Heptachlor	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	Aldrin	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	Chlordane - trans	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	Endosulfan 1	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	Chlordane - cis	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	Dieldrin	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	DDE	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	Endrin	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	Endosulfan 2	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	DDD	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	Endrin aldehyde	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	Endosulfan sulfate	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	DDT	mg/kg	0.2	<0.2	<0.2								
EP-068A-SS	Endrin ketone	mg/kg	0.05	<0.05	<0.05								
EP-068A-SS	Methoxychlor	mg/kg	0.2	<0.2	<0.2								
EP-068S-SS	ORGANOCHLORINE PESTICIDE SURROGATE												
EP-068S-SS	Dibromo-DDE	%	1	106	104								

Batch: NE6292
Sub Batch: 3
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		100	101	102	103	104			
				Date Sampled		16/04/2002	16/04/2002	16/04/2002	16/04/2002	16/04/2002			
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	METHOD BLANK	NOCOPS1051 SCS	NOCOPS1051 DCS	NOCOPS1051 MS	NOCOPS1051 MSD					
				CHECKS AND SPIKES									
EA-055	Moisture Content (dried @ 103°C)	%	0.1	----	----	----	----	----					
EP-068A-SS	ORGANOCHLORINE PESTICIDES												
EP-068A-SS	alpha-BHC	mg/kg	0.05	<0.05	89.4%	89.5%	----	----					
EP-068A-SS	HCB	mg/kg	0.05	<0.05	90.9%	110%	----	----					
EP-068A-SS	beta-BHC & gamma-BHC	mg/kg	0.1	<0.1	92.7%	102%	88.5%	89.7%					
EP-068A-SS	delta-BHC	mg/kg	0.05	<0.05	102%	100%	----	----					
EP-068A-SS	Heptachlor	mg/kg	0.05	<0.05	94.7%	92.4%	103%	106%					
EP-068A-SS	Aldrin	mg/kg	0.05	<0.05	97.0%	104%	94.0%	97.7%					
EP-068A-SS	Heptachlor epoxide	mg/kg	0.05	<0.05	96.1%	107%	----	----					
EP-068A-SS	Chlordane - trans	mg/kg	0.05	<0.05	94.5%	90.2%	----	----					
EP-068A-SS	Endosulfan 1	mg/kg	0.05	<0.05	95.2%	96.8%	----	----					
EP-068A-SS	Chlordane - cis	mg/kg	0.05	<0.05	96.3%	103%	----	----					
EP-068A-SS	Dieldrin	mg/kg	0.05	<0.05	89.8%	105%	100%	103%					
EP-068A-SS	DDE	mg/kg	0.05	<0.05	103%	98.1%	----	----					
EP-068A-SS	Endrin	mg/kg	0.05	<0.05	96.6%	97.4%	109%	109%					
EP-068A-SS	Endosulfan 2	mg/kg	0.05	<0.05	93.9%	104%	----	----					
EP-068A-SS	DDD	mg/kg	0.05	<0.05	98.5%	94.3%	----	----					
EP-068A-SS	Endrin aldehyde	mg/kg	0.05	<0.05	91.9%	103%	----	----					
EP-068A-SS	Endosulfan sulfat	mg/kg	0.05	<0.05	95.9%	103%	----	----					
EP-068A-SS	DDT	mg/kg	0.2	<0.2	97.1%	106%	98.2%	96.1%					
EP-068A-SS	Endrin ketone	mg/kg	0.05	<0.05	106%	101%	----	----					
EP-068A-SS	Methoxychlor	mg/kg	0.2	<0.2	101%	98.6%	----	----					
EP-068S-SS	ORGANOCHLORINE PESTICIDE SURROGATE												
EP-068S-SS	Dibromo-DDE	%	1	107	101	115	107	94					

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS:
P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE

Batch: NE6292
Sub Batch: 4
LABORATORY: NEWCASTLE
DATE RECEIVED: 16/04/2002
DATE COMPLETED: 29/04/2002
SAMPLE TYPE: SOIL
No. of SAMPLES: 4

COMMENTS

Samples analysed on an as received basis. Results reported on a dry weight basis. All analysis and Laboratory QC conducted in accordance with Schedule B(3) NEPM Guideline on Laboratory Analysis of Potentially Contaminated Soil (December 1999). Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

This is the Final Report and supersedes any preliminary reports with this batch number. All pages of this report have been checked and approved for release.

ISSUING LABORATORY: NEWCASTLE

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Signatory



LABORATORIES

AUSTRALASIA

Brisbane
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Sydney
Newcastle
Mumbai

Hong Kong
Singapore
Kuala Lumpur
Auckland
Bogor

AMERICAS

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Batch: NE6292
Sub Batch: 4
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		7	10	14	17				
				Date Sampled		12/04/2002	12/04/2002	12/04/2002	12/04/2002				
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/TP5/ 4M	L4/TP7/ 0.2M	L4BH9/ 1M	L4BH2/ 1.5M						
EA-055	Moisture Content (dried @ 103°C)	%	0.1	6.0	7.3	4.1	4.6						
EP-071-SS	TOTAL PETROLEUM HYDROCARBONS												
EP-071-SS	C6 - C9 Fraction	mg/kg	2	<2	<2	<2	<2						
EP-071-SS	C10 - C14 Fraction	mg/kg	50	<50	<50	<50	<50						
EP-071-SS	C15 - C28 Fraction	mg/kg	100	<100	201	<100	<100						
EP-071-SS	C29 - C36 Fraction	mg/kg	100	109	181	<100	<100						
EP-080-SS	BTEX												
EP-080-SS	Benzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2						
EP-080-SS	Toluene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2						
EP-080-SS	Chlorobenzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2						
EP-080-SS	Ethylbenzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2						
EP-080-SS	meta- & para-Xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2						
EP-080-SS	ortho-Xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2						
EP-080S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES												
EP-080S-SS	1,2-Dichloroethane-D4	%	1	120	114	111	98						
EP-080S-SS	Toluene-D8	%	1	114	97	98	90						
EP-080S-SS	4-Bromofluorobenzene	%	1	102	86	87	79						

Batch: NE6292
Sub Batch: 4
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		100	101	102	103	104			
				Date Sampled		16/04/2002	16/04/2002	16/04/2002	16/04/2002	16/04/2002			
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	METHOD BLANK	NTPHT3248 SCS	NTPHT3248 DCS	NTPHT3248 MS	NTPHT3248 MSD					
				CHECKS AND SPIKES									
EA-055	Moisture Content (dried @ 103°C)	%	0.1	----	----	----	----	----					
EP-071-SS	TOTAL PETROLEUM HYDROCARBONS												
EP-071-SS	C6 - C9 Fraction	mg/kg	2	<2	105%	103%	108%	113%					
EP-071-SS	C10 - C14 Fraction	mg/kg	50	<50	91.0%	91.0%	95.0%	98.0%					
EP-071-SS	C15 - C28 Fraction	mg/kg	100	<100	90.0%	90.0%	97.0%	99.0%					
EP-071-SS	C29 - C36 Fraction	mg/kg	100	<100	96.0%	102%	----	----					
EP-080-SS	BTEX												
EP-080-SS	Benzene	mg/kg	0.2	<0.2	96.0%	102%	108%	109%					
EP-080-SS	Toluene	mg/kg	0.2	<0.2	98.0%	102%	86.0%	90.0%					
EP-080-SS	Chlorobenzene	mg/kg	0.2	<0.2	99.0%	100%	109%	116%					
EP-080-SS	Ethylbenzene	mg/kg	0.2	<0.2	97.0%	101%	----	----					
EP-080-SS	meta- & para-Xylene	mg/kg	0.2	<0.2	98.0%	99.0%	----	----					
EP-080-SS	ortho-Xylene	mg/kg	0.2	<0.2	98.0%	102%	----	----					
EP-080S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES												
EP-080S-SS	1,2-Dichloroethane-D4	%	1	118	99	102	103	105					
EP-080S-SS	Toluene-D8	%	1	106	97	98	100	103					
EP-080S-SS	4-Bromofluorobenzene	%	1	100	99	100	99	102					

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS:
P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE

Batch: NE6292
Sub Batch: 5
LABORATORY: NEWCASTLE
DATE RECEIVED: 16/04/2002
DATE COMPLETED: 29/04/2002
SAMPLE TYPE: WATER
No. of SAMPLES: 2

COMMENTS

Sample TRIP BLANK has been analysed for the volatile TPH components only as requested. Sample TRIP SPIKE contains volatile compounds spiked into the sample containers prior to dispatch from the laboratory. BTEX compounds spiked at 20ug/L. Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

This is the Final Report and supersedes any preliminary reports with this batch number. All pages of this report have been checked and approved for release.

ISSUING LABORATORY: NEWCASTLE

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5 Rosegum Close
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Signatory



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Batch: NE6292
Sub Batch: 5
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		19	20						
				Date Sampled		12/04/2002	12/04/2002						
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	TRIP BLANK	TRIP SPIKE								
EP-071-WS	TOTAL PETROLEUM HYDROCARBONS												
EP-071-WS	C6 - C9 Fraction	ug/L	20	<20	----								
EP-080-WS	BTEX												
EP-080-WS	Benzene	ug/L	1	<1	20								
EP-080-WS	Toluene	ug/L	2	<2	17								
EP-080-WS	Chlorobenzene	ug/L	2	<2	18								
EP-080-WS	Ethylbenzene	ug/L	2	<2	18								
EP-080-WS	meta- & para-Xylene	ug/L	2	<2	19								
EP-080-WS	ortho-Xylene	ug/L	2	<2	19								
EP-080S-WS	VOLATILE TPH/BTEX COMPOUND SURROGATES												
EP-080S-WS	1,2-Dichloroethane-D4	%	1	111	105								
EP-080S-WS	Toluene-D8	%	1	96	93								
EP-080S-WS	4-Bromofluorobenzene	%	1	92	95								

Batch: NE6292
Sub Batch: 5
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		100	101	102					
				Date Sampled		16/04/2002	16/04/2002	16/04/2002					
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	METHOD BLANK	NVOCW1162 SCS	NVOCW1162 DCS							
				CHECKS AND SPIKES									
EP-071-WS	TOTAL PETROLEUM HYDROCARBONS												
EP-071-WS	C6 - C9 Fraction	ug/L	20	<20	101%	102%							
EP-080-WS	BTEX												
EP-080-WS	Benzene	ug/L	1	<1	98.0%	104%							
EP-080-WS	Toluene	ug/L	2	<2	101%	85.0%							
EP-080-WS	Chlorobenzene	ug/L	2	<2	97.0%	99.0%							
EP-080-WS	Ethylbenzene	ug/L	2	<2	97.0%	99.0%							
EP-080-WS	meta- & para-Xylene	ug/L	2	<2	100%	107%							
EP-080-WS	ortho-Xylene	ug/L	2	<2	98.0%	101%							
EP-080S-WS	VOLATILE TPH/BTEX COMPOUND SURROGATES												
EP-080S-WS	1,2-Dichloroethane-D4	%	1	118	101	105							
EP-080S-WS	Toluene-D8	%	1	106	103	101							
EP-080S-WS	4-Bromofluorobenzene	%	1	100	103	101							

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS:
P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE

Batch: NE6292
Sub Batch: 6
LABORATORY: NEWCASTLE
DATE RECEIVED: 16/04/2002
DATE COMPLETED: 29/04/2002
SAMPLE TYPE: SOIL
No. of SAMPLES: 9

COMMENTS

Samples analysed on an as received basis. Results reported on a dry weight basis. All analysis and Laboratory QC conducted in accordance with Schedule B(3) NEPM Guideline on Laboratory Analysis of Potentially Contaminated Soil (December 1999). Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

This is the Final Report and supersedes any preliminary reports with this batch number. All pages of this report have been checked and approved for release.

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Signatory



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Batch: NE6292
Sub Batch: 6
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION											
				Laboratory I.D.		1	3	5	7	8	10	14	15	17	
				Date Sampled		12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	12/04/2002	
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/TP1/ 1M	L4/TP3/ 0.2M	L4/TP4/ 0.3M	L4/TP5/ 4M	L4/TP6/ 0.1M	L4/TP7/ 0.2M	L4BH9/ 1M	L4BH9/ 2M	L4BH2/ 1.5M			
EA-055	Moisture Content (dried @ 103°C)	%	0.1	5.3	4.3	4.0	6.0	4.2	7.3	4.1	13.5	4.6			
EP-076A-SS	POLYNUCLEAR AROMATIC HYDROCARBONS														
EP-076A-SS	Naphthalene	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
EP-076A-SS	Acenaphthylene	mg/kg	0.5	<0.5	<0.5	2.3	<0.5	<0.5	0.7	<0.5	<0.5	<0.5			
EP-076A-SS	Acenaphthene	mg/kg	0.5	<0.5	<0.5	2.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
EP-076A-SS	Fluorene	mg/kg	0.5	<0.5	<0.5	1.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
EP-076A-SS	Phenanthrene	mg/kg	0.5	<0.5	0.8	42.0	2.0	1.0	2.6	<0.5	0.5	<0.5			
EP-076A-SS	Anthracene	mg/kg	0.5	<0.5	<0.5	10.2	0.8	<0.5	0.9	<0.5	<0.5	<0.5			
EP-076A-SS	Fluoranthene	mg/kg	0.5	3.7	5.4	39.1	9.6	4.3	5.5	<0.5	1.2	0.6			
EP-076A-SS	Pyrene	mg/kg	0.5	3.9	5.9	39.8	10.8	5.0	5.9	<0.5	1.2	0.6			
EP-076A-SS	Benz(a)anthracene	mg/kg	0.5	1.9	2.8	16.3	4.9	1.8	2.0	<0.5	<0.5	<0.5			
EP-076A-SS	Chrysene	mg/kg	0.5	1.1	1.8	13.5	3.7	1.5	1.8	<0.5	<0.5	<0.5			
EP-076A-SS	Benzo(b)fluoranthene	mg/kg	0.5	1.5	3.0	19.4	6.6	2.5	3.1	<0.5	0.5	<0.5			
EP-076A-SS	Benzo(k)fluoranthene	mg/kg	0.5	0.6	1.1	7.4	2.1	1.0	1.1	<0.5	<0.5	<0.5			
EP-076A-SS	Benzo(a)pyrene	mg/kg	0.5	1.1	2.2	14.7	4.9	1.9	2.2	<0.5	<0.5	<0.5			
EP-076A-SS	Indeno(1.2.3.cd)pyrene	mg/kg	0.5	<0.5	1.3	10.1	3.1	1.3	2.0	<0.5	<0.5	<0.5			
EP-076A-SS	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	2.9	0.8	<0.5	<0.5	<0.5	<0.5	<0.5			
EP-076A-SS	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	1.4	11.1	3.5	1.5	2.5	<0.5	<0.5	<0.5			
EP-076S-SS	SURROGATE COMPOUNDS														
EP-076S-SS	2-Fluorobiphenyl	%	1	90	77	83	84	85	78	79	81	75			
EP-076S-SS	Anthracene-d10	%	1	96	80	75	89	81	80	107	108	94			
EP-076S-SS	p-Terphenyl-d14	%	1	122	104	98	110	107	100	110	114	94			

Batch: NE6292
Sub Batch: 6
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		100	101	102	103	104			
				Date Sampled		16/04/2002	16/04/2002	16/04/2002	16/04/2002	16/04/2002			
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	METHOD BLANK	NEPO76S527 SCS	NEPO76S527 DCS	NEPO76S527 MS	NEPO76S527 MSD					
				CHECKS AND SPIKES									
EA-055	Moisture Content (dried @ 103°C)	%	0.1	----	----	----	----	----					
EP-076A-SS	POLYNUCLEAR AROMATIC HYDROCARBONS												
EP-076A-SS	Naphthalene	mg/kg	0.5	<0.5	91.3%	93.7%	----	----					
EP-076A-SS	Acenaphthylene	mg/kg	0.5	<0.5	102%	104%	----	----					
EP-076A-SS	Acenaphthene	mg/kg	0.5	<0.5	90.3%	94.5%	84.1%	79.9%					
EP-076A-SS	Fluorene	mg/kg	0.5	<0.5	88.8%	91.9%	----	----					
EP-076A-SS	Phenanthrene	mg/kg	0.5	<0.5	91.1%	96.4%	----	----					
EP-076A-SS	Anthracene	mg/kg	0.5	<0.5	91.8%	95.6%	----	----					
EP-076A-SS	Fluoranthene	mg/kg	0.5	<0.5	88.3%	90.9%	----	----					
EP-076A-SS	Pyrene	mg/kg	0.5	<0.5	79.2%	82.8%	77.8%	80.4%					
EP-076A-SS	Benz(a)anthracene	mg/kg	0.5	<0.5	78.0%	83.0%	----	----					
EP-076A-SS	Chrysene	mg/kg	0.5	<0.5	96.2%	98.0%	----	----					
EP-076A-SS	Benzo(b)fluoranthene	mg/kg	0.5	<0.5	84.8%	91.2%	----	----					
EP-076A-SS	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	88.0%	92.1%	----	----					
EP-076A-SS	Benzo(a)pyrene	mg/kg	0.5	<0.5	84.1%	88.9%	----	----					
EP-076A-SS	Indeno(1.2.3.cd)pyrene	mg/kg	0.5	<0.5	87.5%	92.0%	----	----					
EP-076A-SS	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	88.8%	92.5%	----	----					
EP-076A-SS	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	88.4%	92.9%	----	----					
EP-076S-SS	SURROGATE COMPOUNDS												
EP-076S-SS	2-Fluorobiphenyl	%	1	105	103	103	81	79					
EP-076S-SS	Anthracene-d10	%	1	104	96	101	79	77					
EP-076S-SS	p-Terphenyl-d14	%	1	101	103	106	96	89					

BATCH QUALITY CONTROL -- DUPLICATE					
ALS EP-076 : Polynuclear Aromatic Hydrocarbons					
QC LOT No. :		NEP076S-527			
MATRIX :		Soils			
ANALYST:		E. FADJAR			
COMPOUND	LOR mg/kg	QC DUPLICATE RESULTS		RPD	
		NE6294 1	NE6294 1D	RPD	Cont. Limit
		mg/kg	mg/kg	%	
EP-076A : Polynuclear Aromatic Hydrocarbons					
Naphthalene	0.25	<0.25	<0.25	n/a	
Acenaphthylene	0.25	<0.25	<0.25	n/a	
Acenaphthene	0.25	<0.25	<0.25	n/a	
Fluorene	0.25	<0.25	<0.25	n/a	
Phenanthrene	0.25	<0.25	<0.25	n/a	
Anthracene	0.25	<0.25	<0.25	n/a	
Fluoranthene	0.25	<0.25	<0.25	n/a	
Pyrene	0.25	<0.25	<0.25	n/a	
Benzo(a)anthracene	0.25	<0.25	<0.25	n/a	
Chrysene	0.25	<0.25	<0.25	n/a	
Benzo(b)fluoranthene	0.25	<0.25	<0.25	n/a	
Benzo(k)fluoranthene	0.25	<0.25	<0.25	n/a	
Benzo(a)pyrene	0.25	<0.25	<0.25	n/a	
Indeno(1.2.4.cd)pyrene	0.25	<0.25	<0.25	n/a	
Dibenzo(a,h)anthracene	0.25	<0.25	<0.25	n/a	
Benzo(g,h,i)perylene	0.25	<0.25	<0.25	n/a	
EP-076S : PAH Surrogates					
2-Fluorobiphenyl	1%	82.2%	80.1%	2.59	0 - 20
Anthracene-d10	1%	101%	95.9%	5.18	0 - 20
4-Terphenyl-d14	1%	101%	96%	5.08	0 - 20

Note: The permitted range for RPD (relative percent deviation) is specified in ALS Method QWI-EN/38 and is dependent on the magnitude of results in comparison to the level of reporting:

Result < 10 times LOR, no limit.

Result between 10 and 20 times LOR, 0% - 50%.

Results > 20 times LOR, 0% - 20%.

BATCH QUALITY CONTROL -- DUPLICATE					
ALS EP-076 : Polynuclear Aromatic Hydrocarbons					
QC LOT No. :		NEP076S-527			
MATRIX :		Soils			
ANALYST:		E. FADJAR			
COMPOUND	LOR mg/kg	QC DUPLICATE RESULTS		RPD	
		NE6294 7	NE6294 7D	RPD	Cont. Limit
		mg/kg	mg/kg	%	
EP-076A : Polynuclear Aromatic Hydrocarbons					
Naphthalene	0.25	0.336	0.276	19.6	No limit
Acenaphthylene	0.25	<0.25	<0.25	n/a	
Acenaphthene	0.25	0.751	0.598	22.7	No limit
Fluorene	0.25	0.304	0.267	13	No limit
Phenanthrene	0.25	4.3	3.67	15.8	0 - 50
Anthracene	0.25	1.21	1.04	15.1	No limit
Fluoranthene	0.25	4.11	3.31	21.6	0 - 50
Pyrene	0.25	4.01	3.16	23.7	0 - 50
Benzo(a)anthracene	0.25	1.27	0.953	28.5	No limit
Chrysene	0.25	1.4	0.976	35.7	No limit
Benzo(b)fluoranthene	0.25	1.36	1.17	15	No limit
Benzo(k)fluoranthene	0.25	0.685	0.57	18.3	No limit
Benzo(a)pyrene	0.25	1.23	0.857	35.7	No limit
Indeno(1.2.4.cd)pyrene	0.25	0.672	0.431	43.7	No limit
Dibenzo(a,h)anthracene	0.25	<0.25	<0.25	n/a	
Benzo(g,h,i)perylene	0.25	0.79	0.587	29.5	No limit
EP-076S : PAH Surrogates					
2-Fluorobiphenyl	1%	78.8%	74.9%	5.07	0 - 20
Anthracene-d10	1%	88.9%	85.5%	3.9	0 - 20
4-Terphenyl-d14	1%	103%	99.8%	3.16	0 - 20

Note: The permitted range for RPD (relative percent deviation) is specified in ALS Method QWI-EN/38 and is dependent on the magnitude of results in comparison to the level of reporting:

Result < 10 times LOR, no limit.

Result between 10 and 20 times LOR, 0% - 50%.

Results > 20 times LOR, 0% - 20%.

BATCH QUALITY CONTROL -- MATRIX SPIKE/DUPLICATE							
ALS EP-076 : Polynuclear Aromatic Hydrocarbons QC LOT No. : NEP076S-527 ANALYST : E. FADJAR MATRIX: Soils Sample ID: NE6294-7							
COMPOUND	Sample Results	Spike Level	SPIKE QC RESULTS				Cont. Limit
			MS Rec.	MSD Rec.	Average Rec.	RPD	RPD
	mg/kg	mg/kg	%	%	%	%	%
EP-076A : Polynuclear Aromatic Hydrocarbons							
Acenaphthene	0.751	10	84.1	79.9	82	5.12	0 - 35
Pyrene	4.01	10	77.8	80.4	79.1	3.29	0 - 35
EP-076S : PAH Surrogates							
2-Fluorobiphenyl	78.8%	4	80.7	79.2	80	1.88	0 - 35
Anthracene-d10	88.9%	4	78.8	76.9	77.9	2.44	0 - 35
4-Terphenyl-d14	103%	4	96	89.2	92.6	7.34	0 - 35

COMMENTS:

- 1) The RPD control limits are fixed.
- 2) *: RPD falls outside the recommended control limit.

BATCH QUALITY CONTROL -- CONTROL SPIKE/DUPLICATE									
ALS EP-076 : Polynuclear Aromatic Hydrocarbons									
QC LOT No. :		NEP076S-527				ANALYST E. FADJAR			
MATRIX:		Soils							
COMPOUND	Blank Conc	Spike Level	SPIKE QC RESULTS				Control Limits		
			SCS Rec.	DCS Rec.	Average Rec.	RPD	Rec.		RPD
	mg/kg	mg/kg	%		%	%	Low	High	%
EP-076A : Polynuclear Aromatic Hydrocarbons									
Naphthalene	<0.25	4.0	91.3	93.7	92.5	2.59	77.6	124	0 - 20
Acenaphthylene	<0.25	4.0	102	104	103	1.94	74	124	0 - 20
Acenaphthene	<0.25	4.0	90.3	94.5	92.4	4.55	77	120	0 - 20
Fluorene	<0.25	4.0	88.8	91.9	90.4	3.43	72.8	124	0 - 20
Phenanthrene	<0.25	4.0	91.1	96.4	93.8	5.65	73.8	125	0 - 20
Anthracene	<0.25	4.0	91.8	95.6	93.7	4.06	83.5	116	0 - 20
Fluoranthene	<0.25	4.0	88.3	90.9	89.6	2.9	73.6	128	0 - 20
Pyrene	<0.25	4.0	79.2	82.8	81	4.44	71.7	130	0 - 20
Benzo(a)anthracene	<0.25	4.0	78	83	80.5	6.21	66.3	125	0 - 20
Chrysene	<0.25	4.0	96.2	98	97.1	1.85	85.2	122	0 - 20
Benzo(b)fluoranthene	<0.25	4.0	84.8	91.2	88	7.27	65	122	0 - 20
Benzo(k)fluoranthene	<0.25	4.0	88	92.1	90.1	4.55	78.7	125	0 - 20
Benzo(a)pyrene	<0.25	4.0	84.1	88.9	86.5	5.55	70.1	122	0 - 20
Indeno(1.2.4.cd)pyrene	<0.25	4.0	87.5	92	89.8	5.01	73.6	121	0 - 20
Dibenzo(a.h)anthracene	<0.25	4.0	88.8	92.5	90.7	4.08	70.5	118	0 - 20
Benzo(g.h.i)perylene	<0.25	4.0	88.4	92.9	90.7	4.96	68.1	127	0 - 20
EP-076S : PAH Surrogates									
2-Fluorobiphenyl	105%	4.0	103	103	103	0	73.4	128	0 - 20
Anthracene-d10	104%	4.0	95.7	101	98.4	5.39	83.5	118	0 - 20
4-Terphenyl-d14	101%	4.0	103	105	104	1.92	96.6	133	0 - 20

COMMENTS:

- 1) The recovery control limits are based on ALS laboratory statistical data. (Method QWI-ORG/07)
- 2) The control limits on RPD (relative percent deviation) are fixed.
- 3) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL -- MATRIX SPIKE/DUPLICATE							
ALS EP-068 : Semivolatile Organic Compounds QC LOT No. : NOCOPS1051 ANALYST : R. AYOUBI MATRIX: Soils Sample ID: ES32869-2							
COMPOUND	Sample Results	Spike Level	SPIKE QC RESULTS				Cont. Limit
			MS Rec.	MSD Rec.	Average Rec.	RPD	RPD
	mg/kg	mg/kg	%	%	%	%	%
EP068A : OC Pesticides							
b- & g-BHC	<0.05	0.25	88.5	89.7	89.1	1.35	0 - 20
Heptachlor	<0.025	0.25	103	106	105	2.87	0 - 20
Aldrin	<0.025	0.25	94	97.7	95.9	3.86	0 - 20
Dieldrin	<0.025	0.25	100	103	102	2.96	0 - 20
Endrin	<0.025	1	109	109	109	0	0 - 20
DDT	<0.1	1	98.2	96.1	97.2	2.16	0 - 20
EP068 : OP Pesticides							
Diazinon	<0.025	0.25	108	111	110	2.74	0 - 20
Chlorpyrifos methyl	<0.025	0.25	100	102	101	1.98	0 - 20
Pirimiphos ethyl	<0.025	0.25	97.8	100	98.9	2.22	0 - 20
Bromophos ethyl	<0.025	0.25	97.9	100	99	2.12	0 - 20
Prothiofos	<0.025	0.25	97.8	99.7	98.8	1.92	0 - 20
EP068S : OC Surrogate							
Dibromo-DDE	105%	0.5	107	94.2	101	12.7	0 - 20
EP068T : OP Surrogate							
DEF	107%	0.5	96.2	99	97.6	2.87	0 - 20

COMMENTS:

- 1) The RPD control limits are fixed.
- 2) *: RPD falls outside the recommended control limit.

BATCH QUALITY CONTROL -- CONTROL SPIKE/DUPLICATE									
ALS EP-068 : Pesticides									
QC LOT No. :		NOCOPS1051				ANALYST R. AYOUBI			
MATRIX:		Soils							
COMPOUND	Blank Conc	Spike Level	SPIKE QC RESULTS				Control Limits		
			SCS Rec.	DCS Rec.	Average Rec.	RPD	Rec.		RPD
	mg/kg	mg/kg	%		%	%	Low	High	%
EP068A : OC Pesticides									
a-BHC	<0.025	0.25	89.4	89.5	89.5	0.112	78.5	104	0 - 20
HCB	<0.025	0.25	90.9	110	100	19	77.3	101	0 - 20
b- & g-BHC	<0.05	0.5	92.7	102	97.4	9.55	85.7	103	0 - 20
d-BHC	<0.025	0.25	102	100	101	1.98	82	103	0 - 20
Heptachlor	<0.025	0.25	94.7	92.4	93.6	2.46	76.3	102	0 - 20
Aldrin	<0.025	0.25	97	104	101	6.97	81.5	103	0 - 20
Heptachlor epoxide	<0.025	0.25	96.1	107	102	10.7	80.7	103	0 - 20
Chlordane peak no 1	<0.025	0.25	94.5	90.2	92.4	4.66	76.4	102	0 - 20
Endosulfan 1	<0.025	0.25	95.2	96.8	96	1.67	82	99.8	0 - 20
Chlordane peak no. 2	<0.025	0.25	96.3	103	99.7	6.72	81.3	102	0 - 20
Dieldrin	<0.025	0.25	89.8	105	97.4	15.6	77.2	105	0 - 20
DDE	<0.025	0.25	103	98.1	101	4.87	76.7	106	0 - 20
Endrin	<0.025	0.25	96.6	97.4	97	0.825	77.5	102	0 - 20
Endosulfan 2	<0.025	0.25	93.9	104	99	10.2	81.4	103	0 - 20
DDD	<0.025	0.25	98.5	94.3	96.4	4.36	79.1	104	0 - 20
Endrin aldehyde	<0.025	0.25	91.9	103	97.5	11.4	80.6	102	1 - 20
Endosulfan sulfate	<0.025	0.25	95.9	103	99.5	7.14	80.5	104	0 - 20
DDT	<0.1	0.25	97.1	106	102	8.76	81	102	0 - 20
Endrin ketone	<0.025	0.25	106	101	104	4.83	79.4	106	0 - 20
Methoxychlor	<0.1	0.25	101	98.6	99.8	2.4	76.5	102	0 - 20
EP068B : OP Pesticides									
Dichlorvos	<0.025	0.25	101	98.2	99.6	2.81	70.6	107	0 - 20
Demeton-s-methyl	<0.025	0.25	88.6	104	96.3	16	70.8	104	0 - 20
Monocrotophos	<0.1	0.25	99.8	84.9	92.4	16.1	73.6	108	0 - 20
Dimethoate	<0.025	0.25	84	84.4	84.2	0.475	78.3	101	0 - 20
Diazinon	<0.025	0.25	98.5	102	100	3.49	80.4	102	0 - 20
Chlorpyrifos methyl	<0.025	0.25	92.5	105	98.8	12.7	79.4	106	0 - 20
Parathion methyl	<0.1	0.25	86.6	100	93.3	14.4	77.8	94.8	0 - 20
Malathion	<0.025	0.25	92.8	91.6	92.2	1.3	74.5	94.7	0 - 20
Fenthion	<0.025	0.25	83.8	82	82.9	2.17	75.4	102	0 - 20
Chlorpyrifos	<0.025	0.25	95.8	106	101	10.1	80.2	105	0 - 20
Parathion	<0.1	0.25	90.2	81.3	85.8	10.4	77.3	94.3	0 - 20
Pirimphos ethyl	<0.025	0.25	94.2	105	99.6	10.8	72	103	0 - 20
Chlorfenvinphos Z	<0.025	0.25	92.7	105	98.9	12.4	76.1	104	0 - 20
Bromophos ethyl	<0.025	0.25	103	94.4	98.7	8.71	80.1	105	0 - 20
Fenamiphos	<0.025	0.25	98.3	99.5	98.9	1.21	75.4	104	0 - 20
Prothiofos	<0.025	0.25	101	106	104	4.83	72.4	105	0 - 20
Ethion	<0.025	0.25	95.3	94.6	95	0.737	76.5	99.2	0 - 20
Carbofenthion	<0.025	0.25	92.5	101	96.8	8.79	75.9	97.1	0 - 20
Azinphos methyl	<0.025	0.25	96.6	109	103	12.1	78.9	103	0 - 20

BATCH QUALITY CONTROL -- CONTROL SPIKE/DUPLICATE									
ALS EP-068 : Pesticides									
QC LOT No. :		NOCOPS1051				ANALYST R. AYOUBI			
MATRIX:		Soils							
COMPOUND	Blank Conc	Spike Level	SPIKE QC RESULTS				Control Limits		
			SCS Rec.	DCS Rec.	Average Rec.	RPD	Rec.		RPD
	mg/kg	mg/kg	%		%	%	Low	High	%
EP068C : Triazines									
Simazine	<0.025	0.25	86.5	81.9	84.2	5.46	79.4	98.7	0 - 20
Atrazine	<0.025	0.25	80.7	76.9	78.8	4.82	41.3	118	0 - 20
EP068D :Pyrethroids									
Cypermethrins(multipeaks)	<0.1	0.25	95.4	88.5	92	7.5	81.6	103	0 - 20
EP068S : OC Surrogate									
Dibromo-DDE	107%	0.5	101	115	108	13	82	112	0 - 20
EP068T : OP Surrogate									
DEF	102%	0.5	97.2	104	101	6.76	81.1	113	0 - 20

COMMENTS:

- 1) The recovery control limits are based on ALS laboratory statistical data. (Method QWI-ORG/07)
- 2) The control limits on RPD (relative percent deviation) are fixed.
- 3) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL -- CONTROL SPIKE/DUPLICATE

ALS EP-066 : PCB

QC LOT No. : NPCBS472

ANALYST : R. AYOUBI

MATRIX: Soil

COMPOUND	Blank Conc	Spike Level	SPIKE QC RESULTS				Control Limits		
			SCS Conc	DCS Conc	Average Rec.	RPD	Rec.		RPD
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
EP-066 : PCB									
Total PCBs	<LOR	0.50	0.43	0.42	86	3	67	117	20
EP-066 : PCB SURROGATE									
Decachlorobiphenyl	82%	0.50	77.7	75.6	77	3	69	117	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/07)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL -- MATRIX SPIKE / DUPLICATE

ALS EP-066 : PCB ANALYSIS

QC LOT No. :

NPCBS472

ANALYST : R. AYOUBI

MATRIX :

Soil

SPIKED SAMPLE : ES32948-3

COMPOUND	Sample Results	Spike Level	QCSPIKE RESULTS				Control Limits
			MS Conc	MSD Conc	Av. Rec.	RPD	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	RPD
EP-066 : PCB							
Total PCBs	<LOR	0.50	0.49	0.46	94	6	20
EP-066 : PCB SURROGATE							
Decachlorobiphenyl	0	0.50	103	103	103	0	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07)
- 2) * : RPD falls outside the recommended control limit.

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-066 : PCB**

QC LOT No. : NPCBS472

ANALYST : R. AYOUBI

MATRIX : Soil

COMPOUND	QC DUPLICATE RESULTS		
	ES32948	ES32948	RPD
	2	2Dup	
	mg/kg	mg/kg	%
EP-066 : PCB			
Total PCBs	<LOR	<LOR	--
EP-066 : PCB SURROGATE			
Decachlorobiphenyl	88.62	80.94	9

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-066 : PCB**

QC LOT No. : NPCBS472
MATRIX: Soil

ANALYST : R. AYOUBI

COMPOUND	QC DUPLICATE RESULTS		
	ES32948	ES32948	RPD
	3	3Dup	
	mg/kg	mg/kg	%
EP-066 : PCB			
Total PCBs	<LOR	<LOR	--
EP-066 : PCB SURROGATE			
Decachlorobiphenyl	92.32	84.62	8.7

BATCH QUALITY CONTROL - CONTROL SPIKE/DUPLICATE

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

Vol QC Lot : NVOCS3248
Semivol QC Lot : NTPHT3248

MATRIX : Soil

COMPOUND	BATCH ADJ. (MDL)	Blank Conc.	Spike Conc.	Spike Results				Control Limits		
				SCS Conc.	DCS Conc.	Av. Rec.	RPD	Recovery %		RPD
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C6-C9	2.0	<LOR	20	20.9	20.7	104	1	92	109	20
C10-C14	25	<LOR	200	182	182	91	0	91	113	20
C15-C28	50	<LOR	200	180	180	90	0	90	115	20
C29-C36	50	<LOR	200	192	204	99	6	86	123	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.
- 3) MDL = Method Detection Limit
- 4) LOR = Level Of Reporting

BATCH QUALITY CONTROL - CONTROL SPIKE/DUPLICATE

ALS EP-080 : BTEX ANALYSIS

QC Lot No. : NVOCS3248

MATRIX : Soil

COMPOUND	BATCH	Blank	Spike	Spike Results				Control Limits		
	ADJ.	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(MDL)			Conc.	Conc.	Rec.		%		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
Benzene	0.1	<LOR	1.0	0.96	1.02	99	5	86	111	20
Toluene	0.1	<LOR	1.0	0.98	1.02	100	5	81	115	20
Chlorobenzene	0.1	<LOR	1.0	0.99	1.00	100	1	84	112	20
Ethylbenzene	0.1	<LOR	1.0	0.97	1.01	99	3	85	112	20
m- & p-Xylene	0.1	<LOR	1.0	0.98	0.99	98	1	84	110	20
o-Xylene	0.1	<LOR	1.0	0.98	1.02	100	4	86	108	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.
- 3) MDL = Method Detection Limit
- 4) LOR = Level Of Reporting

BATCH QUALITY CONTROL - MATRIX SPIKE/DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

Vol QC Lot : NVOCS3248
Semivol QC Lot : NTPHT3248

SPIKED SAMPLE : NE6294-1
MATRIX : SOIL

COMPOUND	Sample Results	Spike Level	Spike Results				Control Limits
			MS Conc	MSD Conc	Av. Rec.	RPD	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	RPD
C6-C9	<LOR	10	10.8	11.3	111	5	20
C10-C14	<LOR	430	410	422	97	3	20
C15-C28	<LOR	1570	1518	1552	98	2	20
C29-C36	<LOR	N/A	--	--	--	--	--

COMMENTS :

- 1) LOR: level of reporting
- 2) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 3) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL - MATRIX SPIKE/DUPLICATE**ALS EP-080 : BTEX ANALYSIS**

QC Lot No. : NVOCS3248

SPIKED SAMPLE : NE6294-1

MATRIX : SOIL

COMPOUND	Sample Results	Spike Level	Spike Results				Control Limits
			MS Conc	MSD Conc	Av. Rec.	RPD	
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	RPD
Benzene	<LOR	2.5	2.7	2.7	108	1	20
Toluene	<LOR	2.5	2.1	2.3	88	5	20
Chlorobenzene	<LOR	2.5	2.7	2.9	113	6	20

COMMENTS :

- 1) LOR: level of reporting
- 2) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 3) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

SEMIVOLATILES QC LOT NO.: NTPHT3248
VOLATILES QC LOT No.: NVOCS3248

ANALYST: NENSI.K.
MATRIX : Soil

SEMIVOLATILES
VOLATILES QC I

COMPOUND	QC DUPLICATE RESULTS		
	NE6294	NE6294	RPD
	1	1DUP	
	mg/kg	mg/kg	%
C 6-C 9	<LOR	<LOR	--
C10-C14	<LOR	<LOR	--
C15-C28	<LOR	<LOR	--
C29-C36	<LOR	<LOR	--

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-080 : BTEX ANALYSIS**

QC Lot No. : NVOCS3248
MATRIX : Soil

Analyst : S. GREEN

QC Lot No. :
MATRIX :

QC DUPLICATE RESULTS			
COMPOUND	NE6294	NE6294	RPD
	1	1DUP	
	mg/kg	mg/kg	%
Benzene	<LOR	<LOR	--
Toluene	<LOR	<LOR	--
Chlorobenzene	<LOR	<LOR	--
Ethylbenzene	<LOR	<LOR	--
m- & p-Xylene	<LOR	<LOR	--
o-Xylene	<LOR	<LOR	--

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

QC LOT NO.: NTPHT3248
LOT No.: NVOCS3248

ANALYST: NENSI.K.
MATRIX : Soil

COMPOUND	QC DUPLICATE RESULTS		
	NE6294	NE6294	RPD
	7	7DUP	
	mg/kg	mg/kg	%
C 6-C 9	<LOR	<LOR	--
C10-C14	<LOR	<LOR	--
C15-C28	<LOR	<LOR	--
C29-C36	<LOR	<LOR	--

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-080 : BTEX ANALYSIS**

NVOC3248
Soil

Analyst : S. GREEN

QC DUPLICATE RESULTS			
COMPOUND	NE6294 7	NE6294 7DUP	RPD
	mg/kg	mg/kg	%
Benzene	<LOR	<LOR	--
Toluene	<LOR	<LOR	--
Chlorobenzene	<LOR	<LOR	--
Ethylbenzene	<LOR	<LOR	--
m- & p-Xylene	<LOR	<LOR	--
o-Xylene	<LOR	<LOR	--

BATCH QUALITY CONTROL - CONTROL SPIKE/DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

Vol QC Lot : NVOCW1162
Semi-Vol QC Lot : NTPHW

MATRIX : Water

COMPOUND	BATCH ADJ. (MDL) ug/L	Blank Conc. ug/L	Spike Conc. ug/L	Spike Results				Control Limits		
				SCS Conc. ug/L	DCS Conc. ug/L	Av. Rec. %	RPD %	Recovery %		RPD %
				ug/L	ug/L	%	%	Low	High	%
C6-C9	20	<LOR	200	203	205	102	1	94	106	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.
- 3) MDL = Method Detection Limit
- 4) LOR = Level Of Reporting

BATCH QUALITY CONTROL - CONTROL SPIKE/DUPLICATE

ALS EP-080 : BTEX ANALYSIS

QC Lot No. : NVOCW1162

MATRIX : Water

COMPOUND	BATCH	Blank	Spike	Spike Results				Control Limits		
	ADJ.	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(MDL)			Conc.	Conc.	Rec.		%		
	ug/L	ug/L	ug/L	ug/L	ug/L	%	%	Low	High	%
Benzene	1.0	<LOR	10	9.83	10.42	101	6	87	115	20
Toluene	1.0	<LOR	10	10.12	8.45	93	18	87	114	20
Chlorobenzene	1.0	<LOR	10	9.65	9.91	98	3	89	112	20
Ethylbenzene	1.0	<LOR	10	9.74	9.86	98	1	88	115	20
m- & p-Xylene	1.0	<LOR	10	9.95	10.74	103	8	89	115	20
o-Xylene	1.0	<LOR	10	9.78	10.08	99	3	89	114	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.
- 3) MDL = Method Detection Limit
- 4) LOR = Level Of Reporting

BATCH QUALITY CONTROL - MATRIX SPIKE/DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

Vol QC Lot : NVOCW1162
Semi-Vol QC Lot : NTPHW

SPIKED SAMPLE : ES
MATRIX : WATER

COMPOUND	Sample Results	Spike Level	Spike Results			
			MS	MSD	Av.	RPD
	ug/L	ug/L	Conc	Conc	Rec.	
	ug/L	ug/L	ug/L	ug/L	%	%
C6-C9	<LOR	100	0.0	0.0	0	#### #

COMMENTS :

- 1) LOR: level of reporting
- 2) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 3) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL - MATRIX SPIKE/DUPLICATE**ALS EP-080 : BTEX ANALYSIS**

QC Lot No. : NVOCW1162

SPIKED SAMPLE : ES
MATRIX : WATER

COMPOUND	Sample Results	Spike Level	Spike Results			
			MS Conc	MSD Conc	Av. Rec.	RPD
	ug/L	ug/L	ug/L	ug/L	%	%
Benzene	<LOR	10	0.0	0.0	0	#### #
Toluene	<LOR	10	0.0	0.0	0	#### #
Chlorobenzene	<LOR	10	0.0	0.0	0	#### #

COMMENTS :

- 1) LOR: level of reporting
- 2) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 3) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

SEMIVOLATILES QC LOT No.: NTPHW
VOLATILES QC LOT No.: NVOCW1162

ANALYST : 0
MATRIX : Water

COMPOUND	QC DUPLICATE RESULTS		
	NE6208	NE6208	RPD
	XX	XX	
	ug/L	ug/L	%
C 6-C 9	<LOR	<LOR	--
C10-C14	<LOR	<LOR	--
C15-C28	<LOR	<LOR	--

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-080 : BTEX ANALYSIS**

QC Lot No. : NVOCW1162
MATRIX : Water

Analyst : A.ROSSI

QC DUPLICATE RESULTS			
COMPOUND	NE6208	NE6208	RPD
	XX	XX	
	µg/L	µg/L	%
Benzene	<LOR	<LOR	--
Toluene	<LOR	<LOR	--
Chlorobenzene	<LOR	<LOR	--
Ethylbenzene	<LOR	<LOR	--
m- & p-Xylene	<LOR	<LOR	--
o-Xylene	<LOR	<LOR	--

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

SEMIVOLATILES QC LOT No.: NTPHW
VOLATILES QC LOT No.: NVOCW1162

ANALYST : 0
MATRIX : Water

COMPOUND	QC DUPLICATE RESULTS		
	NE6208	NE6208	RPD
	XX	XX	
	ug/L	ug/L	%
C 6-C 9	<LOR	<LOR	--
C10-C14	<LOR	<LOR	--
C15-C28	<LOR	<LOR	--

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-080 : BTEX ANALYSIS**

QC Lot No. : NVOCW1162
MATRIX : Water

Analyst : A.ROSSI

QC DUPLICATE RESULTS			
COMPOUND	NE6208	NE6208	RPD
	XX	XX	
	µg/L	µg/L	%
Benzene	<LOR	<LOR	--
Toluene	<LOR	<LOR	--
Chlorobenzene	<LOR	<LOR	--
Ethylbenzene	<LOR	<LOR	--
m- & p-Xylene	<LOR	<LOR	--
o-Xylene	<LOR	<LOR	--

COPY

ORGANICS QUALITY CONTROL REPORT

BATCH NO: NE6292

DATE BATCH RECEIVED: 17/04/02

CLIENT: PPK E & I, NSW

DATE BATCH COMPLETED: 29/04/02

PROJECT: 2122128A

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
EP-066	PCB	Soil	Tumbler	USEPA 8270B	NPCBS472	22/04/02	24/02/02
EP-068	Pesticides	Soil	Tumbler	USEPA 8270B	NOCOPS1051	22/04/02	24/04/02
EP-071	TPH(SV)	Soil	Tumbler	USEPA 8015A	NTPHT3248	22/04/02	23/04/02
EP-071/80	TPH(V)/BTEX	Water	USEPA 5030A	USEPA 8260A	NVOCW1162	23/04/02	23/04/02
EP-071/80	TPH(V)/BTEX	Soil	USEPA 5030A	USEPA 8260A	NVOCW1162	19/04/02	24/04/02
EP-076	PAH (USEPA	Soil	Tumbler	USEPA 8270C	NEP076S-527	22/04/02	23/04/02

Where applicable, internal standards are added to sample extracts prior to instrumental analysis. Absolute peak areas and retention times fall within the criteria specified in the individual methods. Continuing Calibration (CC) standards are run at the frequency of 1 in every 20 samples.

Abbreviations: SV = semivolatile, V = volatile

*: In-house methods

CHAIN OF CUSTODY

CLIENT: PPK
Suite 1, 3rd Floor
55 Bolton Street
PO Box 1162
Newcastle NSW 2300

Final Report & Invoice To: Strider Duerinckx
Fax Results To: Strider Duerinckx
Electronic Results To: sduerinckx@ppk.com.au
(ENMRG Format)

ALS Quote No: SYN/534/01
Project: Honeysuckle (2122128A)
Project Director: Strider Duerinckx
Ph: (02) 4929 3900 Fax: (02) 4929 7299

Standard ALS Analysis
TAT
7 - 10 Days ☒
48 Hrs ☐
24 Hrs ☐
*Surcharge Applies



ALS Environmental
ALS Environmental
6 Rossagum Close, Warabrook NSW 2304
Ph: 02 4968 9433 Fax: 02 4968 0349

SAMPLE INFORMATION

SITE	SAMPLE ID	DATE	MATRIX	No. SAMPLE CONTAINERS
L4	L4 BH9	0.1m	Soil	1
	L4 BH9	1m		
	L4 BH9	2m		
	L4 BH9	3.1m		
	L4 BH2	1.5m	Asbestos	10/9
	L4 BH2	2.5m		
	L4 BH2	2.5m		
	L4 BH9	1m		
	L4 BH9	1.5		
	Trip blank			
	Trip spike			

ANALYSIS REQUIRED

TPH / BTEX / PAH	PAH	VOC	PHENOLS	PH	OC/PCB	OP	ASBESTOS	Hg	As, Cd, Co, Cr, Cu, Pb, Ni, Zn	Mn	TPH/BTEX	BTEX
☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒

COMMENTS

NE 6293

Notes:

RELINQUISHED BY (SIGN / PRINT): *[Signature]* DATE: 12/4/02
OF: *[Signature]* TIME:

RECEIVED BY (SIGN / PRINT): A. Klesch DATE: 16/4/02
OF: Ais-nen TIME: 12-30p

Received by *[Signature]*
Kerry Stetson
17.4.02 9am

22

CHAIN OF CUSTODY

CLIENT: PPK

Suite 1, 3rd Floor
55 Bolton Street
PO Box 1162
Newcastle NSW 2300

Final Report & Invoice To: Strider Duerinckx
Fax Results To: Strider Duerinckx
Electronic Results To: sduerinckx@ppk.com.au
(ENMRG Format)

ALS Quote No: SYN/534/01
Project: Honey suckle (2122128A)
Project Director: Strider Duerinckx
Ph: (02) 4929 3900 Fax: (02) 4929 7299

Standard ALS Analysis
TAT
7 - 10 Days ☒
48 Hrs ☐
24 Hrs ☐
* Surcharge Applies

SAMPLE INFORMATION

ANALYSIS REQUIRED

COMMENTS

SITE	SAMPLE ID	DATE	MATRIX	No. SAMPLE CONTAINERS	TPH / BTEX /	PAH	VOC	PHENOLS	TH	DC/PCB	OP	ASBESTOS	Hg	AS, Cd, Co, Cr, Cu, Pb, Ni, Zn	Mn	TPH/BTEX	BTEX
	78	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	79	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	80	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	81	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	82	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	83	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	84	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	85	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	86	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	87	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	88	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	89	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	90	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	91	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	92	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	93	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	94	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	95	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	96	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	97	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	98	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	99	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	100	12/14/02	soil	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Batch No. NE 6272 ☒ ORG
 Batched Date: 16/4/02
☒ Soil ☐ Ambient
☒ Water ☐ Chilled
☐ Other ☐ °C
☐ Subcontract Work
☐ Bottle Return
☐ Imm. Anal. Actioned
18 x SOIL NAT ✓
8 ON HOLD ✓
18 x 250-2 HND3 ✓
4 x 40-2 HND3 ✓

Notes:

Received by: Kerry Stepanovich
 11.4.02 9am

RELINQUISHED BY (SIGN / PRINT):

DATE:

RECEIVED BY (SIGN / PRINT):

DATE:

TIME:

OF: Diada for

DATE:

RECEIVED BY (SIGN / PRINT):

DATE:

TIME:

PLEASE SIGN AND FAX TO STRIDER DUERINCKX UPON RECEIPT

AUSTRALIAN LABORATORY SERVICES P/L ABN 84 009 936 029

CLIENT: PPK

Suite 1, 3rd Floor
55 Bolton Street
PO Box 1162
Newcastle NSW 2300

Final Report & Invoice To: Strider Duerinckx
Fax Results To: Strider Duerinckx
Electronic Results To: sduerinckx@ppk.com.au
(ENMRG Format)

ALS Quote No: SYN/534/01

Project: Honeysuckle (2122128A)

Project Director: Strider Duerinckx
Ph: (02) 4929 3900 Fax: (02) 4929 7299

Standard ALS Analysis

TAT

7 - 10 Days

48 Hrs

24 Hrs

* Surcharge Applies

Strider Duerinckx
Strider Duerinckx
sduerinckx@ppk.com.au



ALS Environmental

ALS Environmental
5 Roxburgh Close, Warabrook NSW 2304
Ph: 02 4968 9453 Fax: 02 4968 0349

SAMPLE INFORMATION

ANALYSIS REQUIRED

COMMENTS

SITE	SAMPLE ID	DATE	MATRIX	No. SAMPLE CONTAINERS	TPH / BTEX /	PAH	PAH	VOC	PHENOLS	TH	OC/PCB	OP	ASBESTOS	Hg	As, Cd, Co, Cr, Cu, Pb, Ni, Zn	Mn	TPH/BTEX	BTEX
⑤	L4/TP4/0.3m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
⑥	L4/TP4/0.3m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
⑦	L4/TP4/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
⑧	L4/TP4/2m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
⑨	L4/TP5/0.2m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
⑩	L4/TP5/0.2m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
⑪	L4/TP6/0.1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
⑫	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
⑬	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
⑭	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
⑮	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
⑯	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
⑰	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
⑱	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
⑲	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
⑳	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㉑	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㉒	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㉓	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㉔	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㉕	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㉖	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㉗	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㉘	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㉙	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㉚	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㉛	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㉜	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㉝	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㉞	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㉟	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㊱	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㊲	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㊳	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㊴	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㊵	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㊶	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㊷	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㊸	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㊹	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㊺	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㊻	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㊼	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㊽	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㊾	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
㊿	L4/TP6/1m	12/4/02	SOIL	JAR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Received with
Henry Stefanow
17.4.02 9am
16/4/02
12.30pm

Notes:

RELINQUISHED BY (SIGN / PRINT):

DATE:

12/4/02

OF: dunda 800

TIME:

12.30pm

RECEIVED BY (SIGN / PRINT):

DATE:

16/4/02

TIME:

12.30pm

PLEASE SIGN AND FAX TO STRIDER DUERINCKX UPON RECEIPT

AUSTRALIAN LABORATORY SERVICES P/L ARN 84 009 936 029

33

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS:
P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE(L4)

Batch: NE6362
Sub Batch: 0
LABORATORY: NEWCASTLE
DATE RECEIVED: 23/04/2002
DATE COMPLETED: 02/05/2002
SAMPLE TYPE: WATER
No. of SAMPLES: 2

COMMENTS

Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

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ISSUING LABORATORY: NEWCASTLE

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Phone: 61-2-4968 9433
Fax: 61-2-6363 1189
Email: kathryn.mcdermott@alsenviro.com

Signatory



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Kuala Lumpur
Auckland
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AMERICAS

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Batch: NE6362
Sub Batch: 0
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		1	2						
				Date Sampled		22/04/2002	22/04/2002						
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/MW2	L4/MW13								
EA-005-P	pH Value		0.01	7.51	7.70								
EG-020F	Arsenic - Filtered	mg/L	0.001	0.009	0.011								
EG-020F	Cadmium - Filtered	mg/L	0.001	<0.001	<0.001								
EG-020F	Cobalt - Filtered	mg/L	0.001	0.001	<0.001								
EG-020F	Chromium - Filtered	mg/L	0.001	<0.001	<0.001								
EG-020F	Copper - Filtered	mg/L	0.001	0.006	0.003								
EG-020F	Manganese - Filtered	mg/L	0.001	0.099	0.113								
EG-020F	Nickel - Filtered	mg/L	0.001	0.002	0.002								
EG-020F	Lead - Filtered	mg/L	0.001	0.008	<0.001								
EG-020F	Zinc - Filtered	mg/L	0.001	0.023	0.012								
EG-035F	Mercury - Filtered	mg/L	0.0001	<0.0001	<0.0001								

Batch: NE6362
Sub Batch: 0
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		200	201	202					
				Date Sampled		23/04/2002	23/04/2002	23/04/2002					
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	METHOD BLANK	LCS	MS							
				CHECKS AND SPIKES									
EA-005-P	pH Value		0.01	----	----	----							
EG-020F	Arsenic - Filtered	mg/L	0.001	<0.001	98.0%	107%							
EG-020F	Cadmium - Filtered	mg/L	0.001	<0.001	98.0%	95.0%							
EG-020F	Cobalt - Filtered	mg/L	0.001	<0.001	86.0%	87.0%							
EG-020F	Chromium - Filtered	mg/L	0.001	<0.001	89.0%	99.0%							
EG-020F	Copper - Filtered	mg/L	0.001	<0.001	88.0%	93.0%							
EG-020F	Manganese - Filtered	mg/L	0.001	<0.001	91.0%	83.0%							
EG-020F	Nickel - Filtered	mg/L	0.001	<0.001	86.0%	91.0%							
EG-020F	Lead - Filtered	mg/L	0.001	<0.001	93.0%	97.0%							
EG-020F	Zinc - Filtered	mg/L	0.001	<0.001	88.0%	94.0%							
EG-035F	Mercury - Filtered	mg/L	0.0001	<0.0001	101%	94.0%							

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS: P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE(L4)

Batch: NE6362
Sub Batch: 1
LABORATORY: NEWCASTLE
DATE RECEIVED: 23/04/2002
DATE COMPLETED: 02/05/2002
SAMPLE TYPE: WATER
No. of SAMPLES: 1

COMMENTS

Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

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Batch: NE6362
Sub Batch: 1
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION									
				Laboratory I.D.	1								
				Date Sampled	22/04/2002								
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/MW2									
EP-066-WS	Total Polychlorinated biphenyls	ug/L	1	<1									
EP-066S-WS	POLYCHLORINATED BIPHENYL SURROGATE												
EP-066S-WS	Decachlorobiphenyl	%	1	99									

Batch: NE6362
Sub Batch: 1
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.	100	101	102						
				Date Sampled	23/04/2002	23/04/2002	23/04/2002						
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	METHOD BLANK	NPCBW199 SCS	NPCBW199 DCS							
				CHECKS AND SPIKES									
EP-066-WS	Total Polychlorinated biphenyls	ug/L	1	<1	79.0%	82.0%							
EP-066S-WS	POLYCHLORINATED BIPHENYL SURROGATE												
EP-066S-WS	Decachlorobiphenyl	%	1	79	77	80							

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS:
P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE(L4)

Batch: NE6362
Sub Batch: 2
LABORATORY: NEWCASTLE
DATE RECEIVED: 23/04/2002
DATE COMPLETED: 02/05/2002
SAMPLE TYPE: WATER
No. of SAMPLES: 1

COMMENTS

Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

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Batch: NE6362
Sub Batch: 2
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION									
				Laboratory I.D.	1								
				Date Sampled	22/04/2002								
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/MW2									
EP-068A-WS	ORGANOCHLORINE PESTICIDES												
EP-068A-WS	alpha-BHC	ug/L	0.5	<0.5									
EP-068A-WS	HCB	ug/L	0.5	<0.5									
EP-068A-WS	beta-BHC & gamma-BHC	ug/L	1	<1									
EP-068A-WS	delta-BHC	ug/L	0.5	<0.5									
EP-068A-WS	Heptachlor	ug/L	0.5	<0.5									
EP-068A-WS	Aldrin	ug/L	0.5	<0.5									
EP-068A-WS	Heptachlor epoxide	ug/L	0.5	<0.5									
EP-068A-WS	Chlordane - trans	ug/L	0.5	<0.5									
EP-068A-WS	Endosulfan 1	ug/L	0.5	<0.5									
EP-068A-WS	Chlordane - cis	ug/L	0.5	<0.5									
EP-068A-WS	Dieldrin	ug/L	0.5	<0.5									
EP-068A-WS	DDE	ug/L	0.5	<0.5									
EP-068A-WS	Endrin	ug/L	0.5	<0.5									
EP-068A-WS	Endosulfan 2	ug/L	0.5	<0.5									
EP-068A-WS	DDD	ug/L	0.5	<0.5									
EP-068A-WS	Endrin aldehyde	ug/L	0.5	<0.5									
EP-068A-WS	Endosulfan sulfate	ug/L	0.5	<0.5									
EP-068A-WS	DDT	ug/L	2	<2									
EP-068A-WS	Endrin ketone	ug/L	0.5	<0.5									
EP-068A-WS	Methoxychlor	ug/L	2	<2									
EP-068S-WS	ORGANOCHLORINE PESTICIDE SURROGATE												
EP-068S-WS	Dibromo-DDE	%	1	106									

Batch: NE6362
Sub Batch: 2
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		100	101	102					
				Date Sampled		23/04/2002	23/04/2002	23/04/2002					
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	METHOD BLANK	NOCOPW310 SCS	NOCOPW310 DCS							
				CHECKS AND SPIKES									
EP-068A-WS	ORGANOCHLORINE PESTICIDES												
EP-068A-WS	alpha-BHC	ug/L	0.5	<0.5	93.0%	99.9%							
EP-068A-WS	HCB	ug/L	0.5	<0.5	101%	99.9%							
EP-068A-WS	beta-BHC & gamma-BHC	ug/L	1	<1	90.5%	95.6%							
EP-068A-WS	delta-BHC	ug/L	0.5	<0.5	89.2%	100%							
EP-068A-WS	Heptachlor	ug/L	0.5	<0.5	92.2%	103%							
EP-068A-WS	Aldrin	ug/L	0.5	<0.5	96.1%	105%							
EP-068A-WS	Heptachlor epoxide	ug/L	0.5	<0.5	93.7%	103%							
EP-068A-WS	Chlordane - trans	ug/L	0.5	<0.5	87.7%	97.7%							
EP-068A-WS	Endosulfan 1	ug/L	0.5	<0.5	98.1%	110%							
EP-068A-WS	Chlordane - cis	ug/L	0.5	<0.5	100%	110%							
EP-068A-WS	Dieldrin	ug/L	0.5	<0.5	91.3%	103%							
EP-068A-WS	DDE	ug/L	0.5	<0.5	88.1%	99.1%							
EP-068A-WS	Endrin	ug/L	0.5	<0.5	85.8%	94.5%							
EP-068A-WS	Endosulfan 2	ug/L	0.5	<0.5	91.0%	86.5%							
EP-068A-WS	DDD	ug/L	0.5	<0.5	94.5%	101%							
EP-068A-WS	Endrin aldehyde	ug/L	0.5	<0.5	88.1%	96.8%							
EP-068A-WS	Endosulfan sulfate	ug/L	0.5	<0.5	87.4%	96.8%							
EP-068A-WS	DDT	ug/L	2	<2	88.0%	90.2%							
EP-068A-WS	Endrin ketone	ug/L	0.5	<0.5	85.1%	95.5%							
EP-068A-WS	Methoxychlor	ug/L	2	<2	86.6%	83.0%							
EP-068S-WS	ORGANOCHLORINE PESTICIDE SURROGATE												
EP-068S-WS	Dibromo-DDE	%	1	103	98	105							

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS: P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE(L4)

Batch: NE6362
Sub Batch: 3
LABORATORY: NEWCASTLE
DATE RECEIVED: 23/04/2002
DATE COMPLETED: 02/05/2002
SAMPLE TYPE: WATER
No. of SAMPLES: 2

COMMENTS

Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

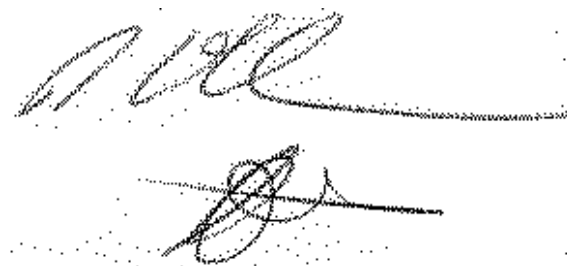
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Batch: NE6362
Sub Batch: 3
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		1	2						
				Date Sampled		22/04/2002	22/04/2002						
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/MW2	L4/MW13								
EP-071-WS	TOTAL PETROLEUM HYDROCARBONS												
EP-071-WS	C6 - C9 Fraction	ug/L	20	<20	<20								
EP-071-WS	C10 - C14 Fraction	ug/L	50	<50	<50								
EP-071-WS	C15 - C28 Fraction	ug/L	100	<100	<100								
EP-071-WS	C29 - C36 Fraction	ug/L	50	<50	<50								
EP-080-WS	BTEX												
EP-080-WS	Benzene	ug/L	1	<1	<1								
EP-080-WS	Toluene	ug/L	2	<2	<2								
EP-080-WS	Chlorobenzene	ug/L	2	<2	<2								
EP-080-WS	Ethylbenzene	ug/L	2	<2	<2								
EP-080-WS	meta- & para-Xylene	ug/L	2	<2	<2								
EP-080-WS	ortho-Xylene	ug/L	2	<2	<2								
EP-080S-WS	VOLATILE TPH/BTEX COMPOUND SURROGATES												
EP-080S-WS	1,2-Dichloroethane-D4	%	1	94	100								
EP-080S-WS	Toluene-D8	%	1	97	96								
EP-080S-WS	4-Bromofluorobenzene	%	1	90	91								

Batch: NE6362
Sub Batch: 3
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		100	101	102					
				Date Sampled		23/04/2002	23/04/2002	23/04/2002					
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	METHOD BLANK	NTPHW1171 SCS	NTPHW1171 DCS							
				CHECKS AND SPIKES									
EP-071-WS	TOTAL PETROLEUM HYDROCARBONS												
EP-071-WS	C6 - C9 Fraction	ug/L	20	<20	102%	108%							
EP-071-WS	C10 - C14 Fraction	ug/L	50	<50	102%	91.0%							
EP-071-WS	C15 - C28 Fraction	ug/L	100	<100	109%	102%							
EP-071-WS	C29 - C36 Fraction	ug/L	50	<50	115%	119%							
EP-080-WS	BTEX												
EP-080-WS	Benzene	ug/L	1	<1	101%	106%							
EP-080-WS	Toluene	ug/L	2	<2	97.0%	107%							
EP-080-WS	Chlorobenzene	ug/L	2	<2	95.0%	112%							
EP-080-WS	Ethylbenzene	ug/L	2	<2	96.0%	106%							
EP-080-WS	meta- & para-Xylene	ug/L	2	<2	107%	99.0%							
EP-080-WS	ortho-Xylene	ug/L	2	<2	101%	107%							
EP-080S-WS	VOLATILE TPH/BTEX COMPOUND SURROGATES												
EP-080S-WS	1,2-Dichloroethane-D4	%	1	97	95	92							
EP-080S-WS	Toluene-D8	%	1	102	93	94							
EP-080S-WS	4-Bromofluorobenzene	%	1	99	96	98							

CERTIFICATE OF ANALYSIS

CONTACT: MR STRIDER DUERINCKX
CLIENT: PPK ENVIR & INFRASTRUCTURE P/L
ADDRESS:
P O BOX 1162
NEWCASTLE NSW 2300
ORDER No.: 2122128A
PROJECT: HONEYSUCKLE(L4)

Batch: NE6362
Sub Batch: 4
LABORATORY: NEWCASTLE
DATE RECEIVED: 23/04/2002
DATE COMPLETED: 02/05/2002
SAMPLE TYPE: WATER
No. of SAMPLES: 2

COMMENTS

Analysis conducted by ALS Sydney, NATA Accreditation No. 10918.

NOTES

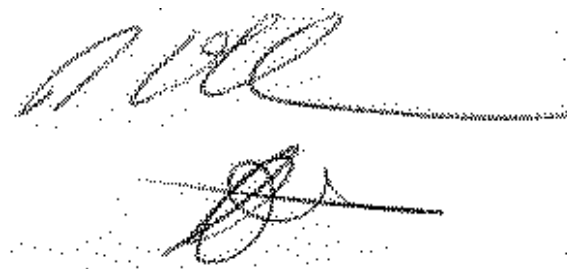
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Batch: NE6362
Sub Batch: 4
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

CERTIFICATE OF ANALYSIS



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		1	2						
				Date Sampled		22/04/2002	22/04/2002						
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	L4/MW2	L4/MW13								
EP-075B-WS	POLYNUCLEAR AROMATICS												
EP-075B-WS	Naphthalene	ug/L	2	<2	<2								
EP-075B-WS	2-Methylnaphthalene	ug/L	2	<2	<2								
EP-075B-WS	2-Chloronaphthalene	ug/L	2	<2	<2								
EP-075B-WS	Acenaphthylene	ug/L	2	3	<2								
EP-075B-WS	Acenaphthene	ug/L	2	6	<2								
EP-075B-WS	Fluorene	ug/L	2	<2	<2								
EP-075B-WS	Phenanthrene	ug/L	2	<2	2								
EP-075B-WS	Anthracene	ug/L	2	<2	<2								
EP-075B-WS	Fluoranthene	ug/L	2	3	3								
EP-075B-WS	Pyrene	ug/L	2	2	2								
EP-075B-WS	N-2-Fluorenylacetamide	ug/L	2	<2	<2								
EP-075B-WS	Benz(a)anthracene	ug/L	2	<2	<2								
EP-075B-WS	Chrysene	ug/L	2	<2	<2								
EP-075B-WS	Benzo(b) & (k)fluoranthene	ug/L	4	<4	<4								
EP-075B-WS	7.12-Dimethylbenz(a)anthracene	ug/L	2	<2	<2								
EP-075B-WS	Benzo(a)pyrene	ug/L	2	<2	<2								
EP-075B-WS	3-Methylcholanthrene	ug/L	2	<2	<2								
EP-075B-WS	Indeno(1.2.3-cd)pyrene	ug/L	2	<2	<2								
EP-075B-WS	Dibenz(a,h)anthracene	ug/L	2	<2	<2								
EP-075B-WS	Benzo(g,h,i)perylene	ug/L	2	<2	<2								
EP-075T-WS	BASE/NEUTRAL EXTRACTABLE SURROGATES												
EP-075T-WS	Nitrobenzene-D5	%	1	81	89								
EP-075T-WS	1,2-Dichlorobenzene-D4	%	1	66	73								
EP-075T-WS	2-Fluorobiphenyl	%	1	69	73								
EP-075T-WS	Anthracene-d10	%	1	78	85								
EP-075T-WS	p-Terphenyl-D14	%	1	74	82								

Batch: NE6362
Sub Batch: 4
Date of Issue: 26/06/2002
Client: PPK ENVIR & INFRASTRUCTURE P/L
Client Reference: HONEYSUCKLE(L4)

QUALITY CONTROL REPORT



				SAMPLE IDENTIFICATION									
				Laboratory I.D.		100	101	102					
				Date Sampled		23/04/2002	23/04/2002	23/04/2002					
METHOD	ANALYSIS DESCRIPTION	UNIT	LOR	METHOD BLANK	NSVOCW1116 SCS	NSVOCW1116 DCS							
				CHECKS AND SPIKES									
EP-075B-WS	POLYNUCLEAR AROMATICS												
EP-075B-WS	Naphthalene	ug/L	2	<2	65.4%	71.5%							
EP-075B-WS	2-Methylnaphthalene	ug/L	2	<2	64.4%	70.7%							
EP-075B-WS	2-Chloronaphthalene	ug/L	2	<2	88.5%	95.9%							
EP-075B-WS	Acenaphthylene	ug/L	2	<2	63.4%	68.7%							
EP-075B-WS	Acenaphthene	ug/L	2	<2	64.0%	72.0%							
EP-075B-WS	Fluorene	ug/L	2	<2	65.8%	70.6%							
EP-075B-WS	Phenanthrene	ug/L	2	<2	70.9%	71.3%							
EP-075B-WS	Anthracene	ug/L	2	<2	65.8%	69.0%							
EP-075B-WS	Fluoranthene	ug/L	2	<2	64.0%	72.8%							
EP-075B-WS	Pyrene	ug/L	2	<2	65.7%	80.9%							
EP-075B-WS	N-2-Fluorenylacetamide	ug/L	2	<2	71.9%	73.8%							
EP-075B-WS	Benz(a)anthracene	ug/L	2	<2	64.5%	64.3%							
EP-075B-WS	Chrysene	ug/L	2	<2	61.0%	65.3%							
EP-075B-WS	Benzo(b) & (k)fluoranthene	ug/L	4	<4	61.1%	69.1%							
EP-075B-WS	7.12-Dimethylbenz(a)anthracene	ug/L	2	<2	59.3%	64.4%							
EP-075B-WS	Benzo(a)pyrene	ug/L	2	<2	73.7%	70.8%							
EP-075B-WS	3-Methylcholanthrene	ug/L	2	<2	59.7%	69.1%							
EP-075B-WS	Indeno(1.2.3-cd)pyrene	ug/L	2	<2	52.4%	62.7%							
EP-075B-WS	Dibenz(a,h)anthracene	ug/L	2	<2	52.3%	59.5%							
EP-075B-WS	Benzo(g,h,i)perylene	ug/L	2	<2	57.6%	64.9%							
EP-075T-WS	BASE/NEUTRAL EXTRACTABLE SURROGATES												
EP-075T-WS	Nitrobenzene-D5	%	1	82	83	85							
EP-075T-WS	1.2-Dichlorobenzene-D4	%	1	51	58	60							
EP-075T-WS	2-Fluorobiphenyl	%	1	58	58	62							
EP-075T-WS	Anthracene-d10	%	1	79	79	78							
EP-075T-WS	p-Terphenyl-D14	%	1	64	73	70							

BATCH QUALITY CONTROL -- DUPLICATE					
ALS EP-068 : Pesticides					
QC LOT No. :		NOCOPW310			
MATRIX :		Waters			
ANALYST:		R. AYOUBI			
COMPOUND	LOR ug/L	QC DUPLICATE RESULTS			
		ES32063	ES32063	RPD	Cont. Limit
		ug/L	ug/L	%	
EP068A : OC Pesticides					
a-BHC	0.5				
HCB	0.5				
b- & g-BHC	1				
d-BHC	0.5				
Heptachlor	0.5				
Aldrin	0.5				
Heptachlor epoxide	0.5				
Chlordane peak no 1	0.5				
Endosulfan 1	0.5				
Chlordane peak no. 2	0.5				
Dieldrin	0.5				
DDE	0.5				
Endrin	0.5				
Endosulfan 2	0.5				
DDD	0.5				
Endrin aldehyde	0.5				
Endosulfan sulfate	0.5				
DDT	2				
Endrin ketone	0.5				
Methoxychlor	2				
EP068B : OP Pesticides					
Dichlorvos	0.5				
Demeton-s-methyl	0.5				
Monocrotophos	2				
Dimethoate	0.5				
Diazinon	0.5				
Chlorpyrifos methyl	0.5				
Parathion methyl	2				
Malathion	0.5				
Fenthion	0.5				
Chlorpyrifos	0.5				
Parathion	2				
Pirimphos ethyl	0.5				
Chlorfenvinphos E	0.5				
Chlorfenvinphos Z	0.5				
Bromophos ethyl	0.5				
Fenamiphos	0.5				
Prothiofos	0.5				
Ethion	0.5				
Carbofenthion	0.5				
Azinphos methyl	0.5				

BATCH QUALITY CONTROL -- DUPLICATE					
ALS EP-068 : Pesticides					
QC LOT No. :		NOCOPW310			
MATRIX :		Waters			
ANALYST:		R. AYOUBI			
COMPOUND		QC DUPLICATE RESULTS			
		ES32063	ES32063	RPD	Cont. Limit
		ug/L	ug/L		%
LOR					
ug/L					
EP068C : Triazines					
Simazine	0.5				
Atrazine	0.5				
EP068D : Pyrethroids					
Cypermethrins(multipeaks)	2				
EP068S : OC Surrogate					
Dibromo-DDE	1%				
EP068T : OP Surrogate					
DEF	1%				

Note: The permitted range for RPD (relative percent deviation) is specified in ALS Method QWI-EN/38 and is dependent on the magnitude of results in comparison to the level of reporting:

Result < 10 times LOR, no limit.

Result between 10 and 20 times LOR, 0% - 50%.

Results > 20 times LOR, 0% - 20%.

BATCH QUALITY CONTROL -- DUPLICATE					
ALS EP-068 : Pesticides					
QC LOT No. :		NOCOPW310			
MATRIX :		Waters			
ANALYST:		R. AYOUBI			
COMPOUND	LOR ug/L	QC DUPLICATE RESULTS			
		ES32063	ES32063	RPD	Cont. Limit
		ug/L	ug/L		%
EP068A : OC Pesticides					
a-BHC	0.5				
HCB	0.5				
b- & g-BHC	1				
d-BHC	0.5				
Heptachlor	0.5				
Aldrin	0.5				
Heptachlor epoxide	0.5				
Chlordane peak no 1	0.5				
Endosulfan 1	0.5				
Chlordane peak no. 2	0.5				
Dieldrin	0.5				
DDE	0.5				
Endrin	0.5				
Endosulfan 2	0.5				
DDD	0.5				
Endrin aldehyde	0.5				
Endosulfan sulfate	0.5				
DDT	2				
Endrin ketone	0.5				
Methoxychlor	2				
EP068B : OP Pesticides					
Dichlorvos	0.5				
Demeton-s-methyl	0.5				
Monocrotophos	2				
Dimethoate	0.5				
Diazinon	0.5				
Chlorpyrifos methyl	0.5				
Parathion methyl	2				
Malathion	0.5				
Fenthion	0.5				
Chlorpyrifos	0.5				
Parathion	2				
Pirimphos ethyl	0.5				
Chlorfenvinphos E	0.5				
Chlorfenvinphos Z	0.5				
Bromophos ethyl	0.5				
Fenamiphos	0.5				
Prothiofos	0.5				
Ethion	0.5				
Carbofenthion	0.5				
Azinphos methyl	0.5				

BATCH QUALITY CONTROL -- DUPLICATE					
ALS EP-068 : Pesticides					
QC LOT No. :		NOCOPW310			
MATRIX :		Waters			
ANALYST:		R. AYOUBI			
COMPOUND		QC DUPLICATE RESULTS			
		ES32063	ES32063	RPD	Cont. Limit
		ug/L	ug/L		%
LOR					
ug/L					
EP068C : Triazines					
Simazine	0.5				
Atrazine	0.5				
EP068D : Pyrethroids					
Cypermethrins(multipeaks)	2				
EP068S : OC Surrogate					
Dibromo-DDE	1%				
EP068T : OP Surrogate					
DEF	1%				

Note: The permitted range for RPD (relative percent deviation) is specified in ALS Method QWI-EN/38 and is dependent on the magnitude of results in comparison to the level of reporting:

Result < 10 times LOR, no limit.

Result between 10 and 20 times LOR, 0% - 50%.

Results > 20 times LOR, 0% - 20%.

BATCH QUALITY CONTROL -- MATRIX SPIKE/DUPLICATE							
ALS EP-068 : Semivolatile Organic Compounds QC LOT No. : NOCOPW310 ANALYST : R. AYOUBI MATRIX: Waters Sample ID: -							
COMPOUND	Sample Results	Spike Level	SPIKE QC RESULTS				Cont. Limit
			MS Rec.	MSD Rec.	Average Rec.	RPD	RPD
	ug/L	ug/L	%	%	%	%	%
EP068A : OC Pesticides							
b- & g-BHC		5			n/a		0 - 20
Heptachlor		5			n/a		0 - 20
Aldrin		5			n/a		0 - 20
Dieldrin		5			n/a		0 - 20
Endrin		20			n/a		0 - 20
DDT		20			n/a		0 - 20
EP068 : OP Pesticides							
Diazinon		5			n/a		0 - 20
Chlorpyrifos methyl		5			n/a		0 - 20
Pirimiphos ethyl	<0.025	0.25	89.1	83.7	86.4	6.25	0 - 20
Bromophos ethyl	<0.025	0.25	90.8	83.7	87.3	8.14	0 - 20
Prothiofos	<0.025	0.25	91.8	85.8	88.8	6.76	0 - 20
EP068S : OC Surrogate							
Dibromo-DDE	92%	0.5	88.1	89.4	88.8	1.46	0 - 20
EP068T : OP Surrogate							
DEF	87.2%	0.5	88.6	87.7	88.2	1.02	0 - 20

COMMENTS:

- 1) The RPD control limits are fixed.
- 2) *: RPD falls outside the recommended control limit.

BATCH QUALITY CONTROL -- CONTROL SPIKE/DUPLICATE									
ALS EP-068 : Pesticides									
QC LOT No. :		NOCOPW310				ANALYST R. AYOUBI			
MATRIX:		Waters							
COMPOUND	Blank Conc	Spike Level	SPIKE QC RESULTS				Control Limits		
			SCS Rec.	DCS Rec.	Average Rec.	RPD	Rec.		RPD
	ug/L	ug/L	%		%	%	Low	High	%
EP068A : OC Pesticides									
a-BHC	<0.5	5.0	93	99.9	96.5	7.15	77.3	108	0 - 20
HCB	<0.5	5.0	101	99.9	100	1.1	72.8	113	0 - 20
b- & g-BHC	<1.0	10.0	90.5	95.6	93.1	5.48	82.8	110	0 - 20
d-BHC	<0.5	5.0	89.2	100	94.6	11.4	74.6	116	0 - 20
Heptachlor	<0.5	5.0	92.2	103	97.6	11.1	75.4	113	0 - 20
Aldrin	<0.5	5.0	96.1	105	101	8.85	77.1	112	0 - 20
Heptachlor epoxide	<0.5	5.0	93.7	102	97.9	8.48	79.3	111	0 - 20
Chlordane peak no 1	<0.5	5.0	87.7	97.7	92.7	10.8	76.9	111	0 - 20
Endosulfan 1	<0.5	5.0	98.1	110	104	11.4	74.8	115	0 - 20
Chlordane peak no. 2	<0.5	5.0	100	110	105	9.52	75.7	115	0 - 20
Dieldrin	<0.5	5.0	91.3	102	96.7	11.1	78.6	113	0 - 20
DDE	<0.5	5.0	88.1	99.1	93.6	11.8	79.8	109	0 - 20
Endrin	<0.5	5.0	85.8	94.5	90.2	9.65	72.1	117	0 - 20
Endosulfan 2	<0.5	5.0	91	86.5	88.8	5.07	74	120	0 - 20
DDD	<0.5	5.0	94.5	101	97.8	6.65	79.3	112	0 - 20
Endrin aldehyde	<0.5	5.0	88.1	96.8	92.5	9.41	73.9	115	1 - 20
Endosulfan sulfate	<0.5	5.0	87.4	96.8	92.1	10.2	78.2	113	0 - 20
DDT	<2.0	5.0	88	90.2	89.1	2.47	71.1	117	0 - 20
Endrin ketone	<0.5	5.0	85.1	95.5	90.3	11.5	75.4	114	0 - 20
Methoxychlor	<2.0	5.0	86.6	83	84.8	4.25	73.4	110	0 - 20
EP068B : OP Pesticides									
Dichlorvos	<0.5	5.0	87.4	95.2	91.3	8.54	74.1	107	0 - 20
Demeton-s-methyl	<0.5	5.0	85	92.6	88.8	8.56	69	110	0 - 20
Monocrotophos	<2.0	5.0	22.8	24.6	23.7	7.59	0	95.6	0 - 20
Dimethoate	<0.5	5.0	80	83.4	81.7	4.16	72.7	109	0 - 20
Diazinon	<0.5	5.0	90.4	100	95.2	10.1	77	104	0 - 20
Chlorpyrifos methyl	<0.5	5.0	87	96.1	91.6	9.94	81.6	105	0 - 20
Parathion methyl	<2.0	5.0	80.2	90.7	85.5	12.3	72.5	104	0 - 20
Malathion	<0.5	5.0	88.7	98.7	93.7	10.7	68.2	110	0 - 20
Fenthion	<0.5	5.0	87.9	96.1	92	8.91	79.3	105	0 - 20
Chlorpyrifos	<0.5	5.0	89.5	99.9	94.7	11	79.7	108	0 - 20
Parathion	<2.0	5.0	88.1	99.9	94	12.6	69.2	110	0 - 20
Pirimphos ethyl	<0.5	5.0	89	98.2	93.6	9.83	78.1	102	0 - 20
Chlorfenvinphos Z	<0.5	5.0	85	94	89.5	10.1	75.9	112	0 - 20
Bromophos ethyl	<0.5	5.0	88.3	98.6	93.5	11	81.1	104	0 - 20
Fenamiphos	<0.5	5.0	83.1	89.9	86.5	7.86	71.5	107	0 - 20
Prothiofos	<0.5	5.0	87.3	97.2	92.3	10.7	74.3	107	0 - 20
Ethion	<0.5	5.0	87.1	97.5	92.3	11.3	69.2	103	0 - 20
Carbofenthion	<0.5	5.0	82	93.1	87.6	12.7	71	108	0 - 20
Azinphos methyl	<0.5	5.0	83.7	90.6	87.2	7.92	79.9	108	0 - 20

BATCH QUALITY CONTROL -- CONTROL SPIKE/DUPLICATE									
ALS EP-068 : Pesticides									
QC LOT No. :		NOCOPW310				ANALYST R. AYOUBI			
MATRIX:		Waters							
COMPOUND	Blank Conc	Spike Level	SPIKE QC RESULTS				Control Limits		
			SCS Rec.	DCS Rec.	Average Rec.	RPD	Rec.		RPD
	ug/L	ug/L	%		%	%	Low	High	%
EP068C : Triazines									
Simazine	<0.5	5.0	88.9	94.6	91.8	6.21	68.4	123	0 - 20
Atrazine	<0.5	5.0	81.7	86.7	84.2	5.94	62.5	117	0 - 20
EP068D :Pyrethroids									
Cypermethrins(multipeaks)	<2.0	5.0	89.9	96.7	93.3	7.29	70.3	122	0 - 20
EP068S : OC Surrogate									
Dibromo-DDE	102%	10.0	97.7	105	101	7.2	77.3	112	0 - 20
EP068T : OP Surrogate									
DEF	98.5%	10.0	98.2	106	102	7.64	81	111	0 - 20

COMMENTS:

- 1) The recovery control limits are based on ALS laboratory statistical data. (Method QWI-ORG/07)
- 2) The control limits on RPD (relative percent deviation) are fixed.
- 3) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL -- CONTROL SPIKE/DUPLICATE

ALS EP-066 : PCB

QC LOT No. : NPCBW199

ANALYST : R. AYOUBI

MATRIX: Water

COMPOUND	Blank Conc	Spike Level	SPIKE QC RESULTS				Control Limits		
			SCS Conc	DCS Conc	Average Rec.	RPD	Rec.		RPD
	ug/L	ug/L	ug/L	ug/L	%	%	Low	High	%
EP-066 : PCB									
Total PCBs	<LOR	10.0	7.9	8.2	81	3	75	115	20
EP-066 : PCB SURR									
Decachlorobiphenyl	79%	10.0	76.6	79.6	78	4	67	120	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/07)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL -- MATRIX SPIKE / DUPLICATE

ALS EP-066 : PCB ANALYSIS

QC LOT No. :

NPCBW199

ANALYST : R. AYOUBI

MATRIX :

Water

SPIKED SAMPLE : ES

COMPOUND	Sample Results	Spike Level	QCSPIKE RESULTS				Control Limits
			MS Conc	MSD Conc	Av. Rec.	RPD	
	ug/L	ug/L	ug/L	ug/L	%	%	RPD
EP-066 : PCB							
Total PCBs	<LOR	10.0	0.0	0.0	0	#### ###	20
EP-066 : PCB SURR							
Decachlorobiphenyl	0	10.0	0	0	0	#### ###	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07)
- 2) * : RPD falls outside the recommended control limit.

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-066 : PCB**

QC LOT No. : NPCBW199

ANALYST : R. AYOUBI

MATRIX : Water

COMPOUND	QC DUPLICATE RESULTS		
	NE6234	NE6234	RPD
	XX	XX	
	ug/L	ug/L	%
EP-066 : PCB			
Total PCBs	<LOR	<LOR	--
EP-066 : PCB SURR			
Decachlorobiphenyl	0	0	#DIV/0!

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-066 : PCB**

QC LOT No. : NPCBW199
MATRIX: Water

ANALYST : R. AYOUBI

COMPOUND	QC DUPLICATE RESULTS		
	NE6234	NE6234	RPD
	XX	XX	
	ug/L	ug/L	%
EP-066 : PCB			
Total PCBs	<LOR	<LOR	--
EP-066 : PCB SURR			
Decachlorobiphenyl	0	0	#DIV/0!

BATCH QUALITY CONTROL -- DUPLICATE					
ALS EP-075 : Semivolatile Organic Compounds					
QC LOT No. :		NSVOCW1116			
MATRIX :		Soils			
ANALYST:		ALICE TAT			
COMPOUND	LOR	QC DUPLICATE RESULTS		RPD	
		NE6358	NE6358	RPD	Cont. Limit
	ug/L	ug/L	ug/L		%
EP-075A : PHENOLS					
Phenol	0.5				
2-Chlorophenol	0.3				
2-Methylphenol	0.5				
4-Methylphenol	0.5				
2-Nitrophenol	0.5				
2,4-Dimethylphenol	0.5				
2,4-Dichlorophenol	0.3				
2,6-Dichlorophenol	0.3				
4-Chloro-3-methylphenol	0.3				
2,4,6-Trichlorophenol	0.3				
2,4,5-Trichlorophenol	0.3				
Pentachlorophenol	0.3				
EP-075B : POLYNUCLEAR AROMATIC HYDROCARBONS					
Naphthalene	0.5				
2-Methylnaphthalene	0.5				
2-Chloronaphthalene	0.5				
Acenaphthylene	0.5				
Acenaphthene	0.5				
Fluorene	0.5				
Phenanthrene	0.5				
Anthracene	0.5				
Fluoranthene	0.5				
Pyrene	0.5				
N-2-Fluorenylacetamide	0.5				
Benz(a)anthracene	0.5				
Chrysene	0.5				
Benzo(b)&(k)fluoranthene	1				
7,12-Dimethylbenz(a)anthracene	0.5				
Benzo(a)pyrene	0.3				
3-Methylchloanthrene	0.5				
Indeno(1,2,3-cd)pyrene	0.5				
Dibenz(a,h)anthracene	0.5				
Benzo(g,h,i)perylene	0.5				

BATCH QUALITY CONTROL -- DUPLICATE					
ALS EP-075 : Semivolatile Organic Compounds					
QC LOT No. :		NSVOCW1116			
MATRIX :		Soils			
ANALYST:		ALICE TAT			
COMPOUND	LOR	QC DUPLICATE RESULTS		RPD	
		NE6358	NE6358	RPD	Cont. Limit
	ug/L	ug/L	ug/L		%
EP-075S : ACID EXTRACTABLE SURROGATES					
2-Fluorophenol	1%				
Phenol-d6	1%				
2-Chlorophenol-d4	1%				
2,4,6-Tribromophenol	1%				
EP-075T : BASE/NEUTRAL EXTRACTABLE SURROGATES					
Nitrobenzene-d5	1%				
1,2-Dichlorobenzene-d4	1%				
2-Fluorobiphenyl	1%				
Anthracene-d10	1%				
4-Terphenyl-d14	1%				

Note: The permitted range for RPD (relative percent deviation) is specified in ALS Method QWI-EN/38 and is dependent on the magnitude of results in comparison to the level of reporting:

Result < 10 times LOR, no limit.

Result between 10 and 20 times LOR, 0% - 50%.

Results > 20 times LOR, 0% - 20%.

BATCH QUALITY CONTROL -- DUPLICATE					
ALS EP-075 : Semivolatile Organic Compounds					
QC LOT No. :		NSVOCW1116			
MATRIX :		Soils			
ANALYST:		ALICE TAT			
COMPOUND	LOR	QC DUPLICATE RESULTS		RPD	
		NE6358	NE6358	RPD	Cont. Limit
	ug/L	ug/L	ug/L		%
EP-075A : PHENOLS					
Phenol	0.5				
2-Chlorophenol	0.3				
2-Methylphenol	0.5				
4-Methylphenol	0.5				
2-Nitrophenol	0.5				
2,4-Dimethylphenol	0.5				
2,4-Dichlorophenol	0.3				
2,6-Dichlorophenol	0.3				
4-Chloro-3-methylphenol	0.3				
2,4,6-Trichlorophenol	0.3				
2,4,5-Trichlorophenol	0.3				
Pentachlorophenol	0.3				
EP-075B : POLYNUCLEAR AROMATIC HYDROCARBONS					
Naphthalene	0.5				
2-Methylnaphthalene	0.5				
2-Chloronaphthalene	0.5				
Acenaphthylene	0.5				
Acenaphthene	0.5				
Fluorene	0.5				
Phenanthrene	0.5				
Anthracene	0.5				
Fluoranthene	0.5				
Pyrene	0.5				
N-2-Fluorenylacetamide	0.5				
Benz(a)anthracene	0.5				
Chrysene	0.5				
Benzo(b)&(k)fluoranthene	1				
7,12-Dimethylbenz(a)anthracene	0.5				
Benzo(a)pyrene	0.3				
3-Methylchloanthrene	0.5				
Indeno(1,2,3-cd)pyrene	0.5				
Dibenz(a,h)anthracene	0.5				
Benzo(g,h,i)perylene	0.5				

BATCH QUALITY CONTROL -- DUPLICATE					
ALS EP-075 : Semivolatile Organic Compounds					
QC LOT No. :		NSVOCW1116			
MATRIX :		Soils			
ANALYST:		ALICE TAT			
COMPOUND	LOR	QC DUPLICATE RESULTS		RPD	
		NE6358	NE6358	RPD	Cont. Limit
	ug/L	ug/L	ug/L		%
EP-075S : ACID EXTRACTABLE SURROGATES					
2-Fluorophenol	1%				
Phenol-d6	1%				
2-Chlorophenol-d4	1%				
2,4,6-Tribromophenol	1%				
EP-075T : BASE/NEUTRAL EXTRACTABLE SURROGATES					
Nitrobenzene-d5	1%				
1,2-Dichlorobenzene-d4	1%				
2-Fluorobiphenyl	1%				
Anthracene-d10	1%				
4-Terphenyl-d14	1%				

Note: The permitted range for RPD (relative percent deviation) is specified in ALS Method QWI-EN/38 and is dependent on the magnitude of results in comparison to the level of reporting:

Result < 10 times LOR, no limit.

Result between 10 and 20 times LOR, 0% - 50%.

Results > 20 times LOR, 0% - 20%.

BATCH QUALITY CONTROL -- MATRIX SPIKE/DUPLICATE							
ALS EP-075 : Semivolatile Organic Compounds QC LOT No. : NSVOCW1116 ANALYST : ALICE TAT MATRIX: Waters Sample ID: -							
COMPOUND	Sample Results	Spike Level	SPIKE QC RESULTS				Cont. Limit
			MS Rec.	MSD Rec.	Average Rec.	RPD	RPD
	ug/L	ug/L	%	%	%	%	%
EP-075A : PHENOLS							
Phenol		20			n/a		0 - 35
2-Chlorophenol		20			n/a		0 - 35
2-Nitrophenol		20			n/a		0 - 35
4-Chloro-3-methylphenol		20			n/a		0 - 35
Pentachlorophenol		20			n/a		0 - 35
EP-075B : POLYAROMATIC HYDROCARBONS							
Acenaphthene		20			n/a		0 - 35
Pyrene		20			n/a		0 - 35
EP-075S : ACID EXTRACTABLE SURROGATES							
2-Fluorophenol		10			n/a		0 - 35
Phenol-d6		10			n/a		0 - 35
2-Chlorophenol-d4		10			n/a		0 - 35
2,4,6-Tribromophenol		10			n/a		0 - 35
EP-075T : BASE/NEUTRAL EXTRACTABLE SURROGATES							
Nitrobenzene-d5		10			n/a		0 - 35
1,2-Dichlorobenzene-d4		10			n/a		0 - 35
2-Fluorobiphenyl		10			n/a		0 - 35
Anthracene-d10		10			n/a		0 - 35
4-Terphenyl-d14		10			n/a		0 - 35

COMMENTS:

- 1) The RPD control limits are fixed.
- 2) *: RPD falls outside the recommended control limit.

BATCH QUALITY CONTROL - CONTROL SPIKE/DUPLICATE

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

Vol QC Lot : NVOCW1171
Semi-Vol QC Lot : NTPHW1171

MATRIX : Water

COMPOUND	BATCH ADJ. (MDL)	Blank Conc. ug/L	Spike Conc. ug/L	Spike Results				Control Limits		
				SCS Conc.	DCS Conc.	Av. Rec.	RPD	Recovery %		RPD
				ug/L	ug/L	%	%	Low	High	%
C6-C9	20	<LOR	200	204	216	105	6	94	106	20
C10-C14	25	<LOR	200	204	182	97	11	70	113	20
C15-C28	25	<LOR	200	218	204	106	7	82	115	20
C29-C36	25	<LOR	200	231	239	117	3	74	119	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.
- 3) MDL = Method Detection Limit
- 4) LOR = Level Of Reporting

BATCH QUALITY CONTROL - CONTROL SPIKE/DUPLICATE

ALS EP-080 : BTEX ANALYSIS

QC Lot No. : NVOCW1171

MATRIX : Water

COMPOUND	BATCH	Blank	Spike	Spike Results				Control Limits		
	ADJ.	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(MDL)			Conc.	Conc.	Rec.		%		
	ug/L	ug/L	ug/L	ug/L	ug/L	%	%	Low	High	%
Benzene	1.0	<LOR	10	10.12	10.56	103	4	87	115	20
Toluene	1.0	<LOR	10	9.68	10.69	102	10	87	114	20
Chlorobenzene	1.0	<LOR	10	9.52	11.15	103	16	89	112	20
Ethylbenzene	1.0	<LOR	10	9.63	10.62	101	10	88	115	20
m- & p-Xylene	1.0	<LOR	10	10.68	9.94	103	7	89	115	20
o-Xylene	1.0	<LOR	10	10.09	10.68	104	6	89	114	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.
- 3) MDL = Method Detection Limit
- 4) LOR = Level Of Reporting

BATCH QUALITY CONTROL - MATRIX SPIKE/DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

Vol QC Lot : NVOCW1171
Semi-Vol QC Lot : NTPHW1171

SPIKED SAMPLE : ES
MATRIX : WATER

COMPOUND	Sample Results	Spike Level	Spike Results			
			MS	MSD	Av.	RPD
			Conc	Conc	Rec.	
	ug/L	ug/L	ug/L	ug/L	%	%
C6-C9	<LOR	100	0.0	0.0	0	#### #
C10-C14	<LOR	200	0	0	0	#### #
C15-C28	<LOR	200	0	0	0	#### #
C29-C36	<LOR	200	0	0	0	#### #

COMMENTS :

- 1) LOR: level of reporting
- 2) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 3) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL - MATRIX SPIKE/DUPLICATE**ALS EP-080 : BTEX ANALYSIS**

QC Lot No. : NVOCW1171

SPIKED SAMPLE : ES
MATRIX : WATER

COMPOUND	Sample Results	Spike Level	Spike Results			
			MS Conc	MSD Conc	Av. Rec.	RPD
	ug/L	ug/L	ug/L	ug/L	%	%
Benzene	<LOR	10	0.0	0.0	0	#### #
Toluene	<LOR	10	0.0	0.0	0	#### #
Chlorobenzene	<LOR	10	0.0	0.0	0	#### #

COMMENTS :

- 1) LOR: level of reporting
- 2) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 3) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

SEMIVOLATILES QC LOT No.: NTPHW1171
VOLATILES QC LOT No.: NVOCW1171

ANALYST : A.ROSSI
MATRIX : Water

COMPOUND	QC DUPLICATE RESULTS		
	NE6358	NE6358	RPD
	XX	XX	
	ug/L	ug/L	%
C 6-C 9	<LOR	<LOR	--
C10-C14	<LOR	<LOR	--
C15-C28	<LOR	<LOR	--
C29-C36	<LOR	<LOR	--

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-080 : BTEX ANALYSIS**

QC Lot No. : NVOCW1171
MATRIX : Water

Analyst : S. GREEN

QC DUPLICATE RESULTS			
COMPOUND	NE6358	NE6358	RPD
	XX	XX	
	µg/L	µg/L	%
Benzene	<LOR	<LOR	--
Toluene	<LOR	<LOR	--
Chlorobenzene	<LOR	<LOR	--
Ethylbenzene	<LOR	<LOR	--
m- & p-Xylene	<LOR	<LOR	--
o-Xylene	<LOR	<LOR	--

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-071 : Total Petroleum Hydrocarbons by Fractions**

SEMIVOLATILES QC LOT No.: NTPHW1171
VOLATILES QC LOT No.: NVOCW1171

ANALYST : A.ROSSI
MATRIX : Water

COMPOUND	QC DUPLICATE RESULTS		
	NE6358	NE6358	RPD
	XX	XX	
	ug/L	ug/L	%
C 6-C 9	<LOR	<LOR	--
C10-C14	<LOR	<LOR	--
C15-C28	<LOR	<LOR	--
C29-C36	<LOR	<LOR	--

BATCH QUALITY CONTROL -- DUPLICATE**ALS EP-080 : BTEX ANALYSIS**

QC Lot No. : NVOCW1171
MATRIX : Water

Analyst : S. GREE

QC DUPLICATE RESULTS			
COMPOUND	NE6358	NE6358	RPD
	XX	XX	
	µg/L	µg/L	%
Benzene	<LOR	<LOR	--
Toluene	<LOR	<LOR	--
Chlorobenzene	<LOR	<LOR	--
Ethylbenzene	<LOR	<LOR	--
m- & p-Xylene	<LOR	<LOR	--
o-Xylene	<LOR	<LOR	--

COPY

ORGANICS QUALITY CONTROL REPORT

BATCH NO: NE6362

DATE BATCH RECEIVED: 24/04/02

CLIENT: PPK E & I, NSW

DATE BATCH COMPLETED: 2/05/02

PROJECT: Honeysuckle (2122128A)

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
EP-066	PCB	Water	USEPA 3510B	USEPA 8270B	NPCBW199	29/04/02	30/04/02
EP-068	Pesticides	Water	USEPA 3510B	USEPA 8270B	NOCOPW310	29/04/02	30/04/02
EP-071	TPH(SV)	Water	USEPA 3510B	USEPA 8015A	NTPHW1171	29/04/02	30/04/02
EP-071/80	TPH(V)/BTEX	Water	USEPA 5030A	USEPA 8260A	NVOCW1171	30/04/02	30/04/02
EP-075	SV Scan	Water	USEPA 3510B	USEPA 8270B	NSVOCW1116	29/04/02	30/04/02

Where applicable, internal standards are added to sample extracts prior to instrumental analysis. Absolute peak areas and retention times fall within the criteria specified in the individual methods. Continuing Calibration (CC) standards are run at the frequency of 1 in every 20 samples.

Abbreviations: SV = semivolatile, V = volatile

*: In-house methods

CHAIN OF CUSTODY

CLIENT: PPK
Suite 1, 3rd Floor
55 Bolton Street
PO Box 1162
Newcastle NSW 2300

Final Report & Invoice To: Strider Duerinckx
Fax Results To: Strider Duerinckx
Electronic Results To: sduerinx@ppk.com.au
(ENMRG Format)

ALS Quote No: SYN/534/01
Project: Honey'suckle (2122128A)
Project Director: Strider Duerinckx
Ph: (02) 4929 3900 Fax: (02) 4929 7299

Standard ALS Analysis
TAT
7 - 10 Days ☒
48 Hrs ☐
24 Hrs ☐
*Surcharge Applies

Batch No. NE 6362
Batched Date: 23/4/02
OK

☒ Soil
☒ Ambient
☒ Water
☒ Chilled
☐ Imm. Anal. Activated
☐ Bottle Return
☐ Subcontract Work
☐ Other



ALS Environmental
ALS Environmental
5 Rosegum Close, Warabrook NSW 2304
Ph: 02 4988 9433 Fax: 02 4988 0349

SAMPLE INFORMATION					ANALYSIS REQUIRED											COMMENTS	
SITE	SAMPLE ID	DATE	MATRIX	No. SAMPLE CONTAINERS	TPH / BTEX /	PAH	PAH	VOC	PHENOLS	OP	ASBESTOS	Hg *	AS, Cd, Co, Cr, Cu, Pb, Ni, Zn *	Mn *	TPH/BTEX /	BTEX	
	24/1 MW1	22/9	WATER	1	X	X	X	X	X	X	X	X	X	X	X	X	* Metals field collected! per.
	24/1 MW2				X	X	X	X	X	X	X	X	X	X	X	X	* 1 x 1L, 2 x 40ml, 2 x 250ml
	24/1 MW3				X	X	X	X	X	X	X	X	X	X	X	X	0-metals
	24/1 MW4				X	X	X	X	X	X	X	X	X	X	X	X	1-PCB
	24/1 MW5				X	X	X	X	X	X	X	X	X	X	X	X	2-oclop
	24/1 MW6				X	X	X	X	X	X	X	X	X	X	X	X	3-1/13
	24/1 MW7				X	X	X	X	X	X	X	X	X	X	X	X	4-PAH-
	24/1 MW8				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW9				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW10				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW11				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW12				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW13				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW14				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW15				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW16				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW17				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW18				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW19				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW20				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW21				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW22				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW23				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW24				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW25				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW26				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW27				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW28				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW29				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW30				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW31				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW32				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW33				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW34				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW35				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW36				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW37				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW38				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW39				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW40				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW41				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW42				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW43				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW44				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW45				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW46				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW47				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW48				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW49				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW50				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW51				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW52				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW53				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW54				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW55				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW56				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW57				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW58				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW59				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW60				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW61				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW62				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW63				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW64				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW65				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW66				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW67				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW68				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW69				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW70				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW71				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW72				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW73				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW74				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW75				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW76				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW77				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW78				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW79				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW80				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW81				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW82				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW83				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW84				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW85				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW86				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW87				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW88				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW89				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW90				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW91				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW92				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW93				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW94				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW95				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW96				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW97				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW98				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW99				X	X	X	X	X	X	X	X	X	X	X	X	
	24/1 MW100				X	X	X	X	X	X	X	X	X	X	X	X	

Notes:

Received by
Kerry Stefanovich
24/4/02 9am

RELINQUISHED BY (SIGN / PRINT):
OF: Linda Joo

DATE: 22/4/02
TIME: 4:30pm

RECEIVED BY (SIGN / PRINT):
OF: A. Wessch
DATE: 23/4/02
TIME: 9:00am

PLEASE SIGN AND FAX TO STRIDER DUERINCKX UPON RECEIPT

AUSTRALIAN LABORATORY SERVICES P/L ABN 84 009 936 029



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NATA Accredited Laboratory Number: 1464

INDUSTRIAL SERVICES DIVISION

ABN 30 008 127 802

Correspondence to:
PO Box 514
HORNSBY NSW 1630

5 Kelray Place
ASQUITH NSW 2077
Telephone: (02) 9482 1922
Facsimile: (02) 9482 1734

CERTIFICATE OF ANALYSIS

Contents :

1. Cover Pages (2)
2. Analysis Report Pages
3. QA/QC Appendix
4. Additional Reports - External (if applicable)
5. Chain of Custody (if applicable)

Report No. : 2E1316

Attention : Mr Strider Dverinckx

Client : PPK Newcastle
: PO Box 1162
: NEWCASTLE
: NSW 2300

Samples : 2

Reference/Order : 2122128A 8768

Project : HONEYSUCKLE

Received Samples : 29/04/02 **Instructions** : 29/04/02

Date Reported : 06/05/02

PLEASE SEE FOLLOWING PAGE FOR METHOD LISTING

RESULTS

All samples were analysed as received. This report relates specifically to the samples as received. Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This report replaces any preliminary results issued. Note that for methods indicated with "*", NATA accreditation does not cover the performance of this service. Three significant figures (or 2 for < 10PQL) are reported for statistical purposes only. Where "Total" concentrations are reported for organic suites of compounds this is the summation of the individual compounds and the PQL is noted for reporting purposes only. This report has been auto-authorized by NATA signatories for PDF format. Refer to the method descriptions for further information.

PLEASE SEE ATTACHED PAGES FOR RESULTS

R. Mooney B.Sc.(Hons)Dip. FDA
Technical Services Manager Sydney



Report No. : 2E1316

Please note: Where samples are collected/submitted over several days, the date on which the last samples were analysed or extracted is reported.

Unless Ferrous Iron is determined on site, the possibility of a ferrous-ferric ratio change may occur.

<u>Method</u>	<u>Description</u>	<u>Extracted</u>	<u>Analysed</u>	<u>Authorised</u>
E7500	Moisture (%w/w)	29/04/02	30/04/02	SYS 096
E5910	Metals by ICP-AES	02/05/02	02/05/02	SMA 093
E5950	Mercury in Soil	29/04/02	06/05/02	SMA 093

Job Number : 2E1316
Client : PPK Newcastle
Reference : 2122128A 8768
Project : HONEYSUCKLE

Page 1 of 1
plus Cover Page

[illegible]

PQL = Practical Quantitation Limit

LNR = Samples Listed not Received

$$\text{nd} = < \text{PQL}$$

-- = Not Applicable

Refer to Amdel standard laboratory qualifier codes for comments.

Soils : mg/kg (ppm) dry weight unless otherwise specified

Waters : mg/L (ppm) unless otherwise specified in Method Header

Leachates : mg/L (ppm) in leachate unless otherwise specified in
Method Header



AMDEL INTERNAL QUALITY ASSURANCE REVIEW.

Page 1

Job No. 2E1316

General

1. Laboratory QA/QC including Method Blanks, Duplicates, Matrix Spikes, Laboratory Control Samples or CRM's are included in this QA/QC appendix. (Where applicable)
2. Inter-Laboratory proficiency trial results are available upon request.
3. PQLs are matrix dependent and are increased accordingly where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spike or surrogate recoveries.
5. Where 3 and 2 significant figures are reported for $> 10x$ PQL and $< 10x$ PQL respectively, the last figure is uncertain and is provided for statistical purposes only.
6. Samples duplicated or spiked are from this job only and are identified in the following QA/QC report.
7. SVOC analyses on waters are performed on homogenized, unfiltered samples, unless noted otherwise.

Maximum Holding Times for Soils, Sediments and Waters

Parameter	Holding Times
<u>Soils</u>	
Volatile and Semi-Volatile Organic Analysis.	Extracted in 14 days, analysed within 40 days.
Metals	Extracted and analysed within 28 days-6 months.
Inorganics*	Extracted and analysed within 7-28 days.
TCLPs*	Extracted and analysed within 14 days, (Zero Headspace-TCLP 7 days).
<u>Waters</u>	
Volatile Organic Analysis	Analysed within 7 days (USEPA requires 14 days).
Semi-Volatile Organic Analysis	Extracted in 7 days, analysed within 40 days.
Inorganics*	Analysed within 24 hrs-28 days.
Metals (dissolved metals should be supplied field filtered)	Prepared and analysed within 28 days.

* Please refer to 'Preservation Information Chart for Soils, Sediments & Waters' for further information. (ISFORM.098). Holding times may be extended with the use of preservation bottles and/or freezing samples. Holding times can be calculated from dates reported in the body of the report. Tests clearly exceeding holding times will be noted when sufficient information is provided.
Reference: USEPA SW846 and AMDEL SPM-01 (incorporating NEPM Guidelines).

Chain of Custody and Sample Integrity

	<u>Yes/No/NA</u>
Chain of Custody / instructions received with samples	Yes
Custody seals were received intact, if used	NA
Samples were received chilled and in good condition	Yes
Samples received appropriately preserved for all tests	Yes
VOC/SVOC samples were received in teflon lined containers	NA
Samples received with Zero Headspace	NA
Chain of Custody completed and attached (if applicable)	Yes

Chromatography Calibration/Acceptance Criteria (if applicable)

Retention time window meets acceptance criteria (+/-2%)	NA
Reference standard meets acceptance criteria (+/-10%)	NA
Recalibration standard meets acceptance criteria (+/-15%)	NA
Internal standard recovery acceptable.	NA

AMDEL INTERNAL QUALITY ASSURANCE REVIEW Cont..

Page 2

Amdel QA/QC Compliance Assessment

Compliance

Surrogates performed on all appropriate GC analyses and meet acceptance limits (70% - 130% recovery*).

Please see body of report

Matrix Spikes performed once per process batch and at least 1 in 20 samples (Results meet acceptance limits - 70% - 130% recovery* or 80% - 120% recovery* for inorganics in water.)

Please see body of report

Laboratory Control samples performed once per process batch and at least 1 in 20 samples (Results meet acceptance limits - 70% - 130% recovery* in soil or 70%-130%/90-110% recovery* for waters.)

Yes

Laboratory Duplicate samples performed once per process batch and at least 1 in 10 samples

NA

Laboratory duplicates meet acceptance criteria
 < 4 PQL - +/- 2 PQL
 4-10 PQL - 0-25 or 50% RPD
 > 10 PQL - 0-10 or 30% RPD

Please see body of report

Method Blanks performed once per process batch and at least 1 in 20 samples (Results not detected at the PQL).

Yes

N/A = Not Applicable.

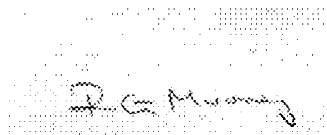
- * Phenols 50% - 130% recovery
- * SVOCs 60% - 130% recovery
- * Phenoxy Acid Herbicides 60% - 140% recovery

QA/QC Appendix

Please refer to the following pages for the QA/QC data.

For further information on samples or non-conformance in QC protocols please see notations in the body of the report plus comments on the following page.

Additional Comments



R. Mooney B.Sc.(Hons) Dip. FDA
Technical Services Manager Sydney

AMDEL STANDARD LABORATORY QUALIFIER CODES.

Page 3

Job NO. 2E1316

General

<u>Qualifier Codes</u>	<u>Description</u>
*	PQLs are raised due to matrix interference.
@	PQLs are raised due to the insufficient sample.
\$	The mass imbalance indicates the presence of other ions not measured as part of this procedure.
&	Surrogate recoveries could not be determined due to the dilution required to quantify the analyte.
IS	Insufficient sample was supplied to conduct this analysis.
nd	< PQL
--	Not applicable
LNR	Sample listed on the COC, but not received.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a 'tentative' identification.
NJ	The analysis indicates the presences of an analyte that has been 'tentatively' identified, and the associated numerical value represents it's approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The presence or absence of the analyte cannot be verified.
#	The matrix spike concentration is significantly less than the sample analyte concentration, thus spike recovery can not be accurately determined.
**	The surrogate recovery is outside of the recommended acceptance criteria, due to matrix interference.
***	The surrogate recovery is outside of the recommended acceptance criteria. Insufficient sample to perform confirmation.
A	The spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
B	The duplicate %RPD is outside the recommended acceptance criteria. Further analysis indicates sample heterogeneity.
C	The sample was not received in a suitable timeframe to allow completion within the recommended holding time.
O	The results reported are 'recoverable organics' for this fraction, as the chromatogram and peak shape indicates the presence of a significant concentration of polar compounds.
P	The concentration reported is mainly due to a single peak.
ISM	Insufficient sample was supplied to conduct matrix spike analysis.
ISD	Insufficient sample was supplied to conduct duplicate analysis.
M	The sample was received with the incorrect preservation for this analysis.
S	The sample contained significant amounts of sediment. Sample aliquots have been taken via decanting in an attempt to avoid including sediment in the analysis portion.
K	The raw data indicates the absence of 0.055g of Copper Sulphate in the sample.
L	Theoretically the TKN result should be greater or equal to ammonia concentration. However the difference reported is within the uncertainty of the individual tests.
D	Theoretically the total result should be greater or equal to the dissolved concentration. However the difference reported is within the uncertainty of the individual tests.
I	During Kjeldahl digestion, nitrate (> 10mg/L) can oxidise ammonia resulting in a negative TKN interference.
E	The mass imbalance was equal to or less than 0.2 milli-equivalents.
F	Samples results are reported on an 'as received' basis.
H	This sample was received with headspace (see first analyte notation).
T	This test was performed outside the recommended holding time
G	Samples contain volatile halogenated oxygenated or other compounds that are not quantitated as part of C6-9.
J	Results expressed in mg/L (ppm) due to the high concentration of the analyte.



Job Number : 2E1316

Page 1 of 2

QAQC : Laboratory Control Sample(s)

Analyte	Level	Level	Detected		Recovery Details		
		Result1	Result2	Result3	Rec 1 (%)	Rec 2 (%)	Rec 3 (%)
E5910 Metals in Soil							
Arsenic	50	47			95%		
Cadmium	50	51			102%		
Cobalt	50	51			102%		
Chromium	50	51			102%		
Copper	50	47			94%		
Manganese	50	53			107%		
Nickel	50	45			89%		
Lead	50	49			99%		
Zinc	50	47			93%		
E5950 Mercury in Soil							
Mercury	0.50	0.49			98%		

PQL = Practical Quantitation Limit
-- = Not Applicable
nd = < PQL

(S) Soils : mg/kg (ppm) dry weight
(W) Waters : mg/L (ppm) unless otherwise specified



Job Number : 2E1316

Page 2 of 2

QAQC : Method Blank(s)

ANALYTE	Sample ID PQL	Blank1	Blank2	Blank3	Blank4	Blank5
E5910 Metals in Soil						
Arsenic	5	nd				
Cadmium	0.5	nd				
Cobalt	5	nd				
Chromium	5	nd				
Copper	5	nd				
Manganese	5	nd				
Nickel	2	nd				
Lead	5	nd				
Zinc	5	nd				
E5950 Mercury in Soil						
Mercury	0.05	nd				

PQL = Practical Quantitation Limit
nd = < PQL
-- = Not Applicable

(S) Soils : mg/kg (ppm) dry weight
(W) Waters : mg/L (ppm) unless otherwise specified



Environmental Infrastructure
ACT 029 001 796

White Page - Laboratory Copy
Yellow Page - Project File Copy
Pink Page - Remains in Book

Please deliver the goods and/or services to the office indicated:
☒ Adelaide
101 Princes Street, Adelaide SA 5000
Tel: (08) 6465 6000 Fax: (08) 6465 4411

☒ Brisbane
348 Edward Street, Brisbane QLD 4000
Tel: (07) 3019 2200 Fax: (07) 3019 4000
☒ Melbourne
44 Ararat Road, 5041 Melbourne VIC 3005
Tel: (03) 9497 2800 Fax: (03) 9497 3504

☒ Perth
97 Boundary Road, Perth WA 6000
Tel: (08) 9442 6600 Fax: (08) 9442 6647
☒ Sydney
97 Boundary Road, NSW 2130
Tel: (02) 9243 0333 Fax: (02) 9243 1500

Chain of Custody

Order No: 8768

Job Title: Honeyuckle ESA -

Laboratory Name: Amel.

Address: Kelray St, Asquith

Fax Number: 02-94821734

Phone Number: 02-94821922

Contact Name: David Springer

Delivery Method: Courier

Quote Number: PPK-National

PPK Job Number: 2122128A

Job Location: Honeyuckle

Project Manager: S Duvenekx

Results Expected by/on: 7-5-02

Fax Results to: S Duvenekx

Fax Number: 09242299

Phone Number: 44193900

Spreadsheet of Results Required: Excel

Format: Excel

Turnaround Time Required: 5 days

Invoice to: S Duvenekx (PPK New)

Comments:

Initials: K-S

Comments/Additional Information and/or Analysis Required

Metals

Date Sampled: 26/4

Time: 0624h

Sample ID: FT/TP9/MTA/AR

Container Size: 44

Sample Location: 14 BHS 2nd Fl. Sec

Medium*: S

Preservative Type: S

Filtered (X): S

TPH: S

BTEX: S

PAH's: S

OC/OR/PCB's: S

Metals**: S

Received in Good Order & Condition by (Name): MARR SENT

Date & Time: 26/4/02 3:30pm

Company: AMEL (NATIONAL)

Signature: [Signature]

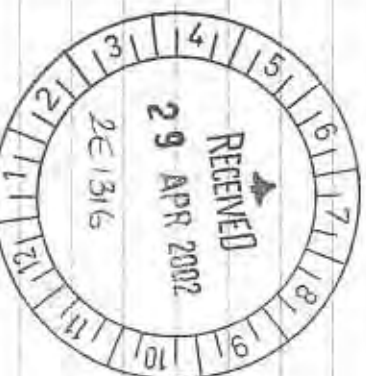
Received in Good Order & Condition by (Name): R. Silvestri

Date & Time: 29/4 7am

Company: Amel NSW

Signature: [Signature]

Received in Good Order & Condition by (Name): [Name]



Medium*: S = Soil, W = Water, V = Vapour

Legend*: (circle the following to be tested)

Metals: Al (AS) Be (B) Cd (C) Cr (CR) Cu (CU) Fe (F) Hg (H) Li (L) Mg (M) Ni (N) Pb (P) Se (S) Sn (SN) V (V) Zn (Z)

Samples on Ice: ☒ Yes ☐ No

Please fax back a signed copy when samples are received at the laboratory



Envirolab Services Pty Ltd

ABN 37 112 535 645

54 Frenchs Rd Willoughby NSW 2068

ph 02 9958 5801 fax 02 9958 5803

email: tnotaras@envirolabservices.com.au

CERTIFICATE OF ANALYSIS 10308-B

Client:

JBS Environmental

P.O. Box 940

MASCOT

NSW 1460

Attention: Cathy Roberts

Sample log in details:

Your Reference:

40184, Honeysuckle ESA (Lee 4)

No. of samples:

66 Soils

Date samples received:

23/03/07

Date completed instructions received:

26/03/07

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:

2/04/07

Date of Preliminary Report:

Not Issued

Issue Date:

2/04/07

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

This document is issued in accordance with NATA's accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:

Tania Notaras
Manager

David Springer
Business Development & Quality Manager

Envirolab Reference: 10308-B
Revision No: R 00



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vTPH & BTEX in Soil						
Our Reference:	UNITS	10308-B-35	10308-B-43	10308-B-52	10308-B-58	10308-B-61
Your Reference	-----	L4MW07/2	L4MW07/1	L4SB15	L4SB14	L4SB14
Depth	-----	0.1	0.1	0.1	0.1	1.0
Date Sampled		21/03/07	22/03/07	22/03/07	22/03/07	22/03/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	--	28/03/2007	28/03/2007	28/03/2007	28/03/2007	28/03/2007
Date analysed	--	29/03/2007	29/03/2007	29/03/2007	29/03/2007	29/03/2007
vTPH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
m + p-Xylene	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	81	72	82	84	79

vTPH & BTEX in Soil						
Our Reference:	UNITS	10308-B-65	10308-B-67	10308-B-70	10308-B-73	10308-B-80
Your Reference	-----	L4SB13	L4SB13	L4SB12	L4SB12	L4SB8
Depth	-----	0.2	1.0	0.1	1.0	1.0
Date Sampled		22/03/07	22/03/07	22/03/07	22/03/07	23/03/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	--	28/03/2007	28/03/2007	28/03/2007	28/03/2007	28/03/2007
Date analysed	--	29/03/2007	29/03/2007	29/03/2007	29/03/2007	29/03/2007
vTPH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
m + p-Xylene	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	85	71	80	71	81

vTPH & BTEX in Soil				
Our Reference:	UNITS	10308-B-86	10308-B-88	10308-B-132
Your Reference	-----	L4SB7	L4SB7	QA8
Depth	-----	0.3	1.0	-
Date Sampled		23/03/07	23/03/07	22/03/07
Type of sample		Soil	Soil	Soil
Date extracted	--	28/03/2007	28/03/2007	28/03/2007
Date analysed	--	29/03/2007	29/03/2007	29/03/2007
vTPH C ₆ - C ₉	mg/kg	<25	<25	<25
Benzene	mg/kg	<1.0	<1.0	<1.0
Toluene	mg/kg	<1.0	<1.0	<1.0
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0
m + p-Xylene	mg/kg	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	76	72	86

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	10308-B-35	10308-B-43	10308-B-52	10308-B-58	10308-B-61
Your Reference	-----	L4MW07/2	L4MW07/1	L4SB15	L4SB14	L4SB14
Depth	-----	0.1	0.1	0.1	0.1	1.0
Date Sampled		21/03/07	22/03/07	22/03/07	22/03/07	22/03/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	--	28/03/2007	28/03/2007	28/03/2007	28/03/2007	28/03/2007
Date analysed	--	29/03/2007	29/03/2007	29/03/2007	29/03/2007	29/03/2007
TPH C10 - C14	mg/kg	<100	<50	620	<100	<50
TPH C15 - C28	mg/kg	1,600	160	5,800	4,900	<100
TPH C29 - C36	mg/kg	1,200	150	2,700	2,200	<100
Surrogate o-Terphenyl	%	#	80	#	#	85

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	10308-B-65	10308-B-67	10308-B-70	10308-B-73	10308-B-80
Your Reference	-----	L4SB13	L4SB13	L4SB12	L4SB12	L4SB8
Depth	-----	0.2	1.0	0.1	1.0	1.0
Date Sampled		22/03/07	22/03/07	22/03/07	22/03/07	23/03/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	--	28/03/2007	28/03/2007	28/03/2007	28/03/2007	28/03/2007
Date analysed	--	29/03/2007	29/03/2007	29/03/2007	29/03/2007	29/03/2007
TPH C10 - C14	mg/kg	<50	<50	<50	<50	<50
TPH C15 - C28	mg/kg	150	<100	<100	<100	<100
TPH C29 - C36	mg/kg	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	84	81	82	80	78

sTPH in Soil (C10-C36)				
Our Reference:	UNITS	10308-B-86	10308-B-88	10308-B-132
Your Reference	-----	L4SB7	L4SB7	QA8
Depth	-----	0.3	1.0	-
Date Sampled		23/03/07	23/03/07	22/03/07
Type of sample		Soil	Soil	Soil
Date extracted	--	28/03/2007	28/03/2007	28/03/2007
Date analysed	--	29/03/2007	29/03/2007	29/03/2007
TPH C10 - C14	mg/kg	<50	<50	<50
TPH C15 - C28	mg/kg	120	<100	<100
TPH C29 - C36	mg/kg	<100	<100	<100
Surrogate o-Terphenyl	%	81	80	75

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	10308-B-35 L4MW07/2 0.1 21/03/07 Soil	10308-B-43 L4MW07/1 0.1 22/03/07 Soil	10308-B-44 L4SB6 0.1 22/03/07 Soil	10308-B-48 L4SB6 1.5 22/03/07 Soil	10308-B-52 L4SB15 0.1 22/03/07 Soil
Date extracted	--	28/03/2007	28/03/2007	28/03/2007	28/03/2007	28/03/2007
Date analysed	--	29/03/2007	29/03/2007	29/03/2007	29/03/2007	29/03/2007
Naphthalene	mg/kg	66	0.1	0.8	2.9	730
Acenaphthylene	mg/kg	5.0	0.3	1.4	8.9	25
Acenaphthene	mg/kg	5.0	1.2	18	7.9	46
Fluorene	mg/kg	3.7	0.5	9.9	7.5	86
Phenanthrene	mg/kg	260	9.9	120	92	1,700
Anthracene	mg/kg	26	3.1	40	23	200
Fluoranthene	mg/kg	200	35	260	240	1,500
Pyrene	mg/kg	170	31	210	200	1,300
Benzo(a)anthracene	mg/kg	37	12	83	79	290
Chrysene	mg/kg	43	12	75	71	280
Benzo(b,k)fluoranthene	mg/kg	70	23	130	120	480
Benzo(a)pyrene	mg/kg	47	15	83	78	310
Indeno(1,2,3-c,d)pyrene	mg/kg	36	9.0	46	42	210
Dibenzo(a,h)anthracene	mg/kg	4.6	1.2	5.7	6.1	30
Benzo(g,h,i)perylene	mg/kg	36	7.6	36	34	190
Surrogate p-Terphenyl-d14	%	67	86	86	83	95

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	10308-B-58 L4SB14 0.1 22/03/07 Soil	10308-B-61 L4SB14 1.0 22/03/07 Soil	10308-B-65 L4SB13 0.2 22/03/07 Soil	10308-B-67 L4SB13 1.0 22/03/07 Soil	10308-B-70 L4SB12 0.1 22/03/07 Soil
Date extracted	--	28/03/2007	28/03/2007	28/03/2007	28/03/2007	28/03/2007
Date analysed	--	29/03/2007	29/03/2007	29/03/2007	29/03/2007	29/03/2007
Naphthalene	mg/kg	480	1.2	0.1	<0.1	<0.1
Acenaphthylene	mg/kg	23	0.2	0.4	<0.1	<0.1
Acenaphthene	mg/kg	48	0.3	<0.1	<0.1	<0.1
Fluorene	mg/kg	140	0.4	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	1,400	8.0	1.6	0.5	0.3
Anthracene	mg/kg	210	1.2	0.3	<0.1	<0.1
Fluoranthene	mg/kg	1,200	8.7	6.3	1.8	1.4
Pyrene	mg/kg	1,100	7.8	6.2	1.7	1.4
Benzo(a)anthracene	mg/kg	230	1.9	1.8	0.5	0.6
Chrysene	mg/kg	220	2.0	2.0	0.6	0.7
Benzo(b,k)fluoranthene	mg/kg	370	3.4	4.1	1.2	1.3
Benzo(a)pyrene	mg/kg	280	2.2	2.8	0.8	0.8
Indeno(1,2,3-c,d)pyrene	mg/kg	180	1.4	1.8	0.5	0.4
Dibenzo(a,h)anthracene	mg/kg	21	0.2	0.2	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	150	1.2	1.7	0.5	0.4
Surrogate p-Terphenyl-d14	%	86	84	81	85	87

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	10308-B-73 L4SB12 1.0 22/03/07 Soil	10308-B-80 L4SB8 1.0 23/03/07 Soil	10308-B-86 L4SB7 0.3 23/03/07 Soil	10308-B-88 L4SB7 1.0 23/03/07 Soil	10308-B-132 QA8 - 22/03/07 Soil
Date extracted	--	28/03/2007	28/03/2007	28/03/2007	28/03/2007	28/03/2007
Date analysed	--	29/03/2007	29/03/2007	29/03/2007	29/03/2007	29/03/2007
Naphthalene	mg/kg	<0.1	<0.1	2.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	0.6	<0.1	0.1
Acenaphthene	mg/kg	<0.1	<0.1	1.3	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	1.0	<0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1	6.7	0.1	0.6
Anthracene	mg/kg	<0.1	<0.1	2.2	<0.1	0.1
Fluoranthene	mg/kg	0.4	0.1	21	0.3	2.4
Pyrene	mg/kg	0.4	<0.1	18	0.2	2.4
Benzo(a)anthracene	mg/kg	0.2	<0.1	7.3	0.1	0.7
Chrysene	mg/kg	0.2	<0.1	6.9	0.1	0.8
Benzo(b,k)fluoranthene	mg/kg	0.3	<0.2	12	<0.2	1.6
Benzo(a)pyrene	mg/kg	0.2	<0.05	7.3	0.1	1.1
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	<0.1	4.2	<0.1	0.7
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	0.7	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	0.1	<0.1	3.1	<0.1	0.7
Surrogate p-Terphenyl-d14	%	87	85	86	84	85

Acid Extractable metals in soil	UNITS	10308-B-43	10308-B-44	10308-B-48	10308-B-70	10308-B-73
Our Reference:	-----	L4MW07/1	L4SB6	L4SB6	L4SB12	L4SB12
Your Reference	-----	0.1	0.1	1.5	0.1	1.0
Depth		22/03/07	22/03/07	22/03/07	22/03/07	22/03/07
Date Sampled		Soil	Soil	Soil	Soil	Soil
Type of sample						
Arsenic	mg/kg	4.0	4.0	<4.0	<4.0	<4.0
Cadmium	mg/kg	<1.0	4.0	<1.0	<1.0	<1.0
Chromium	mg/kg	11	190	10	100	3.0
Copper	mg/kg	9.9	13	12	16	2.1
Lead	mg/kg	14	16	11	18	2.6
Mercury	mg/kg	<0.10	0.11	<0.10	<0.10	<0.10
Nickel	mg/kg	4.6	3.7	6.2	4.1	<1.0
Zinc	mg/kg	98	1,200	44	65	10
Manganese	mg/kg	3,300	15,000	550	16,000	510

Acid Extractable metals in soil	UNITS	10308-B-80	10308-B-86	10308-B-88
Our Reference:	-----	L4SB8	L4SB7	L4SB7
Your Reference	-----	1.0	0.3	1.0
Depth		23/03/07	23/03/07	23/03/07
Date Sampled		Soil	Soil	Soil
Type of sample				
Arsenic	mg/kg	<4.0	10	<4.0
Cadmium	mg/kg	<1.0	5.3	<1.0
Chromium	mg/kg	1.6	19	1.5
Copper	mg/kg	<1.0	44	1.6
Lead	mg/kg	<1.0	63	2.2
Mercury	mg/kg	<0.10	0.12	<0.10
Nickel	mg/kg	<1.0	31	1.2
Zinc	mg/kg	2.4	1,500	17
Manganese	mg/kg	8.9	1,800	36

Miscellaneous Inorg - soil		
Our Reference:	UNITS	10308-B-88
Your Reference	-----	L4SB7
Depth	-----	1.0
Date Sampled		23/03/07
Type of sample		Soil
pH 1:5 soil:water	pH Units	8.9

Moisture						
Our Reference:	UNITS	10308-B-35	10308-B-43	10308-B-44	10308-B-48	10308-B-52
Your Reference	-----	L4MW07/2	L4MW07/1	L4SB6	L4SB6	L4SB15
Depth	-----	0.1	0.1	0.1	1.5	0.1
Date Sampled		21/03/07	22/03/07	22/03/07	22/03/07	22/03/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Moisture	%	6.2	6.7	5.3	8.7	3.8

Moisture						
Our Reference:	UNITS	10308-B-58	10308-B-61	10308-B-65	10308-B-67	10308-B-70
Your Reference	-----	L4SB14	L4SB14	L4SB13	L4SB13	L4SB12
Depth	-----	0.1	1.0	0.2	1.0	0.1
Date Sampled		22/03/07	22/03/07	22/03/07	22/03/07	22/03/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Moisture	%	1.9	3.1	4.0	4.6	4.9

Moisture						
Our Reference:	UNITS	10308-B-73	10308-B-80	10308-B-86	10308-B-88	10308-B-132
Your Reference	-----	L4SB12	L4SB8	L4SB7	L4SB7	QA8
Depth	-----	1.0	1.0	0.3	1.0	-
Date Sampled		22/03/07	23/03/07	23/03/07	23/03/07	22/03/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Moisture	%	4.1	6.4	6.5	4.9	4.3

Asbestos ID - soils				
Our Reference:	UNITS	10308-B-43	10308-B-70	10308-B-85
Your Reference	-----	L4MW07/1	L4SB12	L4SB7
Depth	-----	0.1	0.1	0.1
Date Sampled		22/03/07	22/03/07	23/03/07
Type of sample		Soil	Soil	Soil
Sample Description	-	40g sand, rocks	40g sand, rocks	40g sand, rocks
Asbestos ID in soil	--	No asbestos detected	No asbestos detected	No asbestos detected
Trace Analysis	--	Respirable fibres not detected	Respirable fibres not detected	Respirable fibres not detected

Metals in TCLP			
Our Reference:	UNITS	10308-B-58	10308-B-70
Your Reference	-----	L4SB14	L4SB12
Depth	-----	0.1	0.1
Date Sampled		22/03/07	22/03/07
Type of sample		Soil	Soil
pH of soil for fluid# determ.	pH units	7.80	8.10
pH of soil for fluid # determ. (acid)	pH units	2.70	2.00
Extraction fluid used	-	1	1
pH of final Leachate	pH units	5.00	6.00
Arsenic in TCLP	mg/L	[NA]	<0.05
Cadmium in TCLP	mg/L	[NA]	<0.01
Chromium in TCLP	mg/L	[NA]	<0.01
Copper in TCLP	mg/L	[NA]	<0.01
Lead in TCLP	mg/L	[NA]	<0.03
Mercury in TCLP	mg/L	[NA]	<0.0005
Nickel in TCLP	mg/L	[NA]	<0.02
Zinc in TCLP	mg/L	[NA]	0.13
Manganese in TCLP	mg/L	[NA]	68

Metals in water leach			
Our Reference:	UNITS	10308-B-58	10308-B-70
Your Reference	-----	L4SB14	L4SB12
Depth	-----	0.1	0.1
Date Sampled		22/03/07	22/03/07
Type of sample		Soil	Soil
pH of final Leachate	pH units	7.20	9.00
Arsenic in TCLP - bottle	mg/L	[NA]	<0.05
Cadmium in TCLP - bottle	mg/L	[NA]	<0.01
Chromium in TCLP - bottle	mg/L	[NA]	<0.01
Copper in TCLP - bottle	mg/L	[NA]	<0.01
Lead in TCLP - bottle	mg/L	[NA]	<0.03
Mercury in TCLP - bottle	mg/L	[NA]	<0.0005
Nickel in TCLP - bottle	mg/L	[NA]	<0.02
Zinc in TCLP - bottle	mg/L	[NA]	<0.02
Manganese in TCLP - bottle	mg/L	[NA]	0.23

PAHs in TCLP (USEPA 1311)			
Our Reference:	UNITS	10308-B-58	10308-B-70
Your Reference	-----	L4SB14	L4SB12
Depth	-----	0.1	0.1
Date Sampled		22/03/07	22/03/07
Type of sample		Soil	Soil
Date extracted	--	30/03/2007	30/03/2007
Date analysed	--	30/03/2007	30/03/2007
Naphthalene	mg/L	0.95	<0.001
Acenaphthylene	mg/L	<0.001	<0.001
Acenaphthene	mg/L	0.013	<0.001
Fluorene	mg/L	0.020	<0.001
Phenanthrene	mg/L	0.12	<0.001
Anthracene	mg/L	0.003	<0.001
Fluoranthene	mg/L	0.024	<0.001
Pyrene	mg/L	0.018	<0.001
Benzo(a)anthracene	mg/L	0.001	<0.001
Chrysene	mg/L	0.001	<0.001
Benzo(b,k)fluoranthene	mg/L	<0.002	<0.002
Benzo(a)pyrene	mg/L	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene	mg/L	<0.001	<0.001
Dibenzo(a,h)anthracene	mg/L	<0.001	<0.001
Benzo(g,h,i)perylene	mg/L	<0.001	<0.001
Surrogate p-Terphenyl-d14	%	90	98

PAHs in water leach Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	10308-B-58 L4SB14 0.1 22/03/07 Soil	10308-B-70 L4SB12 0.1 22/03/07 Soil
Date extracted	--	30/03/2007	30/03/2007
Date analysed	--	30/03/2007	30/03/2007
Naphthalene	mg/L	0.80	<0.001
Acenaphthylene	mg/L	<0.001	<0.001
Acenaphthene	mg/L	0.010	<0.001
Fluorene	mg/L	0.013	<0.001
Phenanthrene	mg/L	0.073	<0.001
Anthracene	mg/L	0.003	<0.001
Fluoranthene	mg/L	0.013	<0.001
Pyrene	mg/L	0.009	<0.001
Benzo(a)anthracene	mg/L	<0.001	<0.001
Chrysene	mg/L	<0.001	<0.001
Benzo(b,k)fluoranthene	mg/L	<0.002	<0.002
Benzo(a)pyrene	mg/L	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene	mg/L	<0.001	<0.001
Dibenzo(a,h)anthracene	mg/L	<0.001	<0.001
Benzo(g,h,i)perylene	mg/L	<0.001	<0.001
Surrogate p-Terphenyl-d14	%	95	93

Method ID	Methodology Summary
GC.16	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.
GC.14	Soil samples extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
GC.3	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.
GC.12	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Metals.20	Determination of various metals by ICP-AES.
Metals.21	Determination of Mercury by Cold Vapour AAS.
LAB.1	pH - Measured using pH meter and electrode in accordance with APHA 20th ED, 4500-H+.
LAB.8	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.
ASB.1	Qualitative identification of asbestos type fibres in bulk using Polarised Light Microscopy and Dispersion Staining Techniques.
EXTRACT.7	Toxicity Characteristic Leaching Procedure (TCLP).

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTPH & BTEX in Soil						Base II Duplicate II %RPD		
Date extracted	--			[NT]	10308-B-35	28/03/2007 28/03/2007	[NR]	[NR]
Date analysed	--			[NT]	10308-B-35	29/03/2007 29/03/2007	[NR]	[NR]
vTPH C ₆ - C ₉	mg/kg	25	GC.16	<25	10308-B-35	<25 <25	LCS	104%
Benzene	mg/kg	1	GC.14	<1.0	10308-B-35	<1.0 <1.0	LCS	121%
Toluene	mg/kg	1	GC.14	<1.0	10308-B-35	<1.0 <1.0	LCS	90%
Ethylbenzene	mg/kg	1	GC.14	<1.0	10308-B-35	<1.0 <1.0	LCS	102%
m + p-Xylene	mg/kg	2	GC.14	<2.0	10308-B-35	<2.0 <2.0	LCS	105%
o-Xylene	mg/kg	1	GC.14	<1.0	10308-B-35	<1.0 <1.0	LCS	104%
Surrogate aaa-Trifluorotoluene	%		GC.14	[NT]	10308-B-35	81 78 RPD: 4	LCS	88%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
sTPH in Soil (C10-C36)						Base II Duplicate II %RPD		
Date extracted	--			[NT]	10308-B-35	28/03/2007 28/03/2007	[NR]	[NR]
Date analysed	--			[NT]	10308-B-35	29/03/2007 29/03/2007	[NR]	[NR]
TPH C ₁₀ - C ₁₄	mg/kg	50	GC.3	<50	10308-B-35	<100 <100	LCS	87%
TPH C ₁₅ - C ₂₈	mg/kg	100	GC.3	<100	10308-B-35	1600 1400 RPD: 13	LCS	74%
TPH C ₂₉ - C ₃₆	mg/kg	100	GC.3	<100	10308-B-35	1200 1300 RPD: 8	LCS	118%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	--			[NT]	10308-B-35	28/03/2007 28/03/2007	[NR]	[NR]
Date analysed	--			[NT]	10308-B-35	29/03/2007 29/03/2007	[NR]	[NR]
Naphthalene	mg/kg	0.1	GC.12	<0.1	10308-B-35	66 79 RPD: 18	LCS	94%
Acenaphthylene	mg/kg	0.1	GC.12	<0.1	10308-B-35	5.0 5.2 RPD: 4	[NR]	[NR]
Acenaphthene	mg/kg	0.1	GC.12	<0.1	10308-B-35	5.0 5.5 RPD: 10	[NR]	[NR]
Fluorene	mg/kg	0.1	GC.12	<0.1	10308-B-35	3.7 4.0 RPD: 8	LCS	90%
Phenanthrene	mg/kg	0.1	GC.12	<0.1	10308-B-35	260 300 RPD: 14	LCS	85%
Anthracene	mg/kg	0.1	GC.12	<0.1	10308-B-35	26 28 RPD: 7	[NR]	[NR]
Fluoranthene	mg/kg	0.1	GC.12	<0.1	10308-B-35	200 220 RPD: 10	LCS	98%
Pyrene	mg/kg	0.1	GC.12	<0.1	10308-B-35	170 190 RPD: 11	LCS	94%
Benzo(a)anthracene	mg/kg	0.1	GC.12	<0.1	10308-B-35	37 41 RPD: 10	[NR]	[NR]
Chrysene	mg/kg	0.1	GC.12	<0.1	10308-B-35	43 46 RPD: 7	LCS	95%
Benzo(b,k)fluoranthene	mg/kg	0.2	GC.12	<0.2	10308-B-35	70 76 RPD: 8	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	GC.12	<0.05	10308-B-35	47 49 RPD: 4	LCS	80%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	GC.12	<0.1	10308-B-35	36 37 RPD: 3	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	GC.12	<0.1	10308-B-35	4.6 4.7 RPD: 2	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	GC.12	<0.1	10308-B-35	36 35 RPD: 3	[NR]	[NR]
Surrogate p-Terphenyl-d ₁₄	%		GC.12	[NT]	10308-B-35	67 77 RPD: 14	LCS	84%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil						Base II Duplicate II %RPD		
Arsenic	mg/kg	4	Metals.20	<4.0	[NT]	[NT]	LCS	97%
Cadmium	mg/kg	1	Metals.20	<1.0	[NT]	[NT]	LCS	98%
Chromium	mg/kg	1	Metals.20	<1.0	[NT]	[NT]	LCS	102%
Copper	mg/kg	1	Metals.20	<1.0	[NT]	[NT]	LCS	100%
Lead	mg/kg	1	Metals.20	<1.0	[NT]	[NT]	LCS	99%
Mercury	mg/kg	0.1	Metals.21	<0.10	[NT]	[NT]	LCS	92%
Nickel	mg/kg	1	Metals.20	<1.0	[NT]	[NT]	LCS	100%
Zinc	mg/kg	1	Metals.20	<1.0	[NT]	[NT]	LCS	100%
Manganese	mg/kg	1	Metals.20	<1.0	[NT]	[NT]	LCS	101%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Miscellaneous Inorg - soil						Base II Duplicate II %RPD		
pH 1:5 soil:water	pH Units		LAB.1	[NT]	10308-B-88	8.9 8.7 RPD: 2	LCS	99%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results		
Moisture						Base II Duplicate II %RPD		
Moisture	%	0.1	LAB.8	<0.10	10308-B-35	6.2 6.2 RPD: 0		
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Metals in TCLP						Base II Duplicate II %RPD		
Arsenic in TCLP	mg/L	0.05	Metals.20	<0.05	[NT]	[NT]	LCS	105%
Cadmium in TCLP	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	98%
Chromium in TCLP	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	99%
Copper in TCLP	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	99%
Lead in TCLP	mg/L	0.03	Metals.20	<0.03	[NT]	[NT]	LCS	96%
Mercury in TCLP	mg/L	0.0005	Metals.21	<0.0005	[NT]	[NT]	LCS	95%
Nickel in TCLP	mg/L	0.02	Metals.20	<0.02	[NT]	[NT]	LCS	98%
Zinc in TCLP	mg/L	0.02	Metals.20	<0.02	[NT]	[NT]	LCS	101%
Manganese in TCLP	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	98%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Metals in water leach						Base II Duplicate II %RPD		
Arsenic in TCLP - bottle	mg/L	0.05	Metals.20	<0.05	[NT]	[NT]	LCS	96%
Cadmium in TCLP - bottle	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	98%
Chromium in TCLP - bottle	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	100%
Copper in TCLP - bottle	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	101%
Lead in TCLP - bottle	mg/L	0.03	Metals.20	<0.03	[NT]	[NT]	LCS	99%
Mercury in TCLP - bottle	mg/L	0.0005	Metals.21	<0.0005	[NT]	[NT]	LCS	98%
Nickel in TCLP - bottle	mg/L	0.02	Metals.20	<0.02	[NT]	[NT]	LCS	100%
Zinc in TCLP - bottle	mg/L	0.02	Metals.20	<0.02	[NT]	[NT]	LCS	100%
Manganese in TCLP - bottle	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	100%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in TCLP (USEPA 1311)						Base II Duplicate II %RPD		
Date extracted	--			[NT]	[NT]	[NT]	[NR]	[NR]
Date analysed	--			[NT]	[NT]	[NT]	[NR]	[NR]
Naphthalene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	86%
Acenaphthylene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	85%
Phenanthrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	77%
Anthracene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	91%
Pyrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	90%
Benzo(a)anthracene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	92%
Benzo(b,k)fluoranthene	mg/L	0.002	GC.12	<0.002	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	93%
Indeno(1,2,3-c,d)pyrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		GC.12	[NT]	[NT]	[NT]	LCS	96%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in water leach						Base II Duplicate II %RPD		
Date extracted	--			[NT]	[NT]	[NT]	[NR]	[NR]
Date analysed	--			[NT]	[NT]	[NT]	[NR]	[NR]
Naphthalene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	86%
Acenaphthylene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	85%
Phenanthrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	77%
Anthracene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	91%
Pyrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	90%
Benzo(a)anthracene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	92%
Benzo(b,k)fluoranthene	mg/L	0.002	GC.12	<0.002	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	93%
Indeno(1,2,3-c,d)pyrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		GC.12	[NT]	[NT]	[NT]	LCS	96%

QUALITY CONTROL vTPH & BTEX in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	--	10308-B-73	28/03/2007 28/03/2007	[NR]	[NR]
Date analysed	--	10308-B-73	29/03/2007 29/03/2007	[NR]	[NR]
vTPH C ₆ - C ₉	mg/kg	10308-B-73	<25 <25	10308-B-43	95%
Benzene	mg/kg	10308-B-73	<1.0 <1.0	10308-B-43	102%
Toluene	mg/kg	10308-B-73	<1.0 <1.0	10308-B-43	77%
Ethylbenzene	mg/kg	10308-B-73	<1.0 <1.0	10308-B-43	97%
m + p-Xylene	mg/kg	10308-B-73	<2.0 <2.0	10308-B-43	98%
o-Xylene	mg/kg	10308-B-73	<1.0 <1.0	10308-B-43	99%
Surrogate aaa-Trifluorotoluene	%	10308-B-73	71 75 RPD: 5	10308-B-43	72%
QUALITY CONTROL sTPH in Soil (C ₁₀ -C ₃₆)	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	--	[NT]	[NT]	[NR]	[NR]
Date analysed	--	[NT]	[NT]	[NR]	[NR]
TPH C ₁₀ - C ₁₄	mg/kg	[NT]	[NT]	10308-B-43	91%
TPH C ₁₅ - C ₂₈	mg/kg	[NT]	[NT]	10308-B-43	126%
TPH C ₂₉ - C ₃₆	mg/kg	[NT]	[NT]	10308-B-43	#
QUALITY CONTROL PAHs in Soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date extracted	--	10308-B-73	28/03/2007 28/03/2007	[NR]	[NR]
Date analysed	--	10308-B-73	29/03/2007 29/03/2007	[NR]	[NR]
Naphthalene	mg/kg	10308-B-73	<0.1 <0.1	10308-B-43	93%
Acenaphthylene	mg/kg	10308-B-73	<0.1 <0.1	[NR]	[NR]
Acenaphthene	mg/kg	10308-B-73	<0.1 <0.1	[NR]	[NR]
Fluorene	mg/kg	10308-B-73	<0.1 <0.1	10308-B-43	85%
Phenanthrene	mg/kg	10308-B-73	0.1 <0.1	10308-B-43	#
Anthracene	mg/kg	10308-B-73	<0.1 <0.1	[NR]	[NR]
Fluoranthene	mg/kg	10308-B-73	0.4 0.4 RPD: 0	10308-B-43	#
Pyrene	mg/kg	10308-B-73	0.4 0.4 RPD: 0	10308-B-43	#
Benzo(a)anthracene	mg/kg	10308-B-73	0.2 0.2 RPD: 0	[NR]	[NR]
Chrysene	mg/kg	10308-B-73	0.2 0.2 RPD: 0	10308-B-43	#
Benzo(b,k)fluoranthene	mg/kg	10308-B-73	0.3 0.3 RPD: 0	[NR]	[NR]
Benzo(a)pyrene	mg/kg	10308-B-73	0.2 0.2 RPD: 0	10308-B-43	#
Indeno(1,2,3-c,d)pyrene	mg/kg	10308-B-73	0.1 0.1 RPD: 0	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	10308-B-73	<0.1 <0.1	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	10308-B-73	0.1 0.1 RPD: 0	[NR]	[NR]
Surrogate p-Terphenyl-d ₁₄	%	10308-B-73	87 85 RPD: 2	10308-B-43	76%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Arsenic	mg/kg	[NT]	[NT]	10308-B-43	98%
Cadmium	mg/kg	[NT]	[NT]	10308-B-43	101%
Chromium	mg/kg	[NT]	[NT]	10308-B-43	92%
Copper	mg/kg	[NT]	[NT]	10308-B-43	103%
Lead	mg/kg	[NT]	[NT]	10308-B-43	83%
Mercury	mg/kg	[NT]	[NT]	10308-B-43	92%
Nickel	mg/kg	[NT]	[NT]	10308-B-43	81%
Zinc	mg/kg	[NT]	[NT]	10308-B-43	106%
Manganese	mg/kg	[NT]	[NT]	10308-B-43	#
QUALITY CONTROL Moisture	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD		
Moisture	%	10308-B-73	4.1 4.1 RPD: 0		

Report Comments:

PAH's in soil: # Percent recovery not available due to significant background levels of analyte in the sample.

Trace Elements: spike recovery for Manganese could not be calculated due to a high level of the element in the sample. However, an acceptable recovery has been obtained for the Laboratory Control Sample.

Asbestos: A portion of the supplied sample was sub-sampled for asbestos according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sub-sample. Envirolab recommends supplying 30-40g of sample in it's own container.

Total Petroleum Hydrocarbons in soil: # Percent recovery not available due to significant background levels of analyte in the sample. PQL raised due to sample matrix.
Asbestos analysed by: Tania Notaras

INS: Insufficient sample for this test
RPD: Relative Percent Difference
NR: Not requested

NT: Not tested
NA: Test not required
<: Less than

PQL: Practical Quantitation Limit
LCS: Laboratory Control Sample
>: Greater than

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:

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

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

10308 B

CHAIN OF CUSTODY



Lee4

PROJECT NO.: 40184 - Lee4		LABORATORY BATCH NO:	
PROJECT NAME: Honeysuckle ESA		SAMPLERS: Mike Parker	
SEND REPORT TO: Cathy Roberts		PHONE: 8338 1011	
SEND INVOICE TO: Cathy Roberts		EMAIL: c.roberts@jbsgroup.com.au	
DATE NEEDED BY: Standard TAT		QC LEVEL: NEPM 1999 (✓)	
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:			

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	8 metals	Manganese	TPH	BTEX	PAHs	TCLP 8 metals	TCLP PAHs	SPLP 8 metals	SPLP PAHs	TCLP Mn	SPLP Mn	Asbestos	NOTES
35 L4MW07/2-0.1	soil	21.3.07		IJ				X	X	X								
36 L4MW07/2-0.3																		
37 L4MW07/2-0.5																		
38 L4MW07/2-1.0																		
39 L4MW07/2-1.5																		
40 L4MW07/2-2.0																		
41 L4MW07/2-3.0																		
42 L4MW07/2-4.0																		
43 L4MW07/1-0.1		22.3.07		IJ		X	X	X	X	X							X	
44 L4SB6-0.1						X	X			X								
45 L4SB6-0.3																		
46 L4SB6-0.5																		
47 L4SB6-1.0						X	X			X								
48 L4SB6-1.5																		
49 L4SB6-2.0																		
50 L4SB6-3.0																		
51 L4SB6-4.0																		

RELINQUISHED BY:		METHOD OF SHIPMENT:		RECEIVED BY:		FOR RECEIVING LAB USE ONLY:	
NAME: <i>Cathy Roberts</i>	DATE: 26/3	CONSIGNMENT NOTE NO.		NAME: <i>Alire</i>	DATE: 23/3/07	COOLER SEAL: Yes No Initial Broken	
OF: <i>JBS</i>	DATE: <i>Jan</i>	TRANSPORT CO.		OF: <i>EnviroLab</i>	DATE: 26/3/07-COC	COOLER TEMP: deg C	
NAME:	DATE:	CONSIGNMENT NOTE NO.		NAME:	DATE: 2p	COOLER SEAL: Yes No Initial Broken	
OF:		TRANSPORT CO.		OF:		COOLER TEMP: deg C	

Container & Preservative Codes: P = Plastic; J = Soft Jar; B = Glass Bottle; N = Nitric Acid Presvd.; C = Sodium Hydroxide Presvd; VC = Hydrochloric Acid Presvd; VS = Sulfuric Acid Presvd; Vial; S = Sulfuric Acid Presvd; Z = Zinc Presvd; E = EDTA Presvd; ST = Sterile Bottle; O = Other

CHAIN OF CUSTODY



PROJECT NO.: <u>40184 - Lee 4</u>						LABORATORY BATCH NO.													
PROJECT NAME <u>Honeysuckle ESA</u>						SAMPLERS <u>Mike Parker</u>													
SEND REPORT TO: <u>Cathy Roberts</u>						SEND INVOICE TO: <u>Cathy Roberts</u>						PHONE: <u>8338 1011</u>				EMAIL: <u>carberts@jbsgroup.com.au</u>			
DATE NEEDED BY: <u>Standard TAT</u>						QC LEVEL: <u>NEPM 1999</u> (✓)													
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:																			
						8 metals	Manganese	TPH	BTEX	PAHs	TCLP 8 metals	TCLP PAHs	SPLP 8 metals	SPLP PAHs	TCLP Mn	SPLP Mn	NOTES		
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH														
52 L4SB15-0.1	soil	22.3.07		13				X	X	X									
53 L4SB15-0.3																			
54 L4SB15-0.5																			
55 L4SB15-1.0																			
56 L4SB15-2.0																			
57 L4SB15-3.0																			
58 L4SB14-0.1								X	X	X	X		X						
59 L4SB14-0.3																			
60 L4SB14-0.5																			
61 L4SB14-1.0								X	X	X									
62 L4SB14-1.5																			
63 L4SB14-2.0																			
64 L4SB14-3.0																			
65 L4SB13-0.2								X	X	X									
66 L4SB13-0.5																			
67 L4SB13-1.0								X	X	X									
68 L4SB13-2.0																			
69 L4SB13-3.0	↓	↓		↓															

RELINQUISHED BY:				METHOD OF SHIPMENT:				RECEIVED BY:				FOR RECEIVING LAB USE ONLY			
NAME: <u>Chloe</u>		DATE: <u>26/3</u>		CONSIGNMENT NOTE NO.				NAME: <u>Allie</u>		DATE: <u>23/3/07</u>		COOLER SEAL: Yes ☐ No ☐ Intact ☐ Broken ☐			
OF: <u>JBS</u>		DATE: <u>10a</u>		TRANSPORT CO.				OF: <u>EnviroLab</u>		DATE: <u>26/3/07-00C</u>		COOLER TEMP: <u>deg C</u>			
NAME:		DATE:		CONSIGNMENT NOTE NO.				NAME:		DATE:		COOLER SEAL: Yes ☐ No ☐ Intact ☐ Broken ☐			
OF:				TRANSPORT CO.				OF:				COOLER TEMP: <u>deg C</u>			

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CHAIN OF CUSTODY



Lee 4

PROJECT NO.: 40184 - Lee 4					LABORATORY BATCH NO.																			
PROJECT NAME Honeyduckle ESA					SAMPLERS Mike Parker																			
SEND REPORT TO: Cathy Roberts					SEND INVOICE TO: Cathy Roberts										PHONE: 8338 1011					EMAIL: c.roberts@jbsgroup.com.au				
DATE NEEDED BY: Standard TAT					QC LEVEL: NEPM 1999 (✓)																			
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:																								
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	8 metals	Manganese	TPH	BTEX	PAHs	TECP 8 metals	TECP PAHs	SPLP 8 metals	SPLP PAHs	TECP Mn	SPLP Mn	Asbestos	NOTES						
L4SB12-0.1	Soil	22.3.07		✓		X	X	X	X	X	X	X	X	X	X	X	X							
L4SB12-0.3																								
L4SB12-0.5																								
L4SB12-1.0						X	X	X	X	X														
L4SB12-1.5																								
L4SB12-2.0																								
L4SB12-3.0																								
L4SB8-0.1		22.3.07																						
L4SB8-0.3																								
L4SB8-0.5																								
L4SB8-1.0						X	X	X	X	X														
L4SB8-1.5																								
L4SB8-2.0						X	X	X	X	X														
L4SB8-2.5																								
L4SB8-3.0																								
L4SB7-0.1																	X							
L4SB7-0.3						X	X	X	X	X														
L4SB7-0.5																								

RELINQUISHED BY:		METHOD OF SHIPMENT:		RECEIVED BY:		FOR RECEIVING LAB USE ONLY:	
NAME: <i>Chris</i>	DATE: <i>26/3</i>	CONSIGNMENT NOTE NO.		NAME: <i>Atlie</i>	DATE: <i>23/3/07</i>	COOLER SEAL	Yes No Initial Broken
OF: <i>JBS</i>	<i>10 am</i>	TRANSPORT CO		OF: <i>EnviroLab</i>	<i>26/3/07 - CO</i>	COOLER TEMP	deg C
NAME:	DATE:	CONSIGNMENT NOTE NO.		NAME:	DATE:	COOLER SEAL	Yes No Initial Broken
OF:		TRANSPORT CO		OF:		COOLER TEMP	deg C

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CHAIN OF CUSTODY



Lee 4

PROJECT NO.: 40184 - Lee 4						LABORATORY BATCH NO.																																																																																																																					
PROJECT NAME: Honeycastle ESA						SAMPLERS: Mike Porter																																																																																																																					
SEND REPORT TO: Cathy Roberts						SEND INVOICE TO: Cathy Roberts						PHONE: 8338 1011				EMAIL: c.roberts@jbsgroup.com.au																																																																																																											
DATE NEEDED BY: Standard TAT						QC LEVEL: NEPM 1999 (✓)																																																																																																																					
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:																																																																																																																											
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OF: JBS		10am		TRANSPORT CO.		OF: Envirolog		26/3/07 - CO		COOLER TEMP: deg C																																																																																																																	
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CHAIN OF CUSTODY



Lee 4

PROJECT NO.: <u>Honeysockle ESA 40184 - Lee 4</u>						LABORATORY BATCH NO.																																																																																																			
PROJECT NAME: <u>Honeysockle ESA</u>						SAMPLERS: <u>Mike Parker</u>																																																																																																			
SEND REPORT TO: <u>Cathy Roberts</u>						SEND INVOICE TO: <u>Cathy Roberts</u>						PHONE: <u>8338 1015</u>						EMAIL: <u>croberts@logroup.com.au</u>																																																																																							
DATE NEEDED BY: <u>Standard 1A1</u>						QC LEVEL: <u>NEPM 1999</u>																																																																																																			
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31 QA7A																																																																																																									
32 QA8									X	X	X																																																																																														
33 QA8A									X	X	X																																																																																														
34 QA9			23.3.07															Pls Forward to SAS																																																																																							
35 QA9A																																																																																																									
36 QA10																																																																																																									
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Envirolab Services Pty Ltd

ABN 37 112 535 645

54 Frenchs Rd Willoughby NSW 2068

ph 02 9958 5801 fax 02 9958 5803

email: tnotaras@envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client:

JBS Environmental
P.O. Box 940
MASCOT NSW 1460

ph: 8338 1013
Fax: 8338 1700

Attention: Cathy Roberts

Sample log in details:

Your reference:	40184, Honeysuckle ESA (Lee 4)
Envirolab Reference:	10308-B
Date received:	23/03/07
Date results expected to be reported:	2/04/07

Samples received in appropriate condition for analysis:	YES
Turnaround time requested:	Standard
Temperature on receipt	Cool
Cooling Method:	Ice
Completed documentation received:	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 9958 5801 fax: 02 9958 5803

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



Envirolab Services Pty Ltd

ABN 37 112 535 645

54 Frenchs Rd Willoughby NSW 2068

ph 02 9958 5801 fax 02 9958 5803

email: tnotaras@envirolabservices.com.au

CERTIFICATE OF ANALYSIS 10308-C

Client:

JBS Environmental

P.O. Box 940

MASCOT

NSW 1460

Attention: Cathy Roberts

Sample log in details:

Your Reference:

40184, Honeysuckle ESA (QC)

No. of samples:

3 Waters

Date samples received:

23/03/07

Date completed instructions received:

26/03/07

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:

2/04/07

Date of Preliminary Report:

Not issued

Issue Date:

28/03/07

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Tests not covered by NATA are denoted with *.

Results Approved By:

Tania Notaras
Manager

Envirolab Reference: 10308-C
Revision No: R 00



BTEX in Water Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	10308-C-140 Trip Spike - 19/03/07 Water	10308-C-141 Trip Blank - 19/03/07 Water
Date extracted	--	27/03/2007	27/03/2007
Date analysed	--	27/03/2007	27/03/2007
Benzene	µg/L	84%	<1.0
Toluene	µg/L	103%	<1.0
Ethylbenzene	µg/L	118%	<1.0
m+p-xylene	µg/L	118%	<2.0
o-xylene	µg/L	117%	<1.0
Surrogate Dibromofluoromethane	%	94	96
Surrogate toluene-d8	%	92	91
Surrogate 1-bromo-4-fluorotoluene	%	103	76

Method ID	Methodology Summary
GC.13	Water samples are analysed directly by purge and trap GC-MS.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
BTEX in Water						Base II Duplicate II %RPD		
Date extracted	--			[NT]	[NT]	[NT]	[NR]	[NR]
Date analysed	--			[NT]	[NT]	[NT]	[NR]	[NR]
Benzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	95%
Toluene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	118%
Ethylbenzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	123%
m+p-xylene	µg/L	2	GC.13	<2.0	[NT]	[NT]	LCS	130%
o-xylene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	126%
Surrogate	%		GC.13	[NT]	[NT]	[NT]	LCS	94%
Dibromofluoromethane								
Surrogate toluene-d8	%		GC.13	[NT]	[NT]	[NT]	LCS	94%
Surrogate 1-bromo-4-fluorotoluene	%		GC.13	[NT]	[NT]	[NT]	LCS	98%

Report Comments:

Asbestos analysed by: Not applicable for this job

INS: Insufficient sample for this test

NT: Not tested

PQL: Practical Quantitation Limit

RPD: Relative Percent Difference

NA: Test not required

LCS: Laboratory Control Sample

NR: Not requested

<: Less than

>: Greater than

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:

Duplicates: <5xPQL - any RPD is acceptable;

>5xPQL - 0-50% RPD is acceptable.

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

Surrogates: Generally 60-140% is acceptable.

0308C

CHAIN OF CUSTODY



Qc

[illegible]



Envirolab Services Pty Ltd

ABN 37 112 535 645

54 Frenchs Rd Willoughby NSW 2068

ph 02 9958 5801 fax 02 9958 5803

email: tnotaras@envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client:

JBS Environmental
P.O. Box 940
MASCOT NSW 1460

ph: 8338 1013
Fax: 8338 1700

Attention: Cathy Roberts

Sample log in details:

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

40184, Honeysuckle ESA (QC)
10308-C
23/03/07
2/04/07

Samples received in appropriate condition for analysis:	YES
Turnaround time requested:	Standard
Temperature on receipt	Cool
Cooling Method:	Ice
Completed documentation received:	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 9958 5801 fax: 02 9958 5803

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



Envirolab Services Pty Ltd

ABN 37 112 535 645

54 Frenchs Rd Willoughby NSW 2068

ph 02 9958 5801 fax 02 9958 5803

email: tnotaras@envirolabservices.com.au

CERTIFICATE OF ANALYSIS 10308-E

Client:

JBS Environmental

P.O. Box 940

MASCOT

NSW 1460

Attention: Cathy Roberts

Sample log in details:

Your Reference:

40184, Honeysuckle ESA (Lee 4)

No. of samples:

Additional Testing on 1 Soil

Date samples received:

23/03/07

Date completed instructions received:

02/04/07

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:

11/04/07

Date of Preliminary Report:

Not Issued

Issue Date:

5/04/07

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Results Approved By:

David Springer
Business Development & Quality Manager

Envirolab Reference: 10308-E
Revision No: R 00



Page 1 of 6

sTPH in Soil (C10-C36)		
Our Reference:	UNITS	10308-E-37
Your Reference	-----	L4MW07/2
Depth	-----	0.5
Date Sampled		21/03/07
Type of sample		Soil
Date extracted	--	3/04/2007
Date analysed	--	4/04/2007
TPH C10 - C14	mg/kg	96
TPH C15 - C28	mg/kg	4,400
TPH C29 - C36	mg/kg	2,700
Surrogate o-Terphenyl	%	#

Moisture		
Our Reference:	UNITS	10308-E-37
Your Reference	-----	L4MW07/2
Depth	-----	0.5
Date Sampled		21/03/07
Type of sample		Soil
Moisture	%	9.3

Method ID	Methodology Summary
GC.3	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.
LAB.8	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
sTPH in Soil (C10-C36)						Base II Duplicate II %RPD		
Date extracted	--			[NT]	[NT]	[NT]	[NR]	[NR]
Date analysed	--			[NT]	[NT]	[NT]	[NR]	[NR]
TPH C ₁₀ - C ₁₄	mg/kg	50	GC.3	<50	[NT]	[NT]	LCS	85%
TPH C ₁₅ - C ₂₈	mg/kg	100	GC.3	<100	[NT]	[NT]	LCS	77%
TPH C ₂₉ - C ₃₆	mg/kg	100	GC.3	<100	[NT]	[NT]	LCS	91%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank				
Moisture								
Moisture	%	0.1	LAB.8	<0.10				

Report Comments:

Total Petroleum Hydrocarbons in soil: # Percent recovery not available due to significant background levels of analyte in the sample.

Asbestos analysed by: Not applicable for this job

INS: Insufficient sample for this test

NT: Not tested

PQL: Practical Quantitation Limit

RPD: Relative Percent Difference

NA: Test not required

LCS: Laboratory Control Sample

NR: Not requested

<: Less than

>: Greater than

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:

Duplicates: <5xPQL - any RPD is acceptable;

>5xPQL - 0-50% RPD is acceptable.

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

Surrogates: Generally 60-140% is acceptable.

Aileen Hie

From: Cathy Roberts [CRoberts@JBSGroup.com.au]
Sent: Monday, 2 April 2007 12:33 PM
To: Aileen Hie
Subject: Batch 10308-B

Aileen,

Can I get some additional analysis on Batch 10308-B please?

Used SB13-012 analysed for TPH C10-C36 and PAHs.

37
Also MW07/2-0.5 for TPH C10-C36.

Thanks
Cathy

Cathy Roberts
Senior Environmental Scientist
JBS Environmental Pty Ltd
PH: 02 8338 1011
Fax: 02 8338 1700
www.jbsgroup.com.au

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EnviroLab Ref: 10308 E

Due: 11/4/07

Std + 1A

2/04/2007



Envirolab Services Pty Ltd

ABN 37 112 535 645

54 Frenchs Rd Willoughby NSW 2068

ph 02 9958 5801 fax 02 9958 5803

email: tnotaras@envirolabservices.com.au

CERTIFICATE OF ANALYSIS 10308-F

Client:

JBS Environmental

P.O. Box 940

MASCOT

NSW 1460

Attention: Cathy Roberts

Sample log in details:

Your Reference:

40184, Honeysuckle ESA (Lee 4)

No. of samples:

Additional Testing on 2 Soils

Date samples received:

23/03/07

Date completed instructions received:

17/04/07

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:

24/04/07

Date of Preliminary Report:

Not Issued

Issue Date:

20/04/07

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Results Approved By:


Jacinta Hurst
Operations Manager

Envirolab Reference: 10308-F
Revision No: R 00



Page 1 of 8

Organochlorine Pesticides in soil			
Our Reference:	UNITS	10308-F-44	10308-F-52
Your Reference	-----	L4SB6	L4SB15
Depth	-----	0.1	0.1
Date Sampled		22/03/07	22/03/07
Type of sample		Soil	Soil
Date extracted	--	19/04/2007	19/04/2007
Date analysed	--	19/04/2007	19/04/2007
HCB	mg/kg	<0.1	<0.1
alpha-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Surrogate TCLMX	%	108	107

Organophosphorus Pesticides			
Our Reference:	UNITS	10308-F-44	10308-F-52
Your Reference	-----	L4SB6	L4SB15
Depth	-----	0.1	0.1
Date Sampled		22/03/07	22/03/07
Type of sample		Soil	Soil
Date extracted	--	19/04/2007	19/04/2007
Date analysed	--	19/04/2007	19/04/2007
Diazinon	mg/kg	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1
Chlorpyrifos	mg/kg	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1
Surrogate TCLMX	%	108	107

PCBs in Soil			
Our Reference:	UNITS	10308-F-44	10308-F-52
Your Reference	-----	L4SB6	L4SB15
Depth	-----	0.1	0.1
Date Sampled		22/03/07	22/03/07
Type of sample		Soil	Soil
Date extracted	--	19/04/2007	19/04/2007
Date analysed	--	19/04/2007	19/04/2007
Arochlor 1016	mg/kg	<0.1	<0.1
Arochlor 1232	mg/kg	<0.1	<0.1
Arochlor 1242	mg/kg	<0.1	<0.1
Arochlor 1248	mg/kg	<0.1	<0.1
Arochlor 1254	mg/kg	<0.1	<0.1
Arochlor 1260	mg/kg	<0.1	<0.1
Surrogate TCLMX	%	108	107

Method ID	Methodology Summary
GC-5	Soil samples are extracted with hexane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
GC-8	Soil samples are extracted with hexane/acetone and waters with dichloromethane and analysed by GC with dual ECD's.
GC-6	Soil samples are extracted with hexane/acetone and waters with dichloromethane and analysed by GC-ECD.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organochlorine Pesticides in soil						Base II Duplicate II %RPD		
Date extracted	--			[NT]	[NT]	[NT]	[NR]	[NR]
Date analysed	--			[NT]	[NT]	[NT]	[NR]	[NR]
HCB	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-BHC	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS	133%
gamma-BHC	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
beta-BHC	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS	137%
Heptachlor	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS	135%
delta-BHC	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
Aldrin	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS	140%
Heptachlor Epoxide	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS	123%
gamma-Chlordane	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
alpha-chlordane	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan I	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDE	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS	130%
Dieldrin	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS	132%
Endrin	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS	133%
pp-DDD	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS	137%
Endosulfan II	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
pp-DDT	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
Endrin Aldehyde	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
Endosulfan Sulphate	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	LCS	130%
Methoxychlor	mg/kg	0.1	GC-5	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		GC-5	[NT]	[NT]	[NT]	LCS	106%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Organophosphorus Pesticides						Base II Duplicate II %RPD		
Date extracted	--			[NT]	[NT]	[NT]	[NR]	[NR]
Date analysed	--			[NT]	[NT]	[NT]	[NR]	[NR]
Diazinon	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	[NR]	[NR]
Dimethoate	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	[NR]	[NR]
Chlorpyrifos-methyl	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	[NR]	[NR]
Ronnel	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	[NR]	[NR]
Chlorpyrifos	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	LCS	94%
Fenitrothion	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	LCS	99%
Bromophos-ethyl	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	LCS	108%
Ethion	mg/kg	0.1	GC.8	<0.1	[NT]	[NT]	LCS	107%
Surrogate TCLMX	%		GC.8	[NT]	[NT]	[NT]	[NR]	[NR]
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PCBs in Soil						Base II Duplicate II %RPD		
Date extracted	--			[NT]	[NT]	[NT]	[NR]	[NR]
Date analysed	--			[NT]	[NT]	[NT]	[NR]	[NR]
Arochlor 1016	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1232	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1242	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1248	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Arochlor 1254	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	LCS	85%
Arochlor 1260	mg/kg	0.1	GC-6	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate TCLMX	%		GC-6	[NT]	[NT]	[NT]	LCS	81%

Report Comments:

Asbestos analysed by: Not applicable for this job

INS: Insufficient sample for this test

NT: Not tested

PQL: Practical Quantitation Limit

RPD: Relative Percent Difference

NA: Test not required

LCS: Laboratory Control Sample

NR: Not requested

<: Less than

>: Greater than

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:

Duplicates: <5xPQL - any RPD is acceptable;

>5xPQL - 0-50% RPD is acceptable.

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

Surrogates: Generally 60-140% is acceptable.

Aileen Hie

From: Cathy Roberts [CRoberts@JBSGroup.com.au]
Sent: Tuesday, 17 April 2007 11:52 AM
To: Aileen Hie
Subject: Additional analysis Batch 10308B

Aileen,

Can you do OC/OP, PCB analysis on the following samples in Batch 10308B please?

L4SB6-0.1 44
L4SB15-0.1 52

I understand that these are outside of the 14 day holding time.

Thanks
Cathy

Cathy Roberts
Senior Environmental Scientist
JBS Environmental Pty Ltd
PH: 02 8338 1011
Fax: 02 8338 1700
www.jbsgroup.com.au

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Envirolab Ref: 10308 F

Doc: 24/4/07

Std F1A

17/04/2007



Envirolab Services Pty Ltd

ABN 37 112 535 645

54 Frenchs Rd Willoughby NSW 2068

ph 02 9958 5801 fax 02 9958 5803

email: tnotaras@envirolabservices.com.au

CERTIFICATE OF ANALYSIS 10423

Client:

JBS Environmental

P.O. Box 940

MASCOT

NSW 1460

Attention: Cathy Roberts

Sample log in details:

Your Reference:

40184, Honeysuckle ESA (Lee 4)

No. of samples:

79 Soils

Date samples received:

02/04/07

Date completed instructions received:

02/04/07

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:

11/04/07

Date of Preliminary Report:

Not issued

Issue Date:

10/04/07

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Tests not covered by NATA are denoted with *.

Results Approved By:

Tania Notaras
Manager

Jacinta Hurst
Operations Manager

Envirolab Reference: 10423
Revision No: R 00



vTPH & BTEX in Soil						
Our Reference:	UNITS	10423-4	10423-8	10423-12	10423-16	10423-20
Your Reference	-----	L4SB11	L4SB10	L4SB10	L4SB9	L4SB9
Depth	-----	1.5	0.1	1.5	0.1	1.5
Date Sampled		28/3/07	28/3/07	28/3/07	28/3/07	28/3/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	--	3/04/2007	3/04/2007	3/04/2007	3/04/2007	3/04/2007
Date analysed	--	4/04/2007	4/04/2007	4/04/2007	4/04/2007	4/04/2007
vTPH C ₆ - C ₉	mg/kg	<25	<25	<25	<25	<25
Benzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
m + p-Xylene	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate aaa-Trifluorotoluene	%	110	105	94	102	92

vTPH & BTEX in Soil		
Our Reference:	UNITS	10423-76
Your Reference	-----	QA20
Depth	-----	-
Date Sampled		28/3/07
Type of sample		Soil
Date extracted	--	3/04/2007
Date analysed	--	4/04/2007
vTPH C ₆ - C ₉	mg/kg	<25
Benzene	mg/kg	<1.0
Toluene	mg/kg	<1.0
Ethylbenzene	mg/kg	<1.0
m + p-Xylene	mg/kg	<2.0
o-Xylene	mg/kg	<1.0
Surrogate aaa-Trifluorotoluene	%	98

sTPH in Soil (C10-C36)						
Our Reference:	UNITS	10423-4	10423-8	10423-12	10423-16	10423-20
Your Reference	-----	L4SB11	L4SB10	L4SB10	L4SB9	L4SB9
Depth	-----	1.5	0.1	1.5	0.1	1.5
Date Sampled		28/3/07	28/3/07	28/3/07	28/3/07	28/3/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	--	3/04/2007	3/04/2007	3/04/2007	3/04/2007	3/04/2007
Date analysed	--	4/04/2007	4/04/2007	4/04/2007	4/04/2007	4/04/2007
TPH C10 - C14	mg/kg	<50	68	<50	<50	<50
TPH C15 - C28	mg/kg	<100	740	<100	<100	<100
TPH C29 - C36	mg/kg	<100	460	<100	<100	<100
Surrogate o-Terphenyl	%	79	#	80	82	82

sTPH in Soil (C10-C36)		
Our Reference:	UNITS	10423-76
Your Reference	-----	QA20
Depth	-----	-
Date Sampled		28/3/07
Type of sample		Soil
Date extracted	--	3/04/2007
Date analysed	--	4/04/2007
TPH C10 - C14	mg/kg	<50
TPH C15 - C28	mg/kg	<100
TPH C29 - C36	mg/kg	<100
Surrogate o-Terphenyl	%	80

PAHs in Soil						
Our Reference:	UNITS	10423-4	10423-8	10423-12	10423-16	10423-20
Your Reference	-----	L4SB11	L4SB10	L4SB10	L4SB9	L4SB9
Depth	-----	1.5	0.1	1.5	0.1	1.5
Date Sampled		28/3/07	28/3/07	28/3/07	28/3/07	28/3/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	--	3/04/2007	3/04/2007	3/04/2007	3/04/2007	3/04/2007
Date analysed	--	4/04/2007	4/04/2007	4/04/2007	4/04/2007	4/04/2007
Naphthalene	mg/kg	<0.1	60	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	9.6	<0.1	0.2	<0.1
Acenaphthene	mg/kg	<0.1	8.0	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	16	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.2	70	<0.1	0.6	<0.1
Anthracene	mg/kg	<0.1	18	<0.1	0.2	<0.1
Fluoranthene	mg/kg	0.3	88	0.3	3.5	0.2
Pyrene	mg/kg	0.3	83	0.2	3.1	0.2
Benzo(a)anthracene	mg/kg	0.1	30	0.1	1.5	<0.1
Chrysene	mg/kg	0.1	29	<0.1	1.2	<0.1
Benzo(b,k)fluoranthene	mg/kg	<0.2	61	<0.2	2.4	<0.2
Benzo(a)pyrene	mg/kg	0.1	47	0.1	1.6	0.07
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	32	<0.1	0.9	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	3.1	<0.1	0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	30	<0.1	0.8	<0.1
Surrogate p-Terphenyl-d14	%	97	92	100	100	99

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	10423-28 L4SB4 1.5 28/3/07 Soil	10423-34 L4SB3 0.5 28/3/07 Soil	10423-36 L4SB3 1.5 28/3/07 Soil	10423-43 L4SB2 0.1 28/3/07 Soil	10423-47 L4SB2 1.5 28/3/07 Soil
Date extracted	--	3/04/2007	3/04/2007	3/04/2007	3/04/2007	3/04/2007
Date analysed	--	4/04/2007	4/04/2007	4/04/2007	4/04/2007	4/04/2007
Naphthalene	mg/kg	<0.1	0.1	0.1	0.3	<0.1
Acenaphthylene	mg/kg	<0.1	0.2	0.3	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	2.1	0.2	<0.1	<0.1
Fluorene	mg/kg	<0.1	1.2	0.2	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	20	1.7	0.8	0.3
Anthracene	mg/kg	<0.1	5.0	0.7	0.1	<0.1
Fluoranthene	mg/kg	0.1	36	7.1	1.6	0.8
Pyrene	mg/kg	0.1	31	6.1	1.6	0.7
Benzo(a)anthracene	mg/kg	<0.1	13	3.0	0.7	0.3
Chrysene	mg/kg	<0.1	12	2.6	0.8	0.3
Benzo(b,k)fluoranthene	mg/kg	<0.2	21	4.4	1.4	0.6
Benzo(a)pyrene	mg/kg	0.05	14	2.7	1.0	0.4
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	9.2	1.4	0.6	0.3
Dibenzo(a,h)anthracene	mg/kg	<0.1	0.8	0.2	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	7.8	1.1	0.5	0.2
Surrogate p-Terphenyl-d14	%	95	98	94	97	98

PAHs in Soil Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	10423-57 L4SB1 1.0 29/3/07 Soil	10423-65 L4SB1 5.0 29/3/07 Soil	10423-67 L4SB5 0.3 29/3/07 Soil	10423-76 QA20 - 28/3/07 Soil	10423-78 QA22 - 29/3/07 Soil
Date extracted	--	3/04/2007	3/04/2007	3/04/2007	3/04/2007	3/04/2007
Date analysed	--	4/04/2007	4/04/2007	4/04/2007	4/04/2007	4/04/2007
Naphthalene	mg/kg	<0.1	<0.1	7.1	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	2.6	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	4.3	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	3.7	<0.1	<0.1
Phenanthrene	mg/kg	0.2	0.1	69	0.1	0.2
Anthracene	mg/kg	<0.1	<0.1	14	<0.1	<0.1
Fluoranthene	mg/kg	0.2	1.1	75	0.3	1.3
Pyrene	mg/kg	0.2	1.2	69	0.3	1.5
Benzo(a)anthracene	mg/kg	<0.1	0.6	25	0.1	0.7
Chrysene	mg/kg	0.1	0.5	24	0.1	0.6
Benzo(b,k)fluoranthene	mg/kg	<0.2	0.8	42	<0.2	0.9
Benzo(a)pyrene	mg/kg	0.1	0.5	30	0.1	0.6
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	0.3	19	<0.1	0.3
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1	2.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	0.2	17	<0.1	0.2
Surrogate p-Terphenyl-d14	%	95	99	94	95	98

Acid Extractable metals in soil						
Our Reference:	UNITS	10423-4	10423-8	10423-12	10423-16	10423-20
Your Reference	-----	L4SB11	L4SB10	L4SB10	L4SB9	L4SB9
Depth	-----	1.5	0.1	1.5	0.1	1.5
Date Sampled		28/3/07	28/3/07	28/3/07	28/3/07	28/3/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Arsenic	mg/kg	<4.0	12	<4.0	4.2	<4.0
Cadmium	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Chromium	mg/kg	1.1	8.8	1.4	100	<1.0
Copper	mg/kg	<1.0	19	1.2	18	<1.0
Lead	mg/kg	<1.0	19	1.3	19	<1.0
Mercury	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
Nickel	mg/kg	<1.0	7.5	<1.0	7.6	<1.0
Zinc	mg/kg	2.3	71	4.5	89	1.6
Manganese	mg/kg	7.5	440	10	22,000	15

Acid Extractable metals in soil						
Our Reference:	UNITS	10423-28	10423-34	10423-36	10423-43	10423-47
Your Reference	-----	L4SB4	L4SB3	L4SB3	L4SB2	L4SB2
Depth	-----	1.5	0.5	1.5	0.1	1.5
Date Sampled		28/3/07	28/3/07	28/3/07	28/3/07	28/3/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Arsenic	mg/kg	<4.0	7.5	5.4	<4.0	<4.0
Cadmium	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
Chromium	mg/kg	<1.0	99	16	200	20
Copper	mg/kg	<1.0	30	28	17	13
Lead	mg/kg	<1.0	450	42	19	71
Mercury	mg/kg	<0.10	<0.10	0.13	<0.10	<0.10
Nickel	mg/kg	1.1	11	14	11	6.7
Zinc	mg/kg	51	120	230	81	90
Manganese	mg/kg	32	20,000	650	23,000	1,400

Acid Extractable metals in soil					
Our Reference:	UNITS	10423-65	10423-67	10423-76	10423-78
Your Reference	-----	L4SB1	L4SB5	QA20	QA22
Depth	-----	5.0	0.3	-	-
Date Sampled		29/3/07	29/3/07	28/3/07	29/3/07
Type of sample		Soil	Soil	Soil	Soil
Arsenic	mg/kg	<4.0	8.3	<4.0	<4.0
Cadmium	mg/kg	<1.0	<1.0	<1.0	<1.0
Chromium	mg/kg	17	85	<1.0	23
Copper	mg/kg	12	11	<1.0	11
Lead	mg/kg	10	7.0	<1.0	14
Mercury	mg/kg	<0.10	<0.10	<0.10	<0.10
Nickel	mg/kg	4.0	5.7	<1.0	5.4
Zinc	mg/kg	19	30	1.5	29
Manganese	mg/kg	350	9,600	10	1,100

Moisture						
Our Reference:	UNITS	10423-4	10423-8	10423-12	10423-16	10423-20
Your Reference	-----	L4SB11	L4SB10	L4SB10	L4SB9	L4SB9
Depth	-----	1.5	0.1	1.5	0.1	1.5
Date Sampled		28/3/07	28/3/07	28/3/07	28/3/07	28/3/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Moisture	%	6.1	9.8	19	13	19

Moisture						
Our Reference:	UNITS	10423-28	10423-34	10423-36	10423-43	10423-47
Your Reference	-----	L4SB4	L4SB3	L4SB3	L4SB2	L4SB2
Depth	-----	1.5	0.5	1.5	0.1	1.5
Date Sampled		28/3/07	28/3/07	28/3/07	28/3/07	28/3/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Moisture	%	19	13	16	19	11

Moisture						
Our Reference:	UNITS	10423-57	10423-65	10423-67	10423-76	10423-78
Your Reference	-----	L4SB1	L4SB1	L4SB5	QA20	QA22
Depth	-----	1.0	5.0	0.3	-	-
Date Sampled		29/3/07	29/3/07	29/3/07	28/3/07	29/3/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Moisture	%	13	17	8.6	19	18

Miscellaneous Inorg - soil			
Our Reference:	UNITS	10423-28	10423-57
Your Reference	-----	L4SB4	L4SB1
Depth	-----	1.5	1.0
Date Sampled		28/3/07	29/3/07
Type of sample		Soil	Soil
pH 1:5 soil:water	pH Units	5.5	5.7

PAHs in TCLP (USEPA 1311)						
Our Reference:	UNITS	10423-4	10423-12	10423-28	10423-57	10423-65
Your Reference	-----	L4SB11	L4SB10	L4SB4	L4SB1	L4SB1
Depth	-----	1.5	1.5	1.5	1.0	5.0
Date Sampled		28/3/07	28/3/07	28/3/07	29/3/07	29/3/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	--	5/04/2007	5/04/2007	5/04/2007	5/04/2007	5/04/2007
Date analysed	--	5/04/2007	5/04/2007	5/04/2007	5/04/2007	5/04/2007
Naphthalene	mg/L	<0.001	0.002	<0.001	<0.001	<0.001
Acenaphthylene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Fluorene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Phenanthrene	mg/L	<0.001	0.002	<0.001	0.002	<0.001
Anthracene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Fluoranthene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Pyrene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(a)anthracene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Chrysene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(b,k)fluoranthene	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Surrogate p-Terphenyl-d14	%	119	116	125	126	122

PAHs in water leach						
Our Reference:	UNITS	10423-4	10423-12	10423-28	10423-57	10423-65
Your Reference	-----	L4SB11	L4SB10	L4SB4	L4SB1	L4SB1
Depth	-----	1.5	1.5	1.5	1.0	5.0
Date Sampled		28/3/07	28/3/07	28/3/07	29/3/07	29/3/07
Type of sample		Soil	Soil	Soil	Soil	Soil
Date extracted	--	5/04/2007	5/04/2007	5/04/2007	5/04/2007	5/04/2007
Date analysed	--	5/04/2007	5/04/2007	5/04/2007	5/04/2007	5/04/2007
Naphthalene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthylene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Acenaphthene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Fluorene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Phenanthrene	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Anthracene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Fluoranthene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Pyrene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(a)anthracene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Chrysene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(b,k)fluoranthene	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002
Benzo(a)pyrene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Indeno(1,2,3-c,d)pyrene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Dibenzo(a,h)anthracene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Benzo(g,h,i)perylene	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Surrogate p-Terphenyl-d14	%	118	124	68	119	122

Metals in TCLP Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	10423-4 L4SB11 1.5 28/3/07 Soil	10423-12 L4SB10 1.5 28/3/07 Soil	10423-28 L4SB4 1.5 28/3/07 Soil	10423-57 L4SB1 1.0 29/3/07 Soil	10423-65 L4SB1 5.0 29/3/07 Soil
pH of soil for fluid# determ.	pH units	8.90	9.40	9.20	8.10	8.90
pH of soil for fluid # determ. (acid)	pH units	1.70	1.60	1.40	1.50	1.50
Extraction fluid used	-	1	1	1	1	1
pH of final Leachate	pH units	5.40	5.70	5.00	5.40	6.10
Arsenic in TCLP	mg/L	<0.05	<0.05	<0.05	[NA]	<0.05
Cadmium in TCLP	mg/L	<0.01	<0.01	<0.01	[NA]	<0.01
Chromium in TCLP	mg/L	<0.01	<0.01	<0.01	[NA]	0.02
Copper in TCLP	mg/L	0.04	<0.01	<0.01	[NA]	0.03
Lead in TCLP	mg/L	0.05	<0.03	0.07	[NA]	0.15
Mercury in TCLP	mg/L	<0.0005	<0.0005	<0.0005	[NA]	<0.0005
Nickel in TCLP	mg/L	<0.02	<0.02	<0.02	[NA]	0.05
Zinc in TCLP	mg/L	0.1	0.17	1.1	[NA]	0.43
Manganese in TCLP	mg/L	0.08	0.14	0.14	[NA]	4.7

Metals in water leach						
Our Reference:	UNITS	10423-4	10423-12	10423-28	10423-57	10423-65
Your Reference	-----	L4SB11	L4SB10	L4SB4	L4SB1	L4SB1
Depth	-----	1.5	1.5	1.5	1.0	5.0
Date Sampled		28/3/07	28/3/07	28/3/07	29/3/07	29/3/07
Type of sample		Soil	Soil	Soil	Soil	Soil
pH of final Leachate	pH units	7.80	8.20	8.40	8.20	8.10
Arsenic in TCLP - bottle	mg/L	<0.05	<0.05	<0.05	[NA]	<0.05
Cadmium in TCLP - bottle	mg/L	<0.01	<0.01	<0.01	[NA]	<0.01
Chromium in TCLP - bottle	mg/L	<0.01	<0.01	<0.01	[NA]	<0.01
Copper in TCLP - bottle	mg/L	<0.01	<0.01	<0.01	[NA]	<0.01
Lead in TCLP - bottle	mg/L	<0.03	<0.03	<0.03	[NA]	<0.03
Mercury in TCLP - bottle	mg/L	<0.0005	<0.0005	<0.0005	[NA]	<0.0005
Nickel in TCLP - bottle	mg/L	<0.02	<0.02	<0.02	[NA]	<0.02
Zinc in TCLP - bottle	mg/L	<0.02	<0.02	0.22	[NA]	<0.02
Manganese in TCLP- bottle	mg/L	<0.01	<0.01	0.13	[NA]	<0.01

Asbestos ID - soils Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	10423-8 L4SB10 0.1 28/3/07 Soil
Sample Description	-	50g sand, rocks
Asbestos ID in soil	--	No asbestos detected
Trace Analysis	--	Respirable fibres not detected

Method ID	Methodology Summary
GC.16	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.
GC.14	Soil samples extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
GC.3	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.
GC.12	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Metals.20	Determination of various metals by ICP-AES.
Metals.21	Determination of Mercury by Cold Vapour AAS.
LAB.8	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.
LAB.1	pH - Measured using pH meter and electrode in accordance with APHA 20th ED, 4500-H+.
EXTRACT.7	Toxicity Characteristic Leaching Procedure (TCLP).
ASB.1	Qualitative identification of asbestos type fibres in bulk using Polarised Light Microscopy and Dispersion Staining Techniques.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTPH & BTEX in Soil						Base II Duplicate II %RPD		
Date extracted	--			[NT]	10423-8	3/04/2007 3/04/2007	[NR]	[NR]
Date analysed	--			[NT]	10423-8	4/04/2007 4/04/2007	[NR]	[NR]
vTPH C ₆ - C ₉	mg/kg	25	GC.16	<25	10423-8	<25 <25	LCS	103%
Benzene	mg/kg	1	GC.14	<1.0	10423-8	<1.0 <1.0	LCS	101%
Toluene	mg/kg	1	GC.14	<1.0	10423-8	<1.0 <1.0	LCS	104%
Ethylbenzene	mg/kg	1	GC.14	<1.0	10423-8	<1.0 <1.0	LCS	103%
m + p-Xylene	mg/kg	2	GC.14	<2.0	10423-8	<2.0 <2.0	LCS	99%
o-Xylene	mg/kg	1	GC.14	<1.0	10423-8	<1.0 <1.0	LCS	106%
Surrogate aaa-Trifluorotoluene	%		GC.14	[NT]	10423-8	105 103 RPD: 2	LCS	106%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
sTPH in Soil (C10-C36)						Base II Duplicate II %RPD		
Date extracted	--			[NT]	10423-8	3/04/2007 3/04/2007	[NR]	[NR]
Date analysed	--			[NT]	10423-8	4/04/2007 4/04/2007	[NR]	[NR]
TPH C ₁₀ - C ₁₄	mg/kg	50	GC.3	<50	10423-8	68 81 RPD: 17	LCS	85%
TPH C ₁₅ - C ₂₈	mg/kg	100	GC.3	<100	10423-8	740 970 RPD: 27	LCS	77%
TPH C ₂₉ - C ₃₆	mg/kg	100	GC.3	<100	10423-8	460 610 RPD: 28	LCS	91%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Soil						Base II Duplicate II %RPD		
Date extracted	--			[NT]	10423-8	3/04/2007 3/04/2007	[NR]	[NR]
Date analysed	--			[NT]	10423-8	4/04/2007 4/04/2007	[NR]	[NR]
Naphthalene	mg/kg	0.1	GC.12	<0.1	10423-8	60 68 RPD: 12	LCS	91%
Acenaphthylene	mg/kg	0.1	GC.12	<0.1	10423-8	9.6 12 RPD: 22	[NR]	[NR]
Acenaphthene	mg/kg	0.1	GC.12	<0.1	10423-8	8.0 10 RPD: 22	[NR]	[NR]
Fluorene	mg/kg	0.1	GC.12	<0.1	10423-8	16 21 RPD: 27	LCS	91%
Phenanthrene	mg/kg	0.1	GC.12	<0.1	10423-8	70 90 RPD: 25	LCS	87%
Anthracene	mg/kg	0.1	GC.12	<0.1	10423-8	18 23 RPD: 24	[NR]	[NR]
Fluoranthene	mg/kg	0.1	GC.12	<0.1	10423-8	88 110 RPD: 22	LCS	106%
Pyrene	mg/kg	0.1	GC.12	<0.1	10423-8	83 100 RPD: 19	LCS	105%
Benzo(a)anthracene	mg/kg	0.1	GC.12	<0.1	10423-8	30 38 RPD: 24	[NR]	[NR]
Chrysene	mg/kg	0.1	GC.12	<0.1	10423-8	29 36 RPD: 22	LCS	99%
Benzo(b,k)fluoranthene	mg/kg	0.2	GC.12	<0.2	10423-8	61 73 RPD: 18	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	GC.12	<0.05	10423-8	47 57 RPD: 19	LCS	98%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	GC.12	<0.1	10423-8	32 38 RPD: 17	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	GC.12	<0.1	10423-8	3.1 4.0 RPD: 25	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	GC.12	<0.1	10423-8	30 35 RPD: 15	[NR]	[NR]
Surrogate p-Terphenyl-d ₁₄	%		GC.12	[NT]	10423-8	92 93 RPD: 1	LCS	97%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Acid Extractable metals in soil								
Arsenic	mg/kg	4	Metals.20	<4.0	10423-12	<4.0 <4.0	LCS	97%
Cadmium	mg/kg	1	Metals.20	<1.0	10423-12	<1.0 <1.0	LCS	97%
Chromium	mg/kg	1	Metals.20	<1.0	10423-12	1.4 1.4 RPD: 0	LCS	101%
Copper	mg/kg	1	Metals.20	<1.0	10423-12	1.2 1.3 RPD: 8	LCS	103%
Lead	mg/kg	1	Metals.20	<1.0	10423-12	1.3 1.3 RPD: 0	LCS	98%
Mercury	mg/kg	0.1	Metals.21	<0.10	10423-12	<0.10 <0.10	LCS	112%
Nickel	mg/kg	1	Metals.20	<1.0	10423-12	<1.0 <1.0	LCS	100%
Zinc	mg/kg	1	Metals.20	<1.0	10423-12	4.5 4.5 RPD: 0	LCS	98%
Manganese	mg/kg	1	Metals.20	<1.0	10423-12	10 9.7 RPD: 3	LCS	101%
QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD		
Moisture	%	0.1	LAB.8	<0.10	10423-8	9.8 9.8 RPD: 0		
QUALITY CONTROL Miscellaneous Inorg - soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
pH 1:5 soil:water	pH Units		LAB.1	[NT]	[NT]	[NT]	LCS	101%
QUALITY CONTROL PAHs in TCLP (USEPA 1311)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base II Duplicate II %RPD	Spike Sm#	Spike % Recovery
Date extracted	--			[NT]	[NT]	[NT]	[NR]	[NR]
Date analysed	--			[NT]	[NT]	[NT]	[NR]	[NR]
Naphthalene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	80%
Acenaphthylene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	85%
Phenanthrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	77%
Anthracene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	94%
Pyrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	93%
Benzo(a)anthracene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	88%
Benzo(b,k)fluoranthene	mg/L	0.002	GC.12	<0.002	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	73%
Indeno(1,2,3-c,d)pyrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		GC.12	[NT]	[NT]	[NT]	LCS	82%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in water leach						Base II Duplicate II %RPD		
Date extracted	--			[NT]	[NT]	[NT]	[NR]	[NR]
Date analysed	--			[NT]	[NT]	[NT]	[NR]	[NR]
Naphthalene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	80%
Acenaphthylene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	85%
Phenanthrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	77%
Anthracene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	94%
Pyrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	93%
Benzo(a)anthracene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	88%
Benzo(b,k)fluoranthene	mg/L	0.002	GC.12	<0.002	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	LCS	93%
Indeno(1,2,3-c,d)pyrene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/L	0.001	GC.12	<0.001	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d14	%		GC.12	[NT]	[NT]	[NT]	LCS	82%
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Metals in TCLP						Base II Duplicate II %RPD		
Arsenic in TCLP	mg/L	0.05	Metals.20	<0.05	[NT]	[NT]	LCS	109%
Cadmium in TCLP	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	105%
Chromium in TCLP	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	105%
Copper in TCLP	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	102%
Lead in TCLP	mg/L	0.03	Metals.20	<0.03	[NT]	[NT]	LCS	103%
Mercury in TCLP	mg/L	0.0005	Metals.21	<0.0005	[NT]	[NT]	LCS	86%
Nickel in TCLP	mg/L	0.02	Metals.20	<0.02	[NT]	[NT]	LCS	103%
Zinc in TCLP	mg/L	0.02	Metals.20	<0.02	[NT]	[NT]	LCS	107%
Manganese in TCLP	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	103%

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Metals in water leach						Base II Duplicate II %RPD		
Arsenic in TCLP - bottle	mg/L	0.05	Metals.20	<0.05	[NT]	[NT]	LCS	100%
Cadmium in TCLP - bottle	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	101%
Chromium in TCLP - bottle	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	104%
Copper in TCLP - bottle	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	104%
Lead in TCLP - bottle	mg/L	0.03	Metals.20	<0.03	[NT]	[NT]	LCS	102%
Mercury in TCLP - bottle	mg/L	0.0005	Metals.21	<0.0005	[NT]	[NT]	LCS	81%
Nickel in TCLP - bottle	mg/L	0.02	Metals.20	<0.02	[NT]	[NT]	LCS	104%
Zinc in TCLP - bottle	mg/L	0.02	Metals.20	<0.02	[NT]	[NT]	LCS	105%
Manganese in TCLP- bottle	mg/L	0.01	Metals.20	<0.01	[NT]	[NT]	LCS	104%
QUALITY CONTROL	UNITS	Dup. Sm#		Duplicate		Spike Sm#	Spike % Recovery	
Acid Extractable metals in soil				Base + Duplicate + %RPD				
Arsenic	mg/kg	10423-76		<4.0 <4.0		10423-78	104%	
Cadmium	mg/kg	10423-76		<1.0 <1.0		10423-78	105%	
Chromium	mg/kg	10423-76		<1.0 <1.0		10423-78	110%	
Copper	mg/kg	10423-76		<1.0 <1.0		10423-78	113%	
Lead	mg/kg	10423-76		<1.0 <1.0		10423-78	94%	
Mercury	mg/kg	10423-76		<0.10 <0.10		10423-78	126%	
Nickel	mg/kg	10423-76		<1.0 <1.0		10423-78	99%	
Zinc	mg/kg	10423-76		1.5 1.4 RPD: 7		10423-78	94%	
Manganese	mg/kg	10423-76		10 11 RPD: 10		10423-78	#	
QUALITY CONTROL	UNITS	Dup. Sm#		Duplicate				
Moisture				Base + Duplicate + %RPD				
Moisture	%	10423-12		19 19 RPD: 0				
QUALITY CONTROL	UNITS	Dup. Sm#		Duplicate				
Moisture				Base + Duplicate + %RPD				
Moisture	%	10423-76		19 19 RPD: 0				

Report Comments:

Asbestos: A portion of the supplied sample was sub-sampled for asbestos according to Envirolab procedures. We cannot guarantee that this sub-sample is indicative of the entire sub-sample. Envirolab recommends supplying 30-40g of sample in it's own container.

Trace Elements: spike recovery for Manganese could not be calculated due to a high level of the analyte present in the sample. However, an acceptable recovery has been obtained for the Laboratory Control Sample.

Total Petroleum Hydrocarbons in soil: # Percent recovery not available due to significant background levels of analyte in the sample.

Asbestos analysed by: Tania Notaras

INS: Insufficient sample for this test

NT: Not tested

PQL: Practical Quantitation Limit

RPD: Relative Percent Difference

NA: Test not required

LCS: Laboratory Control Sample

NR: Not requested

<: Less than

>: Greater than

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:

Duplicates: <5xPQL - any RPD is acceptable;

>5xPQL - 0-50% RPD is acceptable.

Matrix Spikes and LCS: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for

SVOC and speciated phenols is acceptable.

Surrogates: Generally 60-140% is acceptable.

CHAIN OF CUSTODY



PROJECT NO.: 40184-L4						LABORATORY BATCH NO:																	
PROJECT NAME: Honeysuckle ESA						SAMPLERS: Mike Parker																	
SEND REPORT TO: Cathy Roberts						SEND INVOICE TO: Cathy Roberts						PHONE: 83381011						EMAIL: croberts@jbsgroup.com.au					
DATE NEEDED BY: Standard TAT						QC LEVEL: NEPM 1999																	
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:																							
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	8 metals	Mn	TPH	BTEX	PAHs	TC8 Met	TC1P Mn	TC1P PAH	SPL8 Met	SPLP Mn	SPLP PAH	Asbestos	NOTES					
L4SB11-0.1	soil	28-307		13																			
L4SB11-0.5																							
L4SB11-1.0																							
L4SB11-1.5						X	X	X	X	X	X	X	X	X	X	X	X						
L4SB11-2.0																							
L4SB11-2.5																							
L4SB11-3.0																							
L4SD10-0.1						X	X	X	X	X							X						
L4SD10-0.3																							
L4SD10-0.5																							
L4SD10-1.0																							
L4SD10-1.5						X	X	X	X	X	X	X	X	X	X	X	X						
L4SD10-2.0																							
L4SD10-2.5																							
L4SD10-3.0																							
L4SD9-0.1						X	X	X	X	X													
L4SD9-0.3																							
L4SD9-0.5																							

Envirolab Services
54 Frenchs Rd
Willoughby NSW 2068
Ph: 9958 5801

Job No: **10423**
Date received: **2/4/07**
Received by: **SB**
Time: **12pm**
Temp: **Cool/Ambient**
Security: **Intact/Broken/None**

RELINQUISHED BY		METHOD OF SHIPMENT:		RECEIVED BY:		FOR RECEIVING LAB USE ONLY:	
NAME: Mike Parker	DATE: 30/3	CONSIGNMENT NOTE NO.		NAME:	DATE:	COOLER SEAL Yes No Intact Broken	
OF: JBS		TRANSPORT CO.		OF:		COOLER TEMP: dec C	
NAME:	DATE:	CONSIGNMENT NOTE NO.		NAME:	DATE:	COOLER SEAL Yes No Intact Broken	
OF:		TRANSPORT CO.		OF:		COOLER TEMP: dec C	

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Presv.; C = Sodium Hydroxide Presv.; VC = Hydrochloric Acid Presv. Vial; VS = Sulfuric Acid Presv. Vial; S = Sulfuric Acid Presv.; Z = Zinc Presv.; E = EDTA Presv.; ST = Sterile Bottle; O = Other

PROJECT NO.: 40184 - Lee 4						LABORATORY BATCH NO.																	
PROJECT NAME: Honeysuckle ESA						SAMPLERS: Mike Parker																	
SEND REPORT TO: Cathy Roberts						SEND INVOICE TO: Cathy Roberts						PHONE: 888 104						EMAIL: c.roberts@jbsgroup.co.uk					
DATE NEEDED BY: STA TAT						QC LEVEL: NEPM 1999 (✓)																	
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:																							
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	8 metals	Mn	TPH	BTEX	PAHs	TCLP 8Met	TCLP Mn	TCLP PAHs	SPLP 8Met	SPLP Mn	SPLP PAHs	NOTES						
L4SB9-1.0	soil	28.3		1J																			
L4SB9-1.5						X	X	X	X	X													
L4SB9-2.0																							
L4SB9-2.5																							
L4SB9-3.0																							
L4SB4-0.1																							
L4SB4-0.3																							
L4SB4-0.5																							
L4SB4-1.0																							
L4SB4-1.5						X	X	X		X	X	X	X	X	X	X	X						
L4SB4-2.0																							
L4SB4-2.5																							
L4SB4-3.0																							
L4SB3-0.1																							
L4SB3-0.3																							
L4SB3-0.5						X	X			X													
L4SB3-1.0																							
L4SB3-1.5	✓	✓		✓		X	X			X													

RELINQUISHED BY:

NAME: Mike Parker

OF: JBS

DATE: 30/3

METHOD OF SHIPMENT:

CONSIGNMENT NOTE NO.

TRANSPORT CO.

RECEIVED BY:

NAME:

OF:

DATE:

FOR RECEIVING LAB USE ONLY:

COOLER SEAL: Yes No Intact Broken

COOLER TEMP: deg C

COOLER SEAL: Yes No Intact Broken

COOLER TEMP: deg C

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Presv.; C = Sodium Hydroxide Presv.; VC = Hydrochloric Acid Presv Vial; VS = Sulfuric Acid Presv Vial; S = Sulfuric Acid Presv; Z = Zinc Presv; E = EDTA Presv; ST = Sterile Bottle; O = Other

02/04/2007 10:21

+61-2-8338-1700

JBS GROUP

PAGE 02/15



CHAIN OF CUSTODY

[illegible]

CHAIN OF CUSTODY



02/04/2007 10:21 +61-2-8338-1700 JBS GROUP PAGE 05/15

PROJECT NO.: 40184 - L4						LABORATORY BATCH NO.																	
PROJECT NAME: Honey-suckle ESA						SAMPLERS: Mike Parker																	
SEND REPORT TO: Cathy Roberts						SEND INVOICE TO: Cathy Roberts						PHONE: 8338 1011						EMAIL: craberts@jbsgroup.com.au					
DATE NEEDED BY: STA TAT						QC LEVEL: NEPM 1999																	
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:																							
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	Metals	Mn	TPH	BTEX	PAHs	TCIP 8 Met	TECP Mn	TECP PAHs	SPLP 8 Met	SPLP Mn	SPLP PAHs	NOTES						
L4SB1-0.1	Soil	29/3/07		13																			
L4SB1-0.3																							
L4SB1-0.5																							
L4SB1-1.0					X					X			X			X							
L4SB1-1.5																							
L4SB1-2.0																							
L4SB1-2.5																							
L4SB1-3.0																							
L4SB1-3.5																							
L4SB1-4.0																							
L4SB1-4.5																							
L4SB1-5.0						X	X			X	X	X	X	X	X	X							
L4SB5-0.1																							
L4SB5-0.3						X	X			X													
L4SB5-0.5																							
L4SB5-1.0																							
L4SB5-1.5																							
L4SB5-2.0																							

RELINQUISHED BY:		METHOD OF SHIPMENT:		RECEIVED BY:		FOR RECEIVING LAB USE ONLY:	
NAME: Mike Parker	DATE: 30/3	CONSIGNMENT NOTE NO.		NAME:	DATE:	COOLER SEAL: Yes No Intact Broken	
OF: JBS		TRANSPORT CO.		OF:		COOLER TEMP: deg C	
NAME:	DATE:	CONSIGNMENT NOTE NO.		NAME:	DATE:	COOLER SEAL: Yes No Intact Broken	
OF:		TRANSPORT CO.		OF:		COOLER TEMP: deg C	

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Presvd; C = Sodium Hydroxide Presvd; VC = Hydrochloric Acid Presvd; VS = Sulfuric Acid Presvd; S = Sulfuric Acid Presvd; Z = Zinc Presvd; E = EDTA Presvd; ST = Sterile Water; D = Other

JBS Environmental Pty Ltd ABN 67 071 842 638
 Phone: (02) 8338-0111
 Fax: (02) 8338-1710
 FORM Q013

Suite 2, 595 Gardeners Road MASCOT NSW 2020
 PO Box 940 MASCOT NSW 1460
 www.jbsgroup.com.au

JBS
ENVIRONMENTAL

JBS Environmental Pty Ltd A3N 67 071 842 638
Phone: (32) 8338-1011
Fax: (02) 8338-1700
FORM Q013

02/04/2007 10:21 +61-2-8338-1700 JBS GROUP PAGE 06/15



Envirolab Services Pty Ltd

ABN 37 112 535 645

54 Frenchs Rd Willoughby NSW 2068

ph 02 9958 5801 fax 02 9958 5803

email: tnotaras@envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client:

JBS Environmental
P.O. Box 940
MASCOT NSW 1460

ph: 8338 1013
Fax: 8338 1700

Attention: Cathy Roberts

Sample log in details:

Your reference:	40184, Honeysuckle ESA (Lee 4)
Envirolab Reference:	10423
Date received:	02/04/07
Date results expected to be reported:	11/04/07

Samples received in appropriate condition for analysis:	YES
Turnaround time requested:	24hr
Temperature on receipt	Cool
Cooling Method:	Ice
Completed documentation received:	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 9958 5801 fax: 02 9958 5803

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



Envirolab Services Pty Ltd

ABN 37 112 535 645

54 Frenchs Rd Willoughby NSW 2068

ph 02 9958 5801 fax 02 9958 5803

email: tnotaras@envirolabservices.com.au

CERTIFICATE OF ANALYSIS 10434

Client:

JBS Environmental

P.O. Box 940

MASCOT

NSW 1460

Attention: Cathy Roberts

Sample log in details:

Your Reference:

40184, Honeysuckle Dev. Corporation

No. of samples:

2 Waters

Date samples received:

02/04/07

Date completed instructions received:

02/04/07

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:

11/04/07

Date of Preliminary Report:

Not Issued

Issue Date:

5/04/07

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Tests not covered by NATA are denoted with *.

Results Approved By:

David Springer
Business Development & Quality Manager

Envirolab Reference: 10434
Revision No: R 00



Page 1 of 5

BTEX in Water Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	10434-1 Trip Blank 26/03/07 Water	10434-2 Trip Spike 26/03/07 Water
Date extracted	--	4/04/2007	4/04/2007
Date analysed	--	4/04/2007	4/04/2007
Benzene	µg/L	<1.0	92%
Toluene	µg/L	<1.0	102%
Ethylbenzene	µg/L	<1.0	101%
m+p-xylene	µg/L	<2.0	103%
o-xylene	µg/L	<1.0	102%
Surrogate Dibromofluoromethane	%	104	97
Surrogate toluene-d8	%	98	96
Surrogate 1-bromo-4-fluorotoluene	%	93	100

Method ID	Methodology Summary
GC.13	Water samples are analysed directly by purge and trap GC-MS.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
BTEX in Water						Base II Duplicate II %RPD		
Date extracted	--			[NT]	[NT]	[NT]	[NR]	[NR]
Date analysed	--			[NT]	[NT]	[NT]	[NR]	[NR]
Benzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	89%
Toluene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	107%
Ethylbenzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	103%
m+p-xylene	µg/L	2	GC.13	<2.0	[NT]	[NT]	LCS	108%
o-xylene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	107%
Surrogate	%		GC.13	[NT]	[NT]	[NT]	LCS	93%
Dibromofluoromethane								
Surrogate toluene-d8	%		GC.13	[NT]	[NT]	[NT]	LCS	70%
Surrogate	%		GC.13	[NT]	[NT]	[NT]	LCS	96%
1-bromo-4-fluorotoluene								

Report Comments:

Asbestos analysed by: Not applicable for this job

INS: Insufficient sample for this test

NT: Not tested

PQL: Practical Quantitation Limit

RPD: Relative Percent Difference

NA: Test not required

LCS: Laboratory Control Sample

NR: Not requested

<: Less than

>: Greater than

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:

Duplicates: <5xPQL - any RPD is acceptable;

>5xPQL - 0-50% RPD is acceptable.

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

Surrogates: Generally 60-140% is acceptable.

FORM 0013



Envirolab Services Pty Ltd

ABN 37 112 535 645

54 Frenchs Rd Willoughby NSW 2068

ph 02 9958 5801 fax 02 9958 5803

email: tnotaras@envirolabservices.com.au

CERTIFICATE OF ANALYSIS 10610

Client:

JBS Environmental

P.O. Box 940

MASCOT

NSW 1460

Attention: Cathy Roberts

Sample log in details:

Your Reference:

40184, Honeysuckle ESA (Lee 4)

No. of samples:

8 Waters

Date samples received:

16/04/07

Date completed instructions received:

16/04/07

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:

23/04/07

Date of Preliminary Report:

Not Issued

Issue Date:

23/04/07

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Results Approved By:


Jacinta Hurst
Operations Manager

Envirolab Reference: 10610
Revision No: R 01



vTPH & BTEX in Water	UNITS	10610-1	10610-2	10610-3	10610-4	10610-5
Our Reference:	-----	L4OldMW1	L4MW07/1	L4MW07/2	L4MWA	QC3
Your Reference	-----	12/04/07	12/04/07	12/04/07	12/04/07	12/04/07
Date Sampled		Water	Water	Water	Water	Water
Type of sample						
Date extracted	--	17/04/2007	17/04/2007	17/04/2007	17/04/2007	17/04/2007
Date analysed	--	17/04/2007	17/04/2007	17/04/2007	17/04/2007	17/04/2007
TPH C ₆ - C ₉	µg/L	<10	<10	<10	<10	<10
Benzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
m+p-xylene	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
o-xylene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Surrogate Dibromofluoromethane	%	95	88	89	93	91
Surrogate toluene-d8	%	98	97	92	93	97
Surrogate 1-bromo-4-fluorotoluene	%	96	92	92	97	100

vTPH & BTEX in Water	UNITS	10610-6	10610-7	10610-8
Our Reference:	-----	Trip Blank	Trip Spike	Lee 4 Rinsate
Your Reference	-----	10/04/07	10/04/07	12/04/07
Date Sampled		Water	Water	Water
Type of sample				
Date extracted	--	17/04/2007	17/04/2007	17/04/2007
Date analysed	--	17/04/2007	17/04/2007	17/04/2007
TPH C ₆ - C ₉	µg/L	[NA]	[NA]	<10
Benzene	µg/L	<1.0	122%	<1.0
Toluene	µg/L	<1.0	110%	<1.0
Ethylbenzene	µg/L	<1.0	107%	<1.0
m+p-xylene	µg/L	<2.0	105%	<2.0
o-xylene	µg/L	<1.0	102%	<1.0
Surrogate Dibromofluoromethane	%	95	96	93
Surrogate toluene-d8	%	99	98	102
Surrogate 1-bromo-4-fluorotoluene	%	91	92	92

sTPH in Water (C10-C36)						
Our Reference:	UNITS	10610-1	10610-2	10610-3	10610-4	10610-5
Your Reference	-----	L4OldMW1	L4MW07/1	L4MW07/2	L4MWA	QC3
Date Sampled	-----	12/04/07	12/04/07	12/04/07	12/04/07	12/04/07
Type of sample		Water	Water	Water	Water	Water
Date extracted	--	18/04/2007	18/04/2007	18/04/2007	18/04/2007	18/04/2007
Date analysed	--	18/04/2007	18/04/2007	18/04/2007	18/04/2007	18/04/2007
TPH C10 - C14	µg/L	<50	<50	<50	<50	<50
TPH C15 - C28	µg/L	370	<100	<100	<100	<100
TPH C29 - C36	µg/L	<100	<100	<100	<100	<100
Surrogate o-Terphenyl	%	#	92	78	87	97

sTPH in Water (C10-C36)		
Our Reference:	UNITS	10610-8
Your Reference	-----	Lee 4 Rinsate
Date Sampled	-----	12/04/07
Type of sample		Water
Date extracted	--	18/04/2007
Date analysed	--	18/04/2007
TPH C10 - C14	µg/L	<50
TPH C15 - C28	µg/L	<100
TPH C29 - C36	µg/L	<100
Surrogate o-Terphenyl	%	88

PAHs in Water Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	10610-1 L4OldMW1 12/04/07 Water	10610-2 L4MW07/1 12/04/07 Water	10610-3 L4MW07/2 12/04/07 Water	10610-4 L4MWA 12/04/07 Water	10610-5 QC3 12/04/07 Water
Date extracted	--	18/04/2007	18/04/2007	18/04/2007	18/04/2007	18/04/2007
Date analysed	--	19/04/2007	19/04/2007	19/04/2007	19/04/2007	19/04/2007
Naphthalene	µg/L	<0.1	0.1	<0.1	<0.1	0.1
Acenaphthylene	µg/L	7.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	µg/L	8.4	0.4	0.3	<0.1	0.5
Fluorene	µg/L	<0.1	0.3	<0.1	<0.1	0.3
Phenanthrene	µg/L	0.5	1.1	<0.1	<0.1	1.3
Anthracene	µg/L	0.4	0.1	<0.1	<0.1	0.1
Fluoranthene	µg/L	1.9	1.1	2.6	<0.1	1.3
Pyrene	µg/L	13	1.2	1.6	<0.1	1.4
Benzo(a)anthracene	µg/L	8.7	0.2	<0.1	<0.1	0.2
Chrysene	µg/L	0.4	0.2	<0.1	<0.1	0.3
Benzo(b,k)fluoranthene	µg/L	0.3	0.3	<0.2	<0.2	0.3
Benzo(a)pyrene	µg/L	<0.1	0.2	<0.1	<0.1	0.2
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1	0.1	<0.1	<0.1	0.1
Dibenzo(a,h)anthracene	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1	0.1	<0.1	<0.1	0.2
Surrogate p-Terphenyl-d ₁₄	%	92	78	70	92	98

PAHs in Water Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	10610-8 Lee 4 Rinsate 12/04/07 Water
Date extracted	--	18/04/2007
Date analysed	--	19/04/2007
Naphthalene	µg/L	<0.1
Acenaphthylene	µg/L	<0.1
Acenaphthene	µg/L	<0.1
Fluorene	µg/L	<0.1
Phenanthrene	µg/L	<0.1
Anthracene	µg/L	<0.1
Fluoranthene	µg/L	<0.1
Pyrene	µg/L	<0.1
Benzo(a)anthracene	µg/L	<0.1
Chrysene	µg/L	<0.1
Benzo(b,k)fluoranthene	µg/L	<0.2
Benzo(a)pyrene	µg/L	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1
Surrogate p-Terphenyl-d14	%	94

Metals in water - low level	UNITS	10610-1	10610-2	10610-3	10610-4	10610-5
Our Reference:	-----	L4OldMW1	L4MW07/1	L4MW07/2	L4MWA	QC3
Your Reference	-----					
Date Sampled		12/04/07	12/04/07	12/04/07	12/04/07	12/04/07
Type of sample		Water	Water	Water	Water	Water
Arsenic-filtered	µg/L	<1	4.0	1.9	1.6	3.9
Cadmium-filtered	µg/L	<0.1	<0.1	0.4	<0.1	<0.1
Chromium-filtered	µg/L	<1	<5	<1	<1	<5
Copper-filtered	µg/L	<1	<5	<1	<1	<5
Lead-filtered	µg/L	<1	<1	<1	<1	<1
Mercury-filtered	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-filtered	µg/L	1.6	<5	1.3	1.1	<5
Zinc-filtered	µg/L	7.9	9.2	7.3	13	<5
Manganese-filtered	µg/L	110	890	33	21	900

Metals in water - low level	UNITS	10610-8
Our Reference:	-----	Lee 4 Rinsate
Your Reference	-----	
Date Sampled		12/04/07
Type of sample		Water
Arsenic-filtered	µg/L	<1
Cadmium-filtered	µg/L	<0.1
Chromium-filtered	µg/L	<1
Copper-filtered	µg/L	<1
Lead-filtered	µg/L	<1
Mercury-filtered	µg/L	<0.1
Nickel-filtered	µg/L	<1
Zinc-filtered	µg/L	2.1
Manganese-filtered	µg/L	<1

Method ID	Methodology Summary
GC.16	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.
GC.13	Water samples are analysed directly by purge and trap GC-MS.
GC.3	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.
GC.12	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Ext-020	Analysis subcontracted to Australian Government - National Measurement Institute. NATA Accreditation No: 198

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
vTPH & BTEX in Water						Base II Duplicate II %RPD		
Date extracted	--			[NT]	[NT]	[NT]	[NR]	[NR]
Date analysed	--			[NT]	[NT]	[NT]	[NR]	[NR]
TPH C ₆ - C ₉	µg/L	10	GC.16	<10	[NT]	[NT]	LCS	111%
Benzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	112%
Toluene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	100%
Ethylbenzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	115%
m+p-xylene	µg/L	2	GC.13	<2.0	[NT]	[NT]	LCS	118%
o-xylene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	122%
Surrogate	%		GC.13	[NT]	[NT]	[NT]	LCS	100%
Dibromofluoromethane								
Surrogate toluene-d8	%		GC.13	[NT]	[NT]	[NT]	LCS	91%
Surrogate	%		GC.13	[NT]	[NT]	[NT]	LCS	107%
1-bromo-4-fluorotoluene								
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
sTPH in Water (C ₁₀ -C ₃₆)						Base II Duplicate II %RPD		
Date extracted	--			[NT]	[NT]	[NT]	[NR]	[NR]
Date analysed	--			[NT]	[NT]	[NT]	[NR]	[NR]
TPH C ₁₀ - C ₁₄	µg/L	50	GC.3	<50	[NT]	[NT]	LCS	99%
TPH C ₁₅ - C ₂₈	µg/L	100	GC.3	<100	[NT]	[NT]	LCS	93%
TPH C ₂₉ - C ₃₆	µg/L	100	GC.3	<100	[NT]	[NT]	LCS	102%
Surrogate	%		GC.3	[NT]	[NT]	[NT]	LCS	100%
o-Terphenyl								
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
PAHs in Water						Base II Duplicate II %RPD		
Date extracted	--			[NT]	[NT]	[NT]	[NR]	[NR]
Date analysed	--			[NT]	[NT]	[NT]	[NR]	[NR]
Naphthalene	µg/L	0.1	GC.12	<0.1	[NT]	[NT]	LCS	87%
Acenaphthylene	µg/L	0.1	GC.12	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	µg/L	0.1	GC.12	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	µg/L	0.1	GC.12	<0.1	[NT]	[NT]	LCS	91%
Phenanthrene	µg/L	0.1	GC.12	<0.1	[NT]	[NT]	LCS	86%
Anthracene	µg/L	0.1	GC.12	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	µg/L	0.1	GC.12	<0.1	[NT]	[NT]	LCS	100%
Pyrene	µg/L	0.1	GC.12	<0.1	[NT]	[NT]	LCS	99%
Benzo(a)anthracene	µg/L	0.1	GC.12	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	µg/L	0.1	GC.12	<0.1	[NT]	[NT]	LCS	102%
Benzo(b,k)fluoranthene	µg/L	0.2	GC.12	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	µg/L	0.1	GC.12	<0.1	[NT]	[NT]	LCS	88%
Indeno(1,2,3-c,d)pyrene	µg/L	0.1	GC.12	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	µg/L	0.1	GC.12	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	µg/L	0.1	GC.12	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate	%		GC.12	[NT]	[NT]	[NT]	LCS	97%
p-Terphenyl-d ₁₄								

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
Metals in water - low level						Base II Duplicate II %RPD		
Arsenic-filtered	µg/L	1	Ext-020	<1	[NT]	[NT]	LCS	99%
Cadmium-filtered	µg/L	0.1	Ext-020	<0.1	[NT]	[NT]	LCS	105%
Chromium-filtered	µg/L	1	Ext-020	<1	[NT]	[NT]	LCS	95%
Copper-filtered	µg/L	1	Ext-020	<1	[NT]	[NT]	LCS	97%
Lead-filtered	µg/L	1	Ext-020	<1	[NT]	[NT]	LCS	108%
Mercury-filtered	µg/L	0.1	Ext-020	<0.1	[NT]	[NT]	LCS	101%
Nickel-filtered	µg/L	1	Ext-020	<1	[NT]	[NT]	LCS	90%
Zinc-filtered	µg/L	1	Ext-020	<1	[NT]	[NT]	LCS	107%
Manganese-filtered	µg/L	1	Ext-020	<1	[NT]	[NT]	LCS	100%

Report Comments:

Total Petroleum Hydrocarbons in water: # Percent recovery not available due to significant background levels of analyte in the sample

Metals analysed by NMI: Report number - RN 610848

PQL is raised for some samples due to the salinity of the sample.

Asbestos analysed by: Not applicable for this job

INS: Insufficient sample for this test

NT: Not tested

PQL: Practical Quantitation Limit

RPD: Relative Percent Difference

NA: Test not required

LCS: Laboratory Control Sample

NR: Not requested

<: Less than

>: Greater than

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:

Duplicates: <5xPQL - any RPD is acceptable;

>5xPQL - 0-50% RPD is acceptable.

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

Surrogates: Generally 60-140% is acceptable.

CHAIN OF CUSTODY

[illegible]



Envirolab Services Pty Ltd

ABN 37 112 535 645

54 Frenchs Rd Willoughby NSW 2068

ph 02 9958 5801 fax 02 9958 5803

email: tnotaras@envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client:

JBS Environmental
P.O. Box 940
MASCOT NSW 1460

ph: 8338 1013

Fax: 8338 1700

Attention: Cathy Roberts

Sample log in details:

Your reference:	40184, Honeysuckle ESA (Lee 4)
Envirolab Reference:	10610
Date received:	16/04/07
Date results expected to be reported:	23/04/07

Samples received in appropriate condition for analysis:	YES
Turnaround time requested:	Standard
Temperature on receipt	Cool
Cooling Method:	Ice
Completed documentation received:	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 9958 5801 fax: 02 9958 5803

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

4 April 2007

TEST REPORT

JBS Environmental Pty Ltd

PO Box 940

MASCOT

NSW 1460

Your Reference: 40184

Report Number: 51627

Attention: Cathy Roberts

Dear Cathy

The following samples were received from you on the date indicated.

Samples:	Qty.	5 Soils
Date of Receipt of Samples:	27/03/07@4.15pm	
Date of Receipt of Instructions:	27/03/07	
Date Preliminary Report Emailed:	Not Issued	

These samples were analysed in accordance with your written instructions.

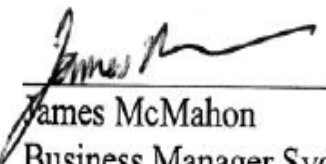
A copy of the instructions is attached with the analytical report.

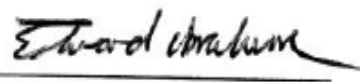
The results and associated quality control are contained in the following pages of this report. Unless otherwise stated, solid samples are expressed on a dry weight basis (moisture has been supplied for your information only), air and liquid samples as received.

Should you have any queries regarding this report please contact the undersigned.

Yours faithfully

SGS ENVIRONMENTAL SERVICES


James McMahon
Business Manager Sydney
Approved Signatory


Edward Ibrahim
Laboratory Services Manager

BTEX in Soil	UNITS	51627-3	51627-4
Our Reference:	-----	QA3A	QA8A
Your Reference	-----	soil	soil
Sample Type			
Date Sampled		20/03/2007	22/03/2007
Benzene	mg/kg	<0.5	<0.5
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<0.5	<0.5
Total Xylenes	mg/kg	<1.5	<1.5
BTEX Surrogate (%)	%	83	85

TRH in soil with..C6-C9 by P/T			
Our Reference:	UNITS	51627-3	51627-4
Your Reference	-----	QA3A	QA8A
Sample Type	-----	soil	soil
Date Sampled		20/03/2007	22/03/2007
TRH C ₆ - C ₉ P&T	mg/kg	<20	<20
TRH C ₁₀ - C ₁₄	mg/kg	100	<20
TRH C ₁₅ - C ₂₈	mg/kg	140	<50
TRH C ₂₉ - C ₃₆	mg/kg	83	230

PAHs in Soil Our Reference: Your Reference Sample Type Date Sampled	UNITS ----- -----	51627-3 QA3A soil 20/03/2007	51627-4 QA8A soil 22/03/2007
Naphthalene	mg/kg	1.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.2	<0.1
Phenanthrene	mg/kg	0.4	0.5
Anthracene	mg/kg	<0.1	0.1
Fluoranthene	mg/kg	0.5	1.7
Pyrene	mg/kg	0.5	1.7
Benzo[a]anthracene	mg/kg	0.3	0.5
Chrysene	mg/kg	0.2	0.5
Benzo[b,k]fluoranthene	mg/kg	0.4	1.1
Benzo[a]pyrene	mg/kg	0.26	0.79
Indeno[123-cd]pyrene	mg/kg	0.1	0.6
Dibenzo[ah]anthracene	mg/kg	<0.1	<0.1
Benzo[ghi]perylene	mg/kg	0.2	0.8
Total PAH's	mg/kg	<4.56	<8.79
Nitrobenzene-d5	%	89	88
2-Fluorobiphenyl	%	88	87
p -Terphenyl-d14	%	98	97

Moisture			
Our Reference:	UNITS	51627-3	51627-4
Your Reference	-----	QA3A	QA8A
Sample Type	-----	soil	soil
Date Sampled		20/03/2007	22/03/2007
Moisture	%	9	5

Method ID	Methodology Summary
SEO-017	BTEX/TRH C6-C9 - Determination by Purge and Trap Gas Chromatography with Flame Ionisation Detection (FID) and Photo Ionisation Detection (PID). The surrogate spike used is aaa-trifluorotoluene.
SEO-018	BTEX - Determination by purge and trap/ Gas Chromatography with MS Detection.
SEO-020	TRH - Determination of Total Recoverable Hydrocarbons by gas chromatography following extraction with DCM/Acetone for solids and DCM for liquids.
SEO-030	PAHs by GC/MS - Determination of Polynuclear Aromatic Hydrocarbons (PAH's) by Gas Chromatography / Mass Spectrometry following extraction with dichloromethane or dichloromethane/acetone. The surrogate spike used is p-Terphenyl-d14.
AN002	Preparation of soils, sediments and sludges undergo analysis by either air drying, compositing, subsampling and 1:5 soil water extraction where required. Moisture content is determined by drying the sample at 103-105C.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
BTEX in Soil								
Benzene	mg/kg	0.5	SEO-017	<0.5	[NT]	[NT]	LCS	79 [N/T]
Toluene	mg/kg	0.5	SEO-017	<0.5	[NT]	[NT]	LCS	80 [N/T]
Ethylbenzene	mg/kg	0.5	SEO-017	<0.5	[NT]	[NT]	LCS	78 [N/T]
Total Xylenes	mg/kg	1.5	SEO-017	<1.5	[NT]	[NT]	LCS	79 [N/T]
BTEX Surrogate (%)	%	0	SEO-018	91	[NT]	[NT]	LCS	88 [N/T]
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
TRH in soil with..C6-C9 by P/T								
TRH C ₆ - C ₉ P&T	mg/kg	20	SEO-017	<20	[NT]	[NT]	LCS	101 [N/T]
TRH C ₁₀ - C ₁₄	mg/kg	20	SEO-020	<20	[NT]	[NT]	LCS	87 [N/T]
TRH C ₁₅ - C ₂₈	mg/kg	50	SEO-020	<50	[NT]	[NT]	LCS	83 [N/T]
TRH C ₂₉ - C ₃₆	mg/kg	50	SEO-020	<50	[NT]	[NT]	LCS	80 [N/T]
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
PAHs in Soil								
Naphthalene	mg/kg	0.1	SEO-030	<0.1	[NT]	[NT]	LCS	90 [N/T]
Acenaphthylene	mg/kg	0.1	SEO-030	<0.1	[NT]	[NT]	LCS	76 [N/T]
Acenaphthene	mg/kg	0.1	SEO-030	<0.1	[NT]	[NT]	LCS	106 [N/T]
Fluorene	mg/kg	0.1	SEO-030	<0.1	[NT]	[NT]	[NR]	[NR]
Phenanthrene	mg/kg	0.1	SEO-030	<0.1	[NT]	[NT]	LCS	92 [N/T]
Anthracene	mg/kg	0.1	SEO-030	<0.1	[NT]	[NT]	LCS	97 [N/T]
Fluoranthene	mg/kg	0.1	SEO-030	<0.1	[NT]	[NT]	LCS	89 [N/T]
Pyrene	mg/kg	0.1	SEO-030	<0.1	[NT]	[NT]	LCS	89 [N/T]
Benzo[a]anthracene	mg/kg	0.1	SEO-030	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	SEO-030	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo[b,k]fluoranthene	mg/kg	0.2	SEO-030	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo[a]pyrene	mg/kg	0.05	SEO-030	<0.05	[NT]	[NT]	LCS	96 [N/T]
Indeno[123-cd]pyrene	mg/kg	0.1	SEO-030	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo[ah]anthracene	mg/kg	0.1	SEO-030	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo[ghi]perylene	mg/kg	0.1	SEO-030	<0.1	[NT]	[NT]	[NR]	[NR]
Total PAH's	mg/kg	1.55	SEO-030	1.55	[NT]	[NT]	[NR]	[NR]
Nitrobenzene-d5	%	0	SEO-030	91	[NT]	[NT]	LCS	92 [N/T]
2-Fluorobiphenyl	%	0	SEO-030	92	[NT]	[NT]	LCS	92 [N/T]
p -Terphenyl-d14	%	0	SEO-030	95	[NT]	[NT]	LCS	92 [N/T]

QUALITY CONTROL Hold sample-NO test required	UNITS	PQL	METHOD	Blank
Sample on HOLD				[NT]
QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank
Moisture	%	1	AN002	<1

Result Codes

[INS]	: Insufficient Sample for this test	[HBG]	: Results not Reported due to High Background Interference
[NR]	: Not Requested	*	: Not part of NATA Accreditation
[NT]	: Not tested	[N/A]	: Not Applicable

Result Comments

level of reporting for PAHs has been raised due to the sample matrix interference.

Date Organics extraction commenced: 02/04/07

NATA Corporate Accreditation No. 2562, Site No 4354

Note: Test results are not corrected for recovery (excluding Dioxins/Furans* and PAH in XAD and PUF).

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Quality Control Protocol

Reagent Blank: Sample free reagents carried through the preparation/extraction/digestion procedure and analysed at the beginning of every sample batch analysis. For larger projects, a reagent blank is prepared and analysed with every 20 samples.

Duplicate: A separate portion of a sample being analysed which is treated the same as the other samples in the batch.

A duplicate is prepared at least every 10 samples.

Matrix Spike Duplicates: Sample replicates spiked with identical concentrations of target analyte(s). The spiking occurs during the sample preparation and prior to the extraction/digestion procedure. They are used to document the precision and bias of a method in a given sample matrix. Where there is not enough sample available to prepare a spiked sample, another known soil/sand or water (or Milli-Q water) may be used. A duplicate spiked sample is prepared at least every 20 samples.

Surrogate Spike: Added to all samples requiring analysis for organics (where relevant) prior to extraction. Used to determine the extraction efficiency. They are organic compounds which are similar to the target analyte(s) in chemical composition and behaviour in the analytical process, but which are not normally found in environmental samples.

Internal Standard: Added to all samples requiring analysis for organics (where relevant) after the extraction process; the compounds serve to give a standard of retention time and response, which is invariant from run-to-run with the instruments.

Control Standards: Prepared from a source independent of the calibration standards. At least one control standard is included in each run to confirm calibration validity.

Additional QC Samples: A calibration standard and blank are run after every 20 samples of an instrumental analysis run to assess analytical drift.



WORLD RECOGNISED
ACCREDITATION

This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC 17025. NATA accredited laboratory 2562 (4354). This report must not be reproduced except in full.

12 April 2007

TEST REPORT

JBS Environmental Pty Ltd

PO Box 940

MASCOT

NSW 1460

Your Reference: 40184, Honeysuckle ESA (Lee 4)

Report Number: 51770

Attention: Cathy Roberts

Dear Cathy

The following samples were received from you on the date indicated.

Samples:	Qty.	5 Soils
Date of Receipt of Samples:		03/04/07
Date of Receipt of Instructions:		03/04/07
Date Preliminary Report Emailed:		Not Issued

These samples were analysed in accordance with your written instructions.

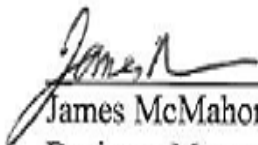
A copy of the instructions is attached with the analytical report.

The results and associated quality control are contained in the following pages of this report. Unless otherwise stated, solid samples are expressed on a dry weight basis (moisture has been supplied for your information only), air and liquid samples as received.

Should you have any queries regarding this report please contact the undersigned.

Yours faithfully

SGS ENVIRONMENTAL SERVICES


James McMahon
Business Manager Sydney
Approved Signatory


Alexandra Stenta
Key Account Representative

BTEX in Soil		
Our Reference:	UNITS	51770-2
Your Reference	-----	QA20A
Sample Type	-----	soil
Date Sampled		28/03/2007
Benzene	mg/kg	<0.5
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<0.5
Total Xylenes	mg/kg	<1.5
BTEX Surrogate (%)	%	94

TRH in soil with..C6-C9 by P/T		
Our Reference:	UNITS	51770-2
Your Reference	-----	QA20A
Sample Type	-----	soil
Date Sampled		28/03/2007
TRH C ₆ - C ₉ P&T	mg/kg	<20
TRH C ₁₀ - C ₁₄	mg/kg	<20
TRH C ₁₅ - C ₂₈	mg/kg	<50
TRH C ₂₉ - C ₃₆	mg/kg	<50

PAHs in Soil Our Reference: Your Reference Sample Type Date Sampled	UNITS ----- -----	51770-2 QA20A soil 28/03/2007	51770-4 QA22a soil 29/03/2007
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	0.4	0.4
Anthracene	mg/kg	<0.1	0.2
Fluoranthene	mg/kg	1.2	1.8
Pyrene	mg/kg	1.2	2.0
Benzo[a]anthracene	mg/kg	0.3	0.9
Chrysene	mg/kg	0.3	0.7
Benzo[b,k]fluoranthene	mg/kg	0.6	1.1
Benzo[a]pyrene	mg/kg	0.38	0.83
Indeno[123-cd]pyrene	mg/kg	0.3	0.3
Dibenzo[ah]anthracene	mg/kg	<0.1	<0.1
Benzo[ghi]perylene	mg/kg	0.3	0.4
Total PAH's	mg/kg	<5.58	<9.13
Nitrobenzene-d5	%	105	113
2-Fluorobiphenyl	%	103	114
p -Terphenyl-d14	%	110	115

Acid Extractable Metals in Soil Our Reference: Your Reference Sample Type Date Sampled	UNITS ----- -----	51770-2 QA20A soil 28/03/2007	51770-4 QA22a soil 29/03/2007
Arsenic	mg/kg	<3	4
Cadmium	mg/kg	<0.1	0.2
Chromium	mg/kg	0.8	48
Copper	mg/kg	<0.5	11
Lead	mg/kg	<1	15
Mercury	mg/kg	<0.05	0.05
Nickel	mg/kg	<0.5	7.2
Zinc	mg/kg	1.4	37

Metals in Soil or Water			
Our Reference:	UNITS	51770-2	51770-4
Your Reference	-----	QA20A	QA22a
Sample Type	-----	soil	soil
Date Sampled		28/03/2007	29/03/2007
Manganese	mg/kg	7.5	1,400

Moisture			
Our Reference:	UNITS	51770-2	51770-4
Your Reference	-----	QA20A	QA22a
Sample Type	-----	soil	soil
Date Sampled		28/03/2007	29/03/2007
Moisture	%	14	18



Method ID	Methodology Summary
SEO-017	BTEX/TRH C6-C9 - Determination by Purge and Trap Gas Chromatography with Flame Ionisation Detection (FID) and Photo Ionisation Detection (PID). The surrogate spike used is aaa-trifluorotoluene.
SEO-018	BTEX - Determination by purge and trap/ Gas Chromatography with MS Detection.
SEO-020	TRH - Determination of Total Recoverable Hydrocarbons by gas chromatography following extraction with DCM/Acetone for solids and DCM for liquids.
SEO-030	PAHs by GC/MS - Determination of Polynuclear Aromatic Hydrocarbons (PAH's) by Gas Chromatography / Mass Spectrometry following extraction with dichloromethane or dichloromethane/acetone. The surrogate spike used is p-Terphenyl-d14.
SEM-010	Metals - Determination of various metals by ICP-AES following aqua regia digest.
SEM-005	Mercury - Determination of Mercury by Cold Vapour Generation Atomic Absorption Spectroscopy.
AN002	Preparation of soils, sediments and sludges undergo analysis by either air drying, compositing, subsampling and 1:5 soil water extraction where required. Moisture content is determined by drying the sample at 105 ± 5°C.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
BTEX in Soil								
Benzene	mg/kg	0.5	SEO-017	<0.5	51770-2	<0.5 <0.5	LCS	88 [N/T]
Toluene	mg/kg	0.5	SEO-017	<0.5	51770-2	<0.5 <0.5	LCS	87 [N/T]
Ethylbenzene	mg/kg	0.5	SEO-017	<0.5	51770-2	<0.5 <0.5	LCS	86 [N/T]
Total Xylenes	mg/kg	1.5	SEO-017	<1.5	51770-2	<1.5 <1.5	LCS	91 [N/T]
BTEX Surrogate (%)	%	0	SEO-018	94	51770-2	94 92 RPD: 2	LCS	100 [N/T]
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
TRH in soil with..C6-C9 by P/T								
TRH C ₆ - C ₉ P&T	mg/kg	20	SEO-017	<20	51770-2	<20 <20	LCS	109 [N/T]
TRH C ₁₀ - C ₁₄	mg/kg	20	SEO-020	<20	51770-2	<20 <20	LCS	91 [N/T]
TRH C ₁₅ - C ₂₈	mg/kg	50	SEO-020	<50	51770-2	<50 <50	LCS	90 [N/T]
TRH C ₂₉ - C ₃₆	mg/kg	50	SEO-020	<50	51770-2	<50 <50	LCS	97 [N/T]
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
PAHs in Soil								
Naphthalene	mg/kg	0.1	SEO-030	<0.1	51770-2	<0.1 <0.1	LCS	92 [N/T]
Acenaphthylene	mg/kg	0.1	SEO-030	<0.1	51770-2	<0.1 <0.1	LCS	83 [N/T]
Acenaphthene	mg/kg	0.1	SEO-030	<0.1	51770-2	<0.1 <0.1	LCS	110 [N/T]
Fluorene	mg/kg	0.1	SEO-030	<0.1	51770-2	<0.1 <0.1	[NR]	[NR]
Phenanthrene	mg/kg	0.1	SEO-030	<0.1	51770-2	0.4 0.4 RPD: 0	LCS	96 [N/T]
Anthracene	mg/kg	0.1	SEO-030	<0.1	51770-2	<0.1 <0.1	LCS	102 [N/T]
Fluoranthene	mg/kg	0.1	SEO-030	<0.1	51770-2	1.2 1.2 RPD: 0	LCS	100 [N/T]
Pyrene	mg/kg	0.1	SEO-030	<0.1	51770-2	1.2 1.1 RPD: 9	LCS	99 [N/T]
Benzo[a]anthracene	mg/kg	0.1	SEO-030	<0.1	51770-2	0.3 0.3 RPD: 0	[NR]	[NR]
Chrysene	mg/kg	0.1	SEO-030	<0.1	51770-2	0.3 0.3 RPD: 0	[NR]	[NR]
Benzo[b,k]fluoranthene	mg/kg	0.2	SEO-030	<0.2	51770-2	0.6 0.5 RPD: 18	[NR]	[NR]
Benzo[a]pyrene	mg/kg	0.05	SEO-030	<0.05	51770-2	0.38 0.38 RPD: 0	LCS	106 [N/T]
Indeno[123-cd]pyrene	mg/kg	0.1	SEO-030	<0.1	51770-2	0.3 0.2 RPD: 40	[NR]	[NR]
Dibenzo[ah]anthracene	mg/kg	0.1	SEO-030	<0.1	51770-2	<0.1 <0.1	[NR]	[NR]
Benzo[ghi]perylene	mg/kg	0.1	SEO-030	<0.1	51770-2	0.3 0.3 RPD: 0	[NR]	[NR]
Total PAH's	mg/kg	1.55	SEO-030	1.55	51770-2	<5.58 <5.28	[NR]	[NR]
Nitrobenzene-d5	%	0	SEO-030	109	51770-2	105 104 RPD: 1	LCS	91 [N/T]
2-Fluorobiphenyl	%	0	SEO-030	108	51770-2	103 104 RPD: 1	LCS	92 [N/T]
p -Terphenyl-d14	%	0	SEO-030	109	51770-2	110 111 RPD: 1	LCS	99 [N/T]

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
Acid Extractable Metals in Soil								
Arsenic	mg/kg	3	SEM-010	<3	51770-2	<3 <3	LCS	101 [N/T]
Cadmium	mg/kg	0.1	SEM-010	<0.1	51770-2	<0.1 <0.1	LCS	103 [N/T]
Chromium	mg/kg	0.3	SEM-010	<0.3	51770-2	0.8 0.9 RPD: 12	LCS	100 [N/T]
Copper	mg/kg	0.5	SEM-010	<0.5	51770-2	<0.5 <0.5	LCS	102 [N/T]
Lead	mg/kg	1	SEM-010	<1	51770-2	<1 <1	LCS	101 [N/T]
Mercury	mg/kg	0.05	SEM-005	<0.05	51770-2	<0.05 <0.05	LCS	111 [N/T]
Nickel	mg/kg	0.5	SEM-010	<0.5	51770-2	<0.5 <0.5	LCS	101 [N/T]
Zinc	mg/kg	0.3	SEM-010	<0.3	51770-2	1.4 1.5 RPD: 7	LCS	99 [N/T]
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
Metals in Soil or Water								
Manganese	mg/kg	0.2	SEM-010	<0.2	51770-2	7.5 11 RPD: 38	LCS	103 [N/T]
QUALITY CONTROL	UNITS	PQL	METHOD	Blank				
Hold sample- NO test required								
Sample on HOLD				[NT]				
QUALITY CONTROL	UNITS	PQL	METHOD	Blank				
Moisture								
Moisture	%	1	AN002	<1				

Result Codes

[INS] : Insufficient Sample for this test
 [NR] : Not Requested
 [NT] : Not tested

[HBG] : Results not Reported due to High Background Interference
 * : Not part of NATA Accreditation
 [N/A] : Not Applicable

Result Comments

Date Organics extraction commenced: 10/04/07

NATA Corporate Accreditation No. 2562, Site No 4354

Note: Test results are not corrected for recovery (excluding Dioxins/Furans* and PAH in XAD and PUF).

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Quality Control Protocol

Reagent Blank: Sample free reagents carried through the preparation/extraction/digestion procedure and analysed at the beginning of every sample batch analysis. For larger projects, a reagent blank is prepared and analysed with every 20 samples.

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Control Standards: Prepared from a source independent of the calibration standards. At least one control standard is included in each run to confirm calibration validity.

Additional QC Samples: A calibration standard and blank are run after every 20 samples of an instrumental analysis run to assess analytical drift.



SGS Environmental Services
Unit 16, 33 Maddox St. Alexandria NSW 2015
Telephone Number : (+61 2) 8594 0400
Fax Number : (+61 2) 8594 0499

SAMPLE RECEIPT CONFIRMATION

COMPANY	:	JBS Environmental Pty Ltd	FAX NO.	:	02 8338 1700
ATTENTION	:	Cathy Roberts	PAGES	:	1
FROM	:	Sample Receipt	DATE	:	4/04/07

This is to confirm that samples for Project **40184, Honeysuckle ESA (Lee 4)** were received on **03/04/07** the results are expected to be ready on **12/04/07**. Please quote SGS Reference: **51770** when making enquiries regarding this project. Please refer to below which details information about the integrity of the samples and other useful information.

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

Samples received in good order:	YES
Samples received in correct containers:	YES
Samples received without headspace:	YES
Sufficient quantity supplied:	YES
Upon receipt sample temperature:	Cool
Cooling Method:	Ice Pack
Sample containers provided by:	Other Lab
Samples Clearly Labelled:	YES
Turnaround time requested:	Standard
Completed documentation received:	YES

Comments:

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ENVIROLAB SERVICES

Client:	JBS	Client Project Name:	Morey Suckle ESA (Lee H)	EnviroLab Services
Contact:	Cathy Roberts	Client Project No.:	40184	54 Frenchs Rd, Willoughby, NSW, 2068
Address:	PO Box 940 Mascot NSW 1460	EnviroLab Services Quote No.:		Phone: 02 9958 5801
Email:	croberts@jbsgroup.com.au	Results Required By:	std.	Fax: 02 9958 5803
Phone:	8338 1011			E-mail: tnotaras@envirolabservices.com.au
Fax:	8338 1700			Contact : Tania Notaras

[illegible]

1 May 2007

TEST REPORT

JBS Environmental Pty Ltd

PO Box 940

MASCOT

NSW 1460

Your Reference: 40184, Honeysuckle ESA, Lee 4

Report Number: 51983

Attention: Cathy Roberts

Dear Cathy

The following samples were received from you on the date indicated.

Samples:	Qty.	1 Water Sample
Date of Receipt of Samples:	16/04/07@5.20pm	
Date of Receipt of Instructions:	16/04/07	
Date Preliminary Report Emailed:	Not Issued	

These samples were analysed in accordance with your written instructions.

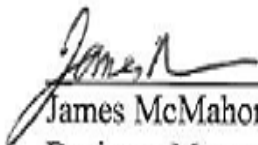
A copy of the instructions is attached with the analytical report.

The results and associated quality control are contained in the following pages of this report. Unless otherwise stated, solid samples are expressed on a dry weight basis (moisture has been supplied for your information only), air and liquid samples as received.

Should you have any queries regarding this report please contact the undersigned.

Yours faithfully

SGS ENVIRONMENTAL SERVICES


James McMahon
Business Manager Sydney
Approved Signatory


Alexandra Stenta
Key Account Representative

BTEX in Water Our Reference: Your Reference Sample Type Date Sampled	UNITS ----- -----	51983-1 QC3A water 12/04/2007
Benzene	mg/L	<0.001
Toluene	mg/L	<0.001
Ethylbenzene	mg/L	<0.001
Total Xylenes	mg/L	<0.003

TRH in water with C6-C9 by P/T		
Our Reference:	UNITS	51983-1
Your Reference	-----	QC3A
Sample Type	-----	water
Date Sampled		12/04/2007
TRH C ₆ - C ₉ P&T	mg/L	<0.040
TRH C ₁₀ - C ₁₄	mg/L	<0.1
TRH C ₁₅ - C ₂₈	mg/L	<0.2
TRH C ₂₉ - C ₃₆	mg/L	<0.2

PAHs in Water Our Reference: Your Reference Sample Type Date Sampled	UNITS ----- -----	51983-1 QC3A water 12/04/2007
Naphthalene	µg/L	<0.1
Acenaphthylene	µg/L	<0.1
Acenaphthene	µg/L	0.5
Fluorene	µg/L	0.3
Phenanthrene	µg/L	0.7
Anthracene	µg/L	0.1
Fluoranthene	µg/L	0.7
Pyrene	µg/L	0.9
Benzo[a]anthracene	µg/L	<0.1
Chrysene	µg/L	<0.1
Benzo[b,k]fluoranthene	µg/L	<0.10
Benzo[a]pyrene	µg/L	<0.1
Indeno[123-cd]pyrene	µg/L	<0.1
Dibenzo[ah]anthracene	µg/L	<0.1
Benzo[ghi]perylene	µg/L	<0.1
Total PAH's	µg/L	<4.10
Nitrobenzene-d5	%	100
2-Fluorobiphenyl	%	98
p -Terphenyl-d14	%	115

Trace HM (ICP-MS)-Dissolved		
Our Reference:	UNITS	51983-1
Your Reference	-----	QC3A
Sample Type	-----	water
Date Sampled		12/04/2007
Arsenic	µg/L	5.0
Cadmium	µg/L	<0.10
Chromium	µg/L	<1.0
Copper	µg/L	<1.0
Lead	µg/L	1.8
Mercury	mg/L	<0.0005
Manganese	µg/L	750
Nickel	µg/L	1.3
Zinc	µg/L	5.9

Method ID	Methodology Summary
SEO-017	BTEX/TRH C6-C9 - Determination by Purge and Trap Gas Chromatography with Flame Ionisation Detection (FID) and Photo Ionisation Detection (PID). The surrogate spike used is aaa-trifluorotoluene.
SEO-020	TRH - Determination of Total Recoverable Hydrocarbons by gas chromatography following extraction with DCM/Acetone for solids and DCM for liquids.
SEO-030	PAHs by GC/MS - Determination of Polynuclear Aromatic Hydrocarbons (PAH's) by Gas Chromatography / Mass Spectrometry following extraction with dichloromethane or dichloromethane/acetone. The surrogate spike used is p-Terphenyl-d14.
AN320	Metals - Determination of various metals by ICP-MS at trace levels following aqua regia digest. Method based on USEPA 6020A.
SEM-005	Mercury - Determination of Mercury by Cold Vapour Generation Atomic Absorption Spectroscopy.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
BTEX in Water								
Benzene	mg/L	0.001	SEO-017	<0.001	[NT]	[NT]	LCS	101 [N/T]
Toluene	mg/L	0.001	SEO-017	<0.001	[NT]	[NT]	LCS	101 [N/T]
Ethylbenzene	mg/L	0.001	SEO-017	<0.001	[NT]	[NT]	LCS	101 [N/T]
Total Xylenes	mg/L	0.003	SEO-017	<0.003	[NT]	[NT]	LCS	101 [N/T]
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
TRH in water with C6-C9 by P/T								
TRH C6 - C9 P&T	mg/L	0.04	SEO-017	<0.040	[NT]	[NT]	LCS	100 [N/T]
TRH C10 - C14	mg/L	0.1	SEO-020	<0.1	[NT]	[NT]	LCS	84 [N/T]
TRH C15 - C28	mg/L	0.2	SEO-020	<0.2	[NT]	[NT]	LCS	90 [N/T]
TRH C29 - C36	mg/L	0.2	SEO-020	<0.2	[NT]	[NT]	LCS	88 [N/T]
QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
PAHs in Water								
Naphthalene	µg/L	0.1	SEO-030	<0.1	[NT]	[NT]	LCS	75 [N/T]
Acenaphthylene	µg/L	0.1	SEO-030	<0.1	[NT]	[NT]	LCS	81 [N/T]
Acenaphthene	µg/L	0.1	SEO-030	<0.1	[NT]	[NT]	LCS	99 [N/T]
Fluorene	µg/L	0.1	SEO-030	<0.1	[NT]	[NT]	[NR]	[NR]
Phenanthrene	µg/L	0.1	SEO-030	<0.1	[NT]	[NT]	LCS	95 [N/T]
Anthracene	µg/L	0.1	SEO-030	<0.1	[NT]	[NT]	LCS	100 [N/T]
Fluoranthene	µg/L	0.1	SEO-030	<0.1	[NT]	[NT]	LCS	108 [N/T]
Pyrene	µg/L	0.1	SEO-030	<0.1	[NT]	[NT]	LCS	105 [N/T]
Benzo[a]anthracene	µg/L	0.1	SEO-030	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	µg/L	0.1	SEO-030	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo[b,k]fluoranthene	µg/L	0.1	SEO-030	<0.10	[NT]	[NT]	[NR]	[NR]
Benzo[a]pyrene	µg/L	0.1	SEO-030	<0.1	[NT]	[NT]	LCS	97 [N/T]
Indeno[123-cd]pyrene	µg/L	0.1	SEO-030	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo[ah]anthracene	µg/L	0.1	SEO-030	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo[ghi]perylene	µg/L	0.1	SEO-030	<0.1	[NT]	[NT]	[NR]	[NR]
Total PAH's	µg/L	1.5		1.5	[NT]	[NT]	[NR]	[NR]
Nitrobenzene-d5	%	0	SEO-030	0.0	[NT]	[NT]	LCS	88 [N/T]
2-Fluorobiphenyl	%	0	SEO-030	0.0	[NT]	[NT]	LCS	86 [N/T]
p -Terphenyl-d 14	%	0	SEO-030	0.0	[NT]	[NT]	LCS	109 [N/T]

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Matrix Spike % Recovery Duplicate + %RPD
Trace HM (ICP-MS)-Dissolved								
Arsenic	µg/L	1	AN320	<1.0	[NT]	[NT]	LCS	97 [N/T]
Cadmium	µg/L	0.1	AN320	<0.10	[NT]	[NT]	LCS	99 [N/T]
Chromium	µg/L	1	AN320	<1.0	[NT]	[NT]	LCS	95 [N/T]
Copper	µg/L	1	AN320	<1.0	[NT]	[NT]	LCS	101 [N/T]
Lead	µg/L	1	AN320	<1.0	[NT]	[NT]	LCS	99 [N/T]
Mercury	mg/L	0.0005	SEM-005	<0.0005	[NT]	[NT]	LCS	97 [N/T]
Manganese	µg/L	1	AN320	<1.0	[NT]	[NT]	LCS	94 [N/T]
Nickel	µg/L	1	AN320	<1.0	[NT]	[NT]	LCS	96 [N/T]
Zinc	µg/L	1	AN320	<1.0	[NT]	[NT]	LCS	98 [N/T]

Result Codes

[INS] : Insufficient Sample for this test
[NR] : Not Requested
[NT] : Not tested

[HBG] : Results not Reported due to High Background Interference
* : Not part of NATA Accreditation
[N/A] : Not Applicable

Result Comments

Date Organics extraction commenced: 23/04/07

NATA Corporate Accreditation No. 2562, Site No 4354

Note: Test results are not corrected for recovery (excluding Dioxins/Furans* and PAH in XAD and PUF).

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Quality Control Protocol

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Duplicate: A separate portion of a sample being analysed which is treated the same as the other samples in the batch. A duplicate is prepared at least every 10 samples.

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Additional QC Samples: A calibration standard and blank are run after every 20 samples of an instrumental analysis run to assess analytical drift.



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SGS Environmental Services
Unit 16, 33 Maddox St. Alexandria NSW 2015
Telephone Number : (+61 2) 8594 0400
Fax Number : (+61 2) 8594 0499

SAMPLE RECEIPT CONFIRMATION

COMPANY	:	JBS Environmental Pty Ltd	FAX NO.	:	02 8338 1700
ATTENTION	:	Cathy Roberts	PAGES	:	1
FROM	:	Sample Receipt	DATE	:	17/04/07

This is to confirm that samples for Project **40184, Honeysuckle ESA, Lee 4** were received on **16/04/07@5.20pm** the results are expected to be ready on **27/04/07**. Please quote SGS Reference: **51983** when making enquiries regarding this project. Please refer to below which details information about the integrity of the samples and other useful information.

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

Samples received in good order:	YES
Samples received in correct containers:	YES
Samples received without headspace:	YES
Sufficient quantity supplied:	YES
Upon receipt sample temperature:	Cool
Cooling Method:	Ice Pack
Sample containers provided by:	Other Lab
Samples Clearly Labelled:	YES
Turnaround time requested:	Standard
Completed documentation received:	YES

Comments:

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Envirolab Services Pty Ltd

ABN 37 112 535 645

54 Frenchs Rd Willoughby NSW 2068

ph 02 9958 5801 fax 02 9958 5803

email: tnotaras@envirolabservices.com.au

CERTIFICATE OF ANALYSIS 10308-C

Client:

JBS Environmental

P.O. Box 940

MASCOT

NSW 1460

Attention: Cathy Roberts

Sample log in details:

Your Reference:

40184, Honeysuckle ESA (QC)

No. of samples:

3 Waters

Date samples received:

23/03/07

Date completed instructions received:

26/03/07

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:

2/04/07

Date of Preliminary Report:

Not issued

Issue Date:

28/03/07

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Tests not covered by NATA are denoted with *.

Results Approved By:

Tania Notaras
Manager

Envirolab Reference: 10308-C
Revision No: R 00



BTEX in Water Our Reference: Your Reference Depth Date Sampled Type of sample	UNITS ----- -----	10308-C-140 Trip Spike - 19/03/07 Water	10308-C-141 Trip Blank - 19/03/07 Water
Date extracted	--	27/03/2007	27/03/2007
Date analysed	--	27/03/2007	27/03/2007
Benzene	µg/L	84%	<1.0
Toluene	µg/L	103%	<1.0
Ethylbenzene	µg/L	118%	<1.0
m+p-xylene	µg/L	118%	<2.0
o-xylene	µg/L	117%	<1.0
Surrogate Dibromofluoromethane	%	94	96
Surrogate toluene-d8	%	92	91
Surrogate 1-bromo-4-fluorotoluene	%	103	76

Method ID	Methodology Summary
GC.13	Water samples are analysed directly by purge and trap GC-MS.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
BTEX in Water						Base II Duplicate II %RPD		
Date extracted	--			[NT]	[NT]	[NT]	[NR]	[NR]
Date analysed	--			[NT]	[NT]	[NT]	[NR]	[NR]
Benzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	95%
Toluene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	118%
Ethylbenzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	123%
m+p-xylene	µg/L	2	GC.13	<2.0	[NT]	[NT]	LCS	130%
o-xylene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	126%
Surrogate	%		GC.13	[NT]	[NT]	[NT]	LCS	94%
Dibromofluoromethane								
Surrogate toluene-d8	%		GC.13	[NT]	[NT]	[NT]	LCS	94%
Surrogate 1-bromo-4-fluorotoluene	%		GC.13	[NT]	[NT]	[NT]	LCS	98%

Report Comments:

Asbestos analysed by: Not applicable for this job

INS: Insufficient sample for this test

NT: Not tested

PQL: Practical Quantitation Limit

RPD: Relative Percent Difference

NA: Test not required

LCS: Laboratory Control Sample

NR: Not requested

<: Less than

>: Greater than

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:

Duplicates: <5xPQL - any RPD is acceptable;

>5xPQL - 0-50% RPD is acceptable.

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

Surrogates: Generally 60-140% is acceptable.

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[illegible]



Envirolab Services Pty Ltd

ABN 37 112 535 645

54 Frenchs Rd Willoughby NSW 2068

ph 02 9958 5801 fax 02 9958 5803

email: tnotaras@envirolabservices.com.au

SAMPLE RECEIPT ADVICE

Client:

JBS Environmental
P.O. Box 940
MASCOT NSW 1460

ph: 8338 1013

Fax: 8338 1700

Attention: Cathy Roberts

Sample log in details:

Your reference:

40184, Honeysuckle ESA (QC)

Envirolab Reference:

10308-C

Date received:

23/03/07

Date results expected to be reported:

2/04/07

Samples received in appropriate condition for analysis:

YES

Turnaround time requested:

Standard

Temperature on receipt

Cool

Cooling Method:

Ice

Completed documentation received:

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 9958 5801 fax: 02 9958 5803

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



Envirolab Services Pty Ltd

ABN 37 112 535 645

54 Frenchs Rd Willoughby NSW 2068

ph 02 9958 5801 fax 02 9958 5803

email: tnotaras@envirolabservices.com.au

CERTIFICATE OF ANALYSIS 10434

Client:

JBS Environmental

P.O. Box 940

MASCOT

NSW 1460

Attention: Cathy Roberts

Sample log in details:

Your Reference:

40184, Honeysuckle Dev. Corporation

No. of samples:

2 Waters

Date samples received:

02/04/07

Date completed instructions received:

02/04/07

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:

11/04/07

Date of Preliminary Report:

Not Issued

Issue Date:

5/04/07

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This document is issued in accordance with NATA's accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Tests not covered by NATA are denoted with *.

Results Approved By:

David Springer
Business Development & Quality Manager

Envirolab Reference: 10434
Revision No: R 00



Page 1 of 5

BTEX in Water Our Reference: Your Reference Date Sampled Type of sample	UNITS ----- -----	10434-1 Trip Blank 26/03/07 Water	10434-2 Trip Spike 26/03/07 Water
Date extracted	--	4/04/2007	4/04/2007
Date analysed	--	4/04/2007	4/04/2007
Benzene	µg/L	<1.0	92%
Toluene	µg/L	<1.0	102%
Ethylbenzene	µg/L	<1.0	101%
m+p-xylene	µg/L	<2.0	103%
o-xylene	µg/L	<1.0	102%
Surrogate Dibromofluoromethane	%	104	97
Surrogate toluene-d8	%	98	96
Surrogate 1-bromo-4-fluorotoluene	%	93	100

Method ID	Methodology Summary
GC.13	Water samples are analysed directly by purge and trap GC-MS.

QUALITY CONTROL	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results	Spike Sm#	Spike % Recovery
BTEX in Water						Base II Duplicate II %RPD		
Date extracted	--			[NT]	[NT]	[NT]	[NR]	[NR]
Date analysed	--			[NT]	[NT]	[NT]	[NR]	[NR]
Benzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	89%
Toluene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	107%
Ethylbenzene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	103%
m+p-xylene	µg/L	2	GC.13	<2.0	[NT]	[NT]	LCS	108%
o-xylene	µg/L	1	GC.13	<1.0	[NT]	[NT]	LCS	107%
Surrogate	%		GC.13	[NT]	[NT]	[NT]	LCS	93%
Dibromofluoromethane								
Surrogate toluene-d8	%		GC.13	[NT]	[NT]	[NT]	LCS	70%
Surrogate	%		GC.13	[NT]	[NT]	[NT]	LCS	96%
1-bromo-4-fluorotoluene								

Report Comments:

Asbestos analysed by: Not applicable for this job

INS: Insufficient sample for this test

NT: Not tested

PQL: Practical Quantitation Limit

RPD: Relative Percent Difference

NA: Test not required

LCS: Laboratory Control Sample

NR: Not requested

<: Less than

>: Greater than

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:

Duplicates: <5xPQL - any RPD is acceptable;

>5xPQL - 0-50% RPD is acceptable.

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

Surrogates: Generally 60-140% is acceptable.

FORM 0013

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EB1231734	Page	: 1 of 4
Client	: SINCLAIR KNIGHT MERZ	Laboratory	: Environmental Division Brisbane
Contact	: MR ROBERT GAUTHIER	Contact	: Rebecca Kleinschmidt
Address	: 710 HUNTER STREET NEWCASTLE WEST NSW, AUSTRALIA 2302	Address	: 32 Shand Street Stafford QLD Australia 4053
E-mail	: rgauthier@globalskm.com	E-mail	: rebecca.kleinschmidt@alsglobal.com
Telephone	: +61 02 4979 2600	Telephone	: +61 7 3243 7102
Facsimile	: +61 02 4979 2666	Facsimile	: +61 7 3243 7218
Project	: HDC-Lee Wharf	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: EN03130	Date Samples Received	: 06-DEC-2012
C-O-C number	: 210394	Issue Date	: 12-DEC-2012
Sampler	: G Moylan	No. of samples received	: 5
Site	: ----	No. of samples analysed	: 5
Quote number	: EN/003/12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
SATISH.TRIVEDI	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils



General Comments

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

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

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

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

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

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

LOR = Limit of reporting

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

- **ASS: EA029 (SPOCAS):** Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO_3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m³ in-situ soil, multiply reported results x wet bulk density of soil in t/m³.
- **ASS: EA029 (SPOCAS):** Retained Acidity not required because pH KCl greater than or equal to 4.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				6C-2.0	4E-2.0	1C-2.0	3A-2.0	2B-2.0
				04-DEC-2012 15:00	04-DEC-2012 15:00	04-DEC-2012 15:00	04-DEC-2012 15:00	04-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	EB1231734-001	EB1231734-002	EB1231734-003	EB1231734-004	EB1231734-005
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.7	9.8	9.7	9.5	9.6
pH OX (23B)	----	0.1	pH Unit	10.4	9.7	9.8	8.8	9.0
EA029-B: Acidity Trail								
Titrateable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	<2	<2	<2
Titrateable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	<2	<2	<2
Titrateable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	<2	<2	<2
sulfidic - Titrateable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	<0.02
sulfidic - Titrateable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	<0.02
sulfidic - Titrateable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	<0.02	<0.02	0.03	<0.02
Peroxide Sulfur (23De)	----	0.02	% S	<0.02	<0.02	<0.02	0.07	<0.02
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	<0.02	0.04	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	<10	28	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.12	0.12	0.12	0.21	0.09
Peroxide Calcium (23Wh)	----	0.02	% Ca	1.32	1.47	0.87	1.48	0.20
Acid Reacted Calcium (23X)	----	0.02	% Ca	1.20	1.35	0.75	1.27	0.12
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	597	675	374	636	58
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.96	1.08	0.60	1.02	0.09
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	<0.02	<0.02	0.04	<0.02
Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	<0.02	<0.02	0.10	<0.02
Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	<0.02	<0.02	0.06	<0.02
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	<10	<10	51	<10
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	<0.02	<0.02	0.08	<0.02
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	3.01	2.86	1.89	2.92	0.49
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	601	571	378	583	98



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				6C-2.0	4E-2.0	1C-2.0	3A-2.0	2B-2.0
				04-DEC-2012 15:00	04-DEC-2012 15:00	04-DEC-2012 15:00	04-DEC-2012 15:00	04-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	EB1231734-001	EB1231734-002	EB1231734-003	EB1231734-004	EB1231734-005
EA029-F: Excess Acid Neutralising Capacity - Continued								
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.96	0.91	0.61	0.93	0.16
EA029-H: Acid Base Accounting								
ANC Fineness Factor	----	0.5	-	1.5	1.5	1.5	1.5	1.5
Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	<0.02	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	<10	<10	<10
Liming Rate	----	1	kg CaCO3/t	<1	<1	<1	<1	<1

Environmental Division

QUALITY CONTROL REPORT

Work Order	: EB1231734	Page	: 1 of 6
Client	: SINCLAIR KNIGHT MERZ	Laboratory	: Environmental Division Brisbane
Contact	: MR ROBERT GAUTHIER	Contact	: Rebecca Kleinschmidt
Address	: 710 HUNTER STREET NEWCASTLE WEST NSW, AUSTRALIA 2302	Address	: 32 Shand Street Stafford QLD Australia 4053
E-mail	: rgauthier@globalskm.com	E-mail	: rebecca.kleinschmidt@alsglobal.com
Telephone	: +61 02 4979 2600	Telephone	: +61 7 3243 7102
Facsimile	: +61 02 4979 2666	Facsimile	: +61 7 3243 7218
Project	: HDC-Lee Wharf	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: 210394	Date Samples Received	: 06-DEC-2012
Sampler	: G Moylan	Issue Date	: 12-DEC-2012
Order number	: EN03130		
Quote number	: EN/003/12	No. of samples received	: 5
		No. of samples analysed	: 5

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

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



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
SATISH.TRIVEDI	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils



General Comments

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

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

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

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

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



Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA029-A: pH Measurements (QC Lot: 2639337)									
EB1231556-009	Anonymous	EA029: pH KCl (23A)	----	0.1	pH Unit	5.2	5.2	0.0	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	2.8	2.8	0.0	0% - 20%
EB1231734-005	2B-2.0	EA029: pH KCl (23A)	----	0.1	pH Unit	9.6	9.7	1.0	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	9.0	9.0	0.0	0% - 20%
EA029-B: Acidity Trail (QC Lot: 2639337)									
EB1231556-009	Anonymous	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.0	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	0.10	0.10	0.0	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	0.10	0.10	0.0	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	4	3	0.0	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	65	64	0.0	0% - 20%
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	61	61	0.0	0% - 20%
EB1231734-005	2B-2.0	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.0	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.0	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.0	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.0	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.0	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.0	No Limit
EA029-C: Sulfur Trail (QC Lot: 2639337)									
EB1231556-009	Anonymous	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.13	0.14	9.6	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.13	0.14	9.6	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	81	89	9.6	No Limit
EB1231734-005	2B-2.0	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-D: Calcium Values (QC Lot: 2639337)									
EB1231556-009	Anonymous	EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	<0.02	0.0	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	<0.02	0.0	No Limit
		EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	<0.02	0.0	No Limit

Page : 4 of 6
 Work Order : EB1231734
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-Lee Wharf



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA029-D: Calcium Values (QC Lot: 2639337) - continued									
EB1231556-009	Anonymous	EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EB1231734-005	2B-2.0	EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.09	0.08	0.0	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.20	0.21	0.0	0% - 50%
		EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.12	0.13	10.0	No Limit
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.09	0.10	0.0	No Limit
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	58	64	10.0	No Limit
EA029-E: Magnesium Values (QC Lot: 2639337)									
EB1231556-009	Anonymous	EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	<0.02	0.0	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	<0.02	0.0	No Limit
		EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	<0.02	0.0	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EB1231734-005	2B-2.0	EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	<0.02	0.0	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	<0.02	0.0	No Limit
		EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	<0.02	0.0	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 2639337)									
EB1231734-005	2B-2.0	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	0.49	0.50	2.5	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.16	0.16	0.0	No Limit
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	98	101	2.5	0% - 50%
EA029-H: Acid Base Accounting (QC Lot: 2639337)									
EB1231556-009	Anonymous	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.0	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	0.14	0.15	8.7	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	6	7	0.0	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	84	92	8.7	No Limit
EB1231734-005	2B-2.0	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.0	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.0	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.0	No Limit



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

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EA029-A: pH Measurements (QCLot: 2639337)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.50 pH Unit	95.6	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	3.45 pH Unit	104	70	130
EA029-B: Acidity Trail (QCLot: 2639337)								
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	25.2 mole H+ / t	104	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	79.3 mole H+ / t	107	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 2639337)								
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.02 % S	116	70	130
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.0631 % S	101	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029-D: Calcium Values (QCLot: 2639337)								
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.099 % Ca	112	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.107 % Ca	106	70	130
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 2639337)								
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.108 % Mg	93.4	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.102 % Mg	109	70	130
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 2639337)								
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 2639337)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EA029-H: Acid Base Accounting (QCLot: 2639337) - continued								
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----

Matrix Spike (MS) Report

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

- No Matrix Spike (MS) Results are required to be reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

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

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: EB1231734	Page	: 1 of 6
Client	: SINCLAIR KNIGHT MERZ	Laboratory	: Environmental Division Brisbane
Contact	: MR ROBERT GAUTHIER	Contact	: Rebecca Kleinschmidt
Address	: 710 HUNTER STREET NEWCASTLE WEST NSW, AUSTRALIA 2302	Address	: 32 Shand Street Stafford QLD Australia 4053
E-mail	: rgauthier@globalskm.com	E-mail	: rebecca.kleinschmidt@alsglobal.com
Telephone	: +61 02 4979 2600	Telephone	: +61 7 3243 7102
Facsimile	: +61 02 4979 2666	Facsimile	: +61 7 3243 7218
Project	: HDC-Lee Wharf	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----	Date Samples Received	: 06-DEC-2012
C-O-C number	: 210394	Issue Date	: 12-DEC-2012
Sampler	: G Moylan	No. of samples received	: 5
Order number	: EN03130	No. of samples analysed	: 5
Quote number	: EN/003/12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers



Analysis Holding Time Compliance

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Holding times for leachate methods (excluding elutriates) vary according to the analytes being determined on the resulting solution. For non-volatile analytes, the holding time compliance assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These soil holding times are: Organics (14 days); Mercury (28 days) & other metals (180 days). A recorded breach therefore does not guarantee a breach for all non-volatile parameters.

Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-H: Acid Base Accounting								
Snap Lock Bag - frozen (EA029) 6C-2.0, 4E-2.0, 1C-2.0, 3A-2.0, 2B-2.0		04-DEC-2012	10-DEC-2012	04-DEC-2013	✔	11-DEC-2012	10-MAR-2013	✔
EA029-B: Acidity Trail								
Snap Lock Bag - frozen (EA029) 6C-2.0, 4E-2.0, 1C-2.0, 3A-2.0, 2B-2.0		04-DEC-2012	10-DEC-2012	04-DEC-2013	✔	11-DEC-2012	10-MAR-2013	✔
EA029-D: Calcium Values								
Snap Lock Bag - frozen (EA029) 6C-2.0, 4E-2.0, 1C-2.0, 3A-2.0, 2B-2.0		04-DEC-2012	10-DEC-2012	04-DEC-2013	✔	11-DEC-2012	10-MAR-2013	✔
EA029-F: Excess Acid Neutralising Capacity								
Snap Lock Bag - frozen (EA029) 6C-2.0, 4E-2.0, 1C-2.0, 3A-2.0, 2B-2.0		04-DEC-2012	10-DEC-2012	04-DEC-2013	✔	11-DEC-2012	10-MAR-2013	✔
EA029-E: Magnesium Values								
Snap Lock Bag - frozen (EA029) 6C-2.0, 4E-2.0, 1C-2.0, 3A-2.0, 2B-2.0		04-DEC-2012	10-DEC-2012	04-DEC-2013	✔	11-DEC-2012	10-MAR-2013	✔
EA029-A: pH Measurements								
Snap Lock Bag - frozen (EA029) 6C-2.0, 4E-2.0, 1C-2.0, 3A-2.0, 2B-2.0		04-DEC-2012	10-DEC-2012	04-DEC-2013	✔	11-DEC-2012	10-MAR-2013	✔

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-G: Retained Acidity								
Snap Lock Bag - frozen (EA029) 6C-2.0, 4E-2.0, 1C-2.0, 3A-2.0, 2B-2.0		04-DEC-2012	10-DEC-2012	04-DEC-2013	✓	11-DEC-2012	10-MAR-2013	✓
EA029-C: Sulfur Trail								
Snap Lock Bag - frozen (EA029) 6C-2.0, 4E-2.0, 1C-2.0, 3A-2.0, 2B-2.0		04-DEC-2012	10-DEC-2012	04-DEC-2013	✓	11-DEC-2012	10-MAR-2013	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	16	12.5	10.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	16	6.3	5.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	16	6.3	5.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house



Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

- For all matrices, no Method Blank value outliers occur.
- For all matrices, no Duplicate outliers occur.
- For all matrices, no Laboratory Control outliers occur.
- For all matrices, no Matrix Spike outliers occur.

Regular Sample Surrogates

- For all regular sample matrices, no surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- No Quality Control Sample Frequency Outliers exist.

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : EB1231734

Client : SINCLAIR KNIGHT MERZ Contact : MR ROBERT GAUTHIER Address : 710 HUNTER STREET NEWCASTLE WEST NSW, AUSTRALIA 2302 E-mail : rgauthier@globalskm.com Telephone : +61 02 4979 2600 Facsimile : +61 02 4979 2666 Project : HDC-Lee Wharf Order number : EN03130 C-O-C number : 210394 Site : ---- Sampler : G Moylan	Laboratory : Environmental Division Brisbane Contact : Rebecca Kleinschmidt Address : 32 Shand Street Stafford QLD Australia 4053 E-mail : rebecca.kleinschmidt@alsglobal.com Telephone : +61 7 3243 7102 Facsimile : +61 7 3243 7218 Page : 1 of 2 Quote number : ES2012SINKNI0385 (EN/003/12) QC Level : NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received : 06-DEC-2012 Client Requested Due Date : 13-DEC-2012	Issue Date : 06-DEC-2012 15:16 Scheduled Reporting Date : 13-DEC-2012

Delivery Details

Mode of Delivery : Carrier No. of coolers/boxes : 2 MEDIUM Security Seal : Intact.	Temperature : 2.9,0.3°C - Ice present No. of samples received : 5 No. of samples analysed : 5

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Breaches in recommended extraction / analysis holding times (if any) are displayed overleaf in the Proactive Holding Time Report table.**
- Discounted Package Prices apply only when specific ALS Group Codes ('W', 'S', 'NT' suites) are referenced on COCs.
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Matt Goodwin.
- Analytical work for this work order will be conducted at ALS Brisbane.
- Sample Disposal - Aqueous (14 days), Solid (60 days) from date of completion of work order.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exist.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default to 15:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory for processing purposes and will be shown bracketed without a time component.

Matrix: SOIL

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - EA029 SPOCAS
EB1231734-001	04-DEC-2012 15:00	6C-2.0	✓
EB1231734-002	04-DEC-2012 15:00	4E-2.0	✓
EB1231734-003	04-DEC-2012 15:00	1C-2.0	✓
EB1231734-004	04-DEC-2012 15:00	3A-2.0	✓
EB1231734-005	04-DEC-2012 15:00	2B-2.0	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)

Print

ACCOUNTS PAYABLE

MR ROBERT GAUTHIER

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- A4 - AU Tax Invoice (INV)
- Chain of Custody (CoC) (COC)
- EDI Format - ENMRG (ENMRG)
- EDI Format - ESDAT (ESDAT)
- EDI Format - XTab (XTAB)

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Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: ES1228523	Page	: 1 of 64
Client	: SINCLAIR KNIGHT MERZ	Laboratory	: Environmental Division Sydney
Contact	: MR ROBERT GAUTHIER	Contact	: Client Services
Address	: 710 HUNTER STREET NEWCASTLE WEST NSW, AUSTRALIA 2302	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: rgauthier@globalskm.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 02 4979 2600	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 4979 2666	Facsimile	: +61-2-8784 8500
Project	: HDC LEE WHARF	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: EN03130	Date Samples Received	: 04-DEC-2012
C-O-C number	: 210395-210400, 159751-159755	Issue Date	: 12-DEC-2012
Sampler	: GM	No. of samples received	: 128
Site	: ----	No. of samples analysed	: 128
Quote number	: EN/003/12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Evie Sidarta	Inorganic Chemist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Peter Rennie	Team Leader - Asbestos	Newcastle
Raymond Commodor	Instrument Chemist	Sydney Inorganics



General Comments

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

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

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

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

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

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

LOR = Limit of reporting

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

- **EA200 Legend for Asbestos Type:**
- **EA200 'Am'** Amosite (brown asbestos)
- **EA200 'Ch'** Chrysotile (white asbestos)
- **EA200 'Cr'** Crocidolite (blue asbestos)
- **EA200 't'** Trace levels
- **EA200: 'UMF'** Unknown Mineral Fibres - Fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- **EA200:** Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- **EA200:** Negative results for vinyl tiles should be confirmed by an independent analytical technique.
- **EG005T:** Poor precision and matrix spike was obtained for some elements on some samples. Results have been confirmed by re-extraction and reanalysis
- **EP075(SIM) :** Result of samples (ES1228523- 21 ,102, 112) has been confirmed by re-extraction and re-analysis. Poor matrix spike recovery due to matrix interferences.
- **EP080:** Result for ID_0.5, 4C-0.5 and 5C-1.0 have been confirmed by re-analysis.
- **EP080:** Results for 6-WI-1.5 and 6B-0.5 have been confirmed by re-analysis.
- **EP080:** The trip spike and its control have been analysed for volatile BTEX only. The trip spike and control were prepared in the lab using reagent grade sand spiked with petrol. The spike was dispatched from the lab and the control retained.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				2A-0.5	2A-1.0	2A-1.5	2A-2.0	2B-0.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-001	ES1228523-002	ES1228523-003	ES1228523-004	ES1228523-005
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	15.4	6.4	7.3	14.9	8.3
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	1460	19	587	45	4560
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	25	<2	9	<2	115
Copper	7440-50-8	5	mg/kg	20	<5	<5	<5	10
Lead	7439-92-1	5	mg/kg	27	<5	5	<5	27
Nickel	7440-02-0	2	mg/kg	8	<2	2	<2	9
Zinc	7440-66-6	5	mg/kg	74	<5	20	<5	62
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	0.5	<0.5	<0.5	<0.5	1.2
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	1.6
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.6
Phenanthrene	85-01-8	0.5	mg/kg	0.7	<0.5	0.8	<0.5	8.6
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	2.7
Fluoranthene	206-44-0	0.5	mg/kg	1.4	<0.5	1.2	<0.5	16.3
Pyrene	129-00-0	0.5	mg/kg	1.4	<0.5	1.1	<0.5	14.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	0.7	<0.5	<0.5	<0.5	5.3
Chrysene	218-01-9	0.5	mg/kg	0.6	<0.5	<0.5	<0.5	4.9
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	0.9	<0.5	<0.5	<0.5	6.3
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	2.9
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.7	<0.5	<0.5	<0.5	5.0
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	3.2
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.6
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	3.8
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	6.9	<0.5	3.1	<0.5	77.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	0.9	<0.5	<0.5	<0.5	7.4
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				2A-0.5	2A-1.0	2A-1.5	2A-2.0	2B-0.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-001	ES1228523-002	ES1228523-003	ES1228523-004	ES1228523-005
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	140
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	240
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	190
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	190
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	6
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	102	97.3	92.7	92.3	93.7
2-Chlorophenol-D4	93951-73-6	0.1	%	101	97.6	93.3	93.1	95.5
2,4,6-Tribromophenol	118-79-6	0.1	%	95.0	93.4	87.4	92.7	85.3
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	99.7	96.2	92.5	93.6	94.2
Anthracene-d10	1719-06-8	0.1	%	92.8	89.2	85.2	88.6	87.2
4-Terphenyl-d14	1718-51-0	0.1	%	95.6	92.5	88.6	92.4	90.8
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	98.9	110	114	109	106
Toluene-D8	2037-26-5	0.1	%	106	113	122	115	108
4-Bromofluorobenzene	460-00-4	0.1	%	107	105	112	106	114



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				2B-1.0	2B-1.5	2B-2.0	3A-0.5	3A-1.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-006	ES1228523-007	ES1228523-008	ES1228523-009	ES1228523-010
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	3.6	2.9	2.6	8.8	9.3
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	----	No	----
Asbestos Type	1332-21-4	0.1	--	----	----	----	-	----
Sample weight (dry)	----	0.01	g	----	----	----	251	----
APPROVED IDENTIFIER:	----	-	--	----	----	----	P.RENNIE	----
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	1240	546	102	1330	4020
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	15	10	<2	73	22
Copper	7440-50-8	5	mg/kg	<5	<5	<5	90	10
Lead	7439-92-1	5	mg/kg	<5	<5	<5	11	17
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	14	5
Zinc	7440-66-6	5	mg/kg	15	<5	<5	37	58
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	0.9	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	1.0	<0.5	<0.5	<0.5	0.6
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	5.8	0.8	<0.5	<0.5	9.3
Anthracene	120-12-7	0.5	mg/kg	1.6	<0.5	<0.5	<0.5	2.2
Fluoranthene	206-44-0	0.5	mg/kg	8.0	1.3	<0.5	0.7	26.9
Pyrene	129-00-0	0.5	mg/kg	6.8	1.1	<0.5	0.7	24.2
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.4	<0.5	<0.5	<0.5	6.9
Chrysene	218-01-9	0.5	mg/kg	2.1	<0.5	<0.5	<0.5	6.6
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	2.6	<0.5	<0.5	<0.5	6.9
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.0	<0.5	<0.5	<0.5	3.7
Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.1	<0.5	<0.5	<0.5	6.7
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.3	<0.5	<0.5	<0.5	3.2
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.6



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				2B-1.0	2B-1.5	2B-2.0	3A-0.5	3A-1.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-006	ES1228523-007	ES1228523-008	ES1228523-009	ES1228523-010
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	1.6	<0.5	<0.5	<0.5	3.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	37.2	3.2	<0.5	1.4	101
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	2.9	<0.5	<0.5	<0.5	9.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	130
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	190
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	190
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	96.6	92.2	96.1	97.5	96.6
2-Chlorophenol-D4	93951-73-6	0.1	%	96.8	87.5	97.0	96.6	94.4
2,4,6-Tribromophenol	118-79-6	0.1	%	89.3	94.8	93.8	90.6	89.7
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	96.9	94.1	96.0	74.2	113
Anthracene-d10	1719-06-8	0.1	%	89.0	89.1	89.4	88.7	87.4



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				2B-1.0	2B-1.5	2B-2.0	3A-0.5	3A-1.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-006	ES1228523-007	ES1228523-008	ES1228523-009	ES1228523-010
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	93.3	92.3	92.6	91.9	90.8
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	105	115	118	112	119
Toluene-D8	2037-26-5	0.1	%	112	115	121	114	122
4-Bromofluorobenzene	460-00-4	0.1	%	104	107	114	111	116



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				3A-1.5	3A-2.0	3B-0.5	3B-1.0	3B-1.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-011	ES1228523-012	ES1228523-013	ES1228523-014	ES1228523-015
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	13.9	14.6	6.3	10.0	28.0
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	2440	2770	2020	1240	168
Arsenic	7440-38-2	5	mg/kg	<5	5	<5	<5	8
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	38	99	34	20	34
Copper	7440-50-8	5	mg/kg	20	33	13	17	78
Lead	7439-92-1	5	mg/kg	25	44	15	24	49
Nickel	7440-02-0	2	mg/kg	9	14	9	7	34
Zinc	7440-66-6	5	mg/kg	94	107	60	56	144
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.1	<0.1	<0.1	0.3
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	0.5	1.3	<0.5	<0.5	1.9
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.6	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	0.8	3.3	1.6	0.8	0.7
Anthracene	120-12-7	0.5	mg/kg	<0.5	1.0	<0.5	<0.5	0.6
Fluoranthene	206-44-0	0.5	mg/kg	2.4	8.1	4.2	3.4	2.4
Pyrene	129-00-0	0.5	mg/kg	2.2	7.4	3.9	3.1	2.2
Benz(a)anthracene	56-55-3	0.5	mg/kg	1.1	2.6	1.8	1.3	1.1
Chrysene	218-01-9	0.5	mg/kg	1.0	2.5	1.7	1.3	1.0
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	1.3	2.5	2.6	2.1	1.4
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	0.9	1.0	0.9	0.6
Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.1	2.7	2.1	1.4	1.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	0.6	1.6	1.3	0.6	0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.8	1.9	1.6	0.7	0.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	11.8	36.4	21.8	15.6	14.2
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	1.4	3.5	2.8	1.9	1.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				3A-1.5	3A-2.0	3B-0.5	3B-1.0	3B-1.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-011	ES1228523-012	ES1228523-013	ES1228523-014	ES1228523-015
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	130	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	130	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	1	<1	<1	1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	85.8	71.2	73.8	96.8	94.0
2-Chlorophenol-D4	93951-73-6	0.1	%	87.2	100	80.5	94.5	92.4
2,4,6-Tribromophenol	118-79-6	0.1	%	92.9	88.7	65.6	86.4	83.3
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	92.0	100	72.1	95.0	77.4
Anthracene-d10	1719-06-8	0.1	%	83.2	89.7	72.9	86.2	86.5
4-Terphenyl-d14	1718-51-0	0.1	%	96.0	93.2	68.7	101	87.3
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	116	99.7	115	104	103
Toluene-D8	2037-26-5	0.1	%	113	100	115	102	102
4-Bromofluorobenzene	460-00-4	0.1	%	104	91.9	107	111	96.7



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				3B-2.0	3C-0.5	3C-1.0	3C-1.5	3C-2.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-016	ES1228523-017	ES1228523-018	ES1228523-019	ES1228523-020
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	15.9	4.8	3.6	4.0	3.8
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	268	1430	56	52	83
Arsenic	7440-38-2	5	mg/kg	7	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	14	30	<2	<2	<2
Copper	7440-50-8	5	mg/kg	43	6	<5	<5	<5
Lead	7439-92-1	5	mg/kg	50	6	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	16	6	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	143	32	6	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.3	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	0.9	0.9	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	0.6	0.6	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	2.7	8.6	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	2.4	8.8	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	1.2	3.3	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	1.2	2.9	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	1.4	3.8	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.6	2.0	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.1	3.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	0.6	1.8	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.7	2.1	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	13.4	38.3	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	1.5	4.6	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				3B-2.0	3C-0.5	3C-1.0	3C-1.5	3C-2.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-016	ES1228523-017	ES1228523-018	ES1228523-019	ES1228523-020
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	120	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	120	<50	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	100	79.5	97.7	95.7	98.2
2-Chlorophenol-D4	93951-73-6	0.1	%	95.6	96.6	97.4	91.9	96.0
2,4,6-Tribromophenol	118-79-6	0.1	%	92.1	94.5	94.6	85.2	87.1
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	100	98.9	99.0	100	96.0
Anthracene-d10	1719-06-8	0.1	%	89.2	95.6	91.3	90.4	89.0
4-Terphenyl-d14	1718-51-0	0.1	%	84.9	87.5	97.0	88.3	92.8
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	102	118	115	111	119
Toluene-D8	2037-26-5	0.1	%	103	109	108	100	116
4-Bromofluorobenzene	460-00-4	0.1	%	99.7	99.9	103	83.5	109



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				4C-0.5	4C-1.0	4C-1.5	4C-2.0	4A-0.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-021	ES1228523-022	ES1228523-023	ES1228523-024	ES1228523-025
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	5.6	6.3	5.9	6.4	8.0
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	----	----	No
Asbestos Type	1332-21-4	0.1	--	----	----	----	----	-
Sample weight (dry)	----	0.01	g	----	----	----	----	371
APPROVED IDENTIFIER:	----	-	--	----	----	----	----	P.RENNIE
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	1550	88	38	52	218
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	46	4	<2	<2	6
Copper	7440-50-8	5	mg/kg	9	<5	<5	<5	20
Lead	7439-92-1	5	mg/kg	6	<5	<5	39	19
Nickel	7440-02-0	2	mg/kg	6	3	<2	<2	5
Zinc	7440-66-6	5	mg/kg	49	6	<5	104	46
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	0.4
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	1.0	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	1.0	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	2.2	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	1.0	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	10.0	<0.5	<0.5	<0.5	1.3
Anthracene	120-12-7	0.5	mg/kg	3.9	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	20.8	0.9	<0.5	<0.5	2.2
Pyrene	129-00-0	0.5	mg/kg	18.6	0.8	<0.5	<0.5	2.1
Benz(a)anthracene	56-55-3	0.5	mg/kg	11.2	<0.5	<0.5	<0.5	0.9
Chrysene	218-01-9	0.5	mg/kg	10.2	<0.5	<0.5	<0.5	0.8
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	13.4	<0.5	<0.5	<0.5	1.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	6.1	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	12.1	<0.5	<0.5	<0.5	0.9
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.6	<0.5	<0.5	<0.5	0.7
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	1.1	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				4C-0.5	4C-1.0	4C-1.5	4C-2.0	4A-0.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-021	ES1228523-022	ES1228523-023	ES1228523-024	ES1228523-025
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	6.6	<0.5	<0.5	<0.5	0.8
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	125	1.7	<0.5	<0.5	10.8
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	17.0	<0.5	<0.5	<0.5	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	210	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	200	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	410	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	330	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	160	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	490	<50	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	2	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	109	87.2	88.2	72.3	75.8
2-Chlorophenol-D4	93951-73-6	0.1	%	85.8	92.0	92.3	76.6	96.0
2,4,6-Tribromophenol	118-79-6	0.1	%	107	94.1	91.9	69.9	96.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	101	92.5	90.6	66.4	98.3
Anthracene-d10	1719-06-8	0.1	%	90.5	86.0	85.4	67.0	91.6



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				4C-0.5	4C-1.0	4C-1.5	4C-2.0	4A-0.5
Client sampling date / time				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-021	ES1228523-022	ES1228523-023	ES1228523-024	ES1228523-025
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	72.6	96.8	95.7	74.4	102
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	122	108	108	113	103
Toluene-D8	2037-26-5	0.1	%	126	118	118	125	112
4-Bromofluorobenzene	460-00-4	0.1	%	119	119	116	116	112



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				4A-1.0	4A-1.5	4A-2.0	4B-0.5	4B-1.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-026	ES1228523-027	ES1228523-028	ES1228523-029	ES1228523-030
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	15.9	13.3	15.7	8.3	11.6
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	169	1880	620	2940	327
Arsenic	7440-38-2	5	mg/kg	6	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	13	49	7	35	9
Copper	7440-50-8	5	mg/kg	40	16	21	14	12
Lead	7439-92-1	5	mg/kg	25	21	50	18	14
Nickel	7440-02-0	2	mg/kg	13	8	7	8	6
Zinc	7440-66-6	5	mg/kg	98	54	64	85	41
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	0.8	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.9	2.7	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.5	1.2	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	2.6	1.3	2.9	9.9	0.6
Pyrene	129-00-0	0.5	mg/kg	2.4	1.3	2.8	10.1	0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	0.9	0.7	1.4	5.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	0.8	0.6	1.4	5.2	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	0.9	0.6	1.9	7.4	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.7	3.1	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.9	0.7	1.6	6.0	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	0.6	<0.5	0.6	4.4	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	0.8	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.7	<0.5	0.8	5.3	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	9.8	5.2	15.5	62.4	1.1
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	1.2	0.8	2.1	8.9	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				4A-1.0	4A-1.5	4A-2.0	4B-0.5	4B-1.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-026	ES1228523-027	ES1228523-028	ES1228523-029	ES1228523-030
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	150	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	250	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	190	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	140	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	330	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	77.4	68.0	95.4	106	106
2-Chlorophenol-D4	93951-73-6	0.1	%	90.0	68.1	96.7	106	105
2,4,6-Tribromophenol	118-79-6	0.1	%	95.9	58.7	109	114	94.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	95.2	68.6	100	113	98.3
Anthracene-d10	1719-06-8	0.1	%	87.7	65.7	96.4	102	101
4-Terphenyl-d14	1718-51-0	0.1	%	103	74.6	102	105	111
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	102	112	104	106	108
Toluene-D8	2037-26-5	0.1	%	111	124	111	114	120
4-Bromofluorobenzene	460-00-4	0.1	%	113	121	112	112	112



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				4B-1.5	4B-2.0	5A-0.5	5A-1.0	5A-1.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-031	ES1228523-032	ES1228523-033	ES1228523-034	ES1228523-035
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	5.8	9.8	4.3	2.9	4.5
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	Yes	----	----
Asbestos Type	1332-21-4	0.1	--	----	----	Ch	----	----
Sample weight (dry)	----	0.01	g	----	----	367	----	----
APPROVED IDENTIFIER:	----	-	--	----	----	P.RENNIE	----	----
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	1590	210	3860	515	661
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	26	6	59	4	8
Copper	7440-50-8	5	mg/kg	6	6	10	<5	7
Lead	7439-92-1	5	mg/kg	25	8	15	6	9
Nickel	7440-02-0	2	mg/kg	4	4	5	<2	11
Zinc	7440-66-6	5	mg/kg	33	21	65	28	39
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.7	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	1.2	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	1.1	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.7	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	1.4	<0.5	6.2	1.6	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	2.6	0.7	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	5.6	<0.5	14.9	4.3	1.4
Pyrene	129-00-0	0.5	mg/kg	5.5	<0.5	14.9	3.2	1.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	1.4	<0.5	6.6	1.6	0.7
Chrysene	218-01-9	0.5	mg/kg	1.4	<0.5	6.3	1.5	0.7
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	3.4	<0.5	8.6	2.0	1.0
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.0	<0.5	3.3	0.9	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.0	<0.5	7.9	1.8	0.9
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.4	<0.5	5.2	1.1	0.6
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.9	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				4B-1.5	4B-2.0	5A-0.5	5A-1.0	5A-1.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-031	ES1228523-032	ES1228523-033	ES1228523-034	ES1228523-035
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	1.6	<0.5	6.8	1.4	0.8
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	24.7	<0.5	87.9	20.1	7.6
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	2.8	<0.5	11.3	2.4	1.1
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	180	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	220	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	400	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	310	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	200	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	510	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	105	101	102	95.8	91.8
2-Chlorophenol-D4	93951-73-6	0.1	%	106	103	101	97.1	93.0
2,4,6-Tribromophenol	118-79-6	0.1	%	102	109	101	101	118
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	110	108	108	103	101
Anthracene-d10	1719-06-8	0.1	%	102	101	98.6	116	95.6



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				4B-1.5	4B-2.0	5A-0.5	5A-1.0	5A-1.5
Client sampling date / time				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-031	ES1228523-032	ES1228523-033	ES1228523-034	ES1228523-035
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	118	112	111	107	147
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	109	118	117	115	110
Toluene-D8	2037-26-5	0.1	%	115	115	122	124	119
4-Bromofluorobenzene	460-00-4	0.1	%	112	112	121	122	114



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				5A-2.0	5C-0.5	5C-1.0	5C-1.5	5C-2.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-036	ES1228523-037	ES1228523-038	ES1228523-039	ES1228523-040
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	4.2	6.3	3.3	3.3	2.1
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	905	1240	335	484	93
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	15	17	4	7	<2
Copper	7440-50-8	5	mg/kg	6	7	<5	<5	<5
Lead	7439-92-1	5	mg/kg	11	7	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	5	3	2	2	<2
Zinc	7440-66-6	5	mg/kg	36	164	8	11	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.0	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	0.5	0.9	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	0.5	1.0	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	0.6	0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	8.4	6.0	1.4	0.7	<0.5
Anthracene	120-12-7	0.5	mg/kg	1.4	2.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	11.0	16.1	2.8	2.4	0.5
Pyrene	129-00-0	0.5	mg/kg	10.1	15.6	2.5	2.2	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	3.2	6.7	1.2	1.1	<0.5
Chrysene	218-01-9	0.5	mg/kg	3.1	6.4	1.0	1.0	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	3.6	10.1	1.4	1.4	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.5	4.2	0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.2	8.0	1.1	1.2	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.0	4.9	0.6	0.7	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.9	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	2.5	9.1	0.8	0.8	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	51.6	93.9	13.3	11.5	0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	4.3	11.6	1.5	1.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				5A-2.0	5C-0.5	5C-1.0	5C-1.5	5C-2.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-036	ES1228523-037	ES1228523-038	ES1228523-039	ES1228523-040
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	160	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	170	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	330	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	260	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	160	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	420	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	96.4	92.7	72.7	74.0	79.7
2-Chlorophenol-D4	93951-73-6	0.1	%	98.0	92.2	94.5	76.4	91.7
2,4,6-Tribromophenol	118-79-6	0.1	%	90.6	84.9	104	99.7	68.2
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	87.0	122	110	67.6	99.7
Anthracene-d10	1719-06-8	0.1	%	95.6	92.5	102	97.6	92.6
4-Terphenyl-d14	1718-51-0	0.1	%	108	128	114	109	104
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	117	116	127	121	119
Toluene-D8	2037-26-5	0.1	%	121	116	122	120	123
4-Bromofluorobenzene	460-00-4	0.1	%	117	116	119	118	123



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				1A-0.5	1A-1.0	1A-1.5	1A-2.0	1B-0.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-041	ES1228523-042	ES1228523-043	ES1228523-044	ES1228523-045
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	6.5	8.7	11.4	9.2	8.6
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	488	1270	664	733	3570
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	6
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	2
Chromium	7440-47-3	2	mg/kg	7	8	4	10	95
Copper	7440-50-8	5	mg/kg	8	10	<5	7	182
Lead	7439-92-1	5	mg/kg	16	34	8	14	189
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	<2	5
Zinc	7440-66-6	5	mg/kg	105	81	32	60	219
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	1.1
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.7
Phenanthrene	85-01-8	0.5	mg/kg	0.5	0.8	<0.5	<0.5	10.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	3.0
Fluoranthene	206-44-0	0.5	mg/kg	2.1	3.0	1.0	0.8	26.9
Pyrene	129-00-0	0.5	mg/kg	2.2	2.4	0.9	0.8	26.2
Benz(a)anthracene	56-55-3	0.5	mg/kg	0.7	1.2	<0.5	<0.5	9.5
Chrysene	218-01-9	0.5	mg/kg	0.7	1.1	<0.5	<0.5	8.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	0.8	1.2	<0.5	<0.5	9.2
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	2.9
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.7	1.2	<0.5	<0.5	10.4
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	0.5	<0.5	<0.5	4.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	1.1
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	0.6	<0.5	<0.5	5.4
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	7.7	12.0	1.9	1.6	120
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	0.8	1.5	<0.5	<0.5	14.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				1A-0.5	1A-1.0	1A-1.5	1A-2.0	1B-0.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-041	ES1228523-042	ES1228523-043	ES1228523-044	ES1228523-045
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	380
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	520
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	900
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	100	<100	<100	720
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	480
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	100	<50	<50	1200
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	86.6	109	97.6	84.0	109
2-Chlorophenol-D4	93951-73-6	0.1	%	90.9	99.4	90.4	88.8	98.4
2,4,6-Tribromophenol	118-79-6	0.1	%	82.1	96.3	81.6	88.3	96.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	87.0	98.4	99.0	91.9	98.3
Anthracene-d10	1719-06-8	0.1	%	80.1	97.9	86.5	90.5	95.1
4-Terphenyl-d14	1718-51-0	0.1	%	106	115	107	98.6	112
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	114	106	104	114	110
Toluene-D8	2037-26-5	0.1	%	118	108	105	117	112
4-Bromofluorobenzene	460-00-4	0.1	%	109	102	96.4	107	106



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				1B-1.0	1B-1.5	1B-2.0	1C-0.5	1C-1.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-046	ES1228523-047	ES1228523-048	ES1228523-049	ES1228523-050
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	14.6	10.2	12.3	9.7	5.1
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	----	No	----
Asbestos Type	1332-21-4	0.1	--	----	----	----	-	----
Sample weight (dry)	----	0.01	g	----	----	----	283	----
APPROVED IDENTIFIER:	----	-	--	----	----	----	P.RENNIE	----
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	149	357	27	14800	73
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	7	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	1	<1
Chromium	7440-47-3	2	mg/kg	3	4	<2	98	2
Copper	7440-50-8	5	mg/kg	<5	<5	<5	49	<5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	81	<5
Nickel	7440-02-0	2	mg/kg	2	<2	<2	7	2
Zinc	7440-66-6	5	mg/kg	10	10	<5	265	7
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	7.0	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	2.1	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	27.5	0.7
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	25.4	0.7
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	10.4	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	9.1	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	9.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	3.7	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	11.1	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	4.9	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	1.0	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				1B-1.0	1B-1.5	1B-2.0	1C-0.5	1C-1.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-046	ES1228523-047	ES1228523-048	ES1228523-049	ES1228523-050
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	5.7	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	117	1.4
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	<0.5	15.1	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	260	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	240	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	500	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	420	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	200	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	620	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	99.2	85.1	95.4	102	111
2-Chlorophenol-D4	93951-73-6	0.1	%	98.7	99.2	91.3	88.6	101
2,4,6-Tribromophenol	118-79-6	0.1	%	95.1	91.1	89.0	81.2	101
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	95.6	95.1	92.1	97.9	98.4
Anthracene-d10	1719-06-8	0.1	%	95.9	96.3	94.9	95.8	94.6



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				1B-1.0	1B-1.5	1B-2.0	1C-0.5	1C-1.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-046	ES1228523-047	ES1228523-048	ES1228523-049	ES1228523-050
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	114	99.6	115	115	117
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	104	112	103	108	108
Toluene-D8	2037-26-5	0.1	%	105	115	106	111	110
4-Bromofluorobenzene	460-00-4	0.1	%	99.4	105	101	106	106



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				1C-1.5	1C-2.0	1D-0.5	1D-1.0	1D-1.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-051	ES1228523-052	ES1228523-053	ES1228523-054	ES1228523-055
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	5.3	4.9	6.4	3.7	5.4
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	84	71	23900	32	23
Arsenic	7440-38-2	5	mg/kg	<5	<5	6	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	1	<1	<1
Chromium	7440-47-3	2	mg/kg	2	2	142	<2	<2
Copper	7440-50-8	5	mg/kg	<5	<5	25	<5	<5
Lead	7439-92-1	5	mg/kg	<5	<5	42	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	2	6	<2	<2
Zinc	7440-66-6	5	mg/kg	<5	<5	150	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	9.4	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.8	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	17.0	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	10.3	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	71.6	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	24.3	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	109	<0.5	1.2
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	92.4	<0.5	1.0
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	45.9	<0.5	0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	38.4	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	37.9	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	14.4	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	39.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	19.7	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	4.6	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	21.7	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	557	<0.5	2.7
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	56.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				1C-1.5	1C-2.0	1D-0.5	1D-1.0	1D-1.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-051	ES1228523-052	ES1228523-053	ES1228523-054	ES1228523-055
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	1280	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	1140	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	2420	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	90	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	1840	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	1370	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	3300	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	2	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	114	101	95.4	97.6	103
2-Chlorophenol-D4	93951-73-6	0.1	%	106	105	96.5	100	106
2,4,6-Tribromophenol	118-79-6	0.1	%	95.0	84.0	83.4	86.9	81.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	102	99.6	90.3	94.8	96.3
Anthracene-d10	1719-06-8	0.1	%	93.9	95.8	83.1	91.8	94.1
4-Terphenyl-d14	1718-51-0	0.1	%	111	113	116	114	115
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	111	113	118	115	117
Toluene-D8	2037-26-5	0.1	%	110	111	114	114	115
4-Bromofluorobenzene	460-00-4	0.1	%	106	105	107	107	110



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				1D-2.0	2C-0.5	2C-1.0	2C-1.5	2C-2.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-056	ES1228523-057	ES1228523-058	ES1228523-059	ES1228523-060
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	4.3	8.0	9.6	6.8	7.2
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	109	1960	460	91	109
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	38	5	3	2
Copper	7440-50-8	5	mg/kg	<5	8	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	16	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	5	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	7	35	9	<5	6
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3.1	<0.5	0.6	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	0.8	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	1.1	7.1	<0.5	1.3	<0.5
Pyrene	129-00-0	0.5	mg/kg	1.0	6.4	<0.5	1.2	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	0.6	2.9	<0.5	0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	0.5	2.8	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	0.7	3.0	<0.5	0.6	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.2	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.6	2.9	<0.5	0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.5	1.8	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	5.0	33.5	<0.5	4.7	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	0.7	3.8	<0.5	0.6	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				1D-2.0	2C-0.5	2C-1.0	2C-1.5	2C-2.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-056	ES1228523-057	ES1228523-058	ES1228523-059	ES1228523-060
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	120	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	120	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	103	95.9	99.2	98.7	92.1
2-Chlorophenol-D4	93951-73-6	0.1	%	106	99.2	100	102	95.2
2,4,6-Tribromophenol	118-79-6	0.1	%	82.9	81.8	78.7	79.7	73.0
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	97.6	91.2	91.6	95.0	87.4
Anthracene-d10	1719-06-8	0.1	%	94.0	88.5	90.0	92.4	85.4
4-Terphenyl-d14	1718-51-0	0.1	%	117	116	118	117	114
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	116	117	115	116	116
Toluene-D8	2037-26-5	0.1	%	111	114	113	115	112
4-Bromofluorobenzene	460-00-4	0.1	%	107	107	110	110	104



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				2E-0.5	2E-1.0	2E-1.5	2E-2.0	2D-0.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-061	ES1228523-062	ES1228523-063	ES1228523-064	ES1228523-065
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	12.6	8.2	6.8	7.4	8.5
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----
Asbestos Type	1332-21-4	0.1	--	-	----	----	----	----
Sample weight (dry)	----	0.01	g	371	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	P.RENNIE	----	----	----	----
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	12200	31	11	13	13600
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	130	<2	<2	<2	106
Copper	7440-50-8	5	mg/kg	27	<5	<5	<5	13
Lead	7439-92-1	5	mg/kg	27	<5	<5	<5	15
Nickel	7440-02-0	2	mg/kg	8	<2	<2	<2	4
Zinc	7440-66-6	5	mg/kg	117	<5	<5	<5	64
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	5.8
Acenaphthylene	208-96-8	0.5	mg/kg	0.6	<0.5	<0.5	<0.5	2.0
Acenaphthene	83-32-9	0.5	mg/kg	0.9	<0.5	<0.5	<0.5	21.1
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	12.2
Phenanthrene	85-01-8	0.5	mg/kg	7.2	<0.5	<0.5	<0.5	139
Anthracene	120-12-7	0.5	mg/kg	2.8	<0.5	<0.5	<0.5	45.9
Fluoranthene	206-44-0	0.5	mg/kg	24.3	0.8	1.0	3.9	137
Pyrene	129-00-0	0.5	mg/kg	23.3	0.7	0.9	3.4	109
Benz(a)anthracene	56-55-3	0.5	mg/kg	9.8	<0.5	<0.5	1.9	59.9
Chrysene	218-01-9	0.5	mg/kg	8.6	<0.5	<0.5	1.4	51.7
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	11.4	<0.5	0.6	1.6	62.4
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	4.8	<0.5	<0.5	0.7	26.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	8.9	<0.5	<0.5	1.4	49.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	5.2	<0.5	<0.5	0.6	26.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	1.0	<0.5	<0.5	<0.5	5.0



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				2E-0.5	2E-1.0	2E-1.5	2E-2.0	2D-0.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-061	ES1228523-062	ES1228523-063	ES1228523-064	ES1228523-065
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	6.3	<0.5	<0.5	0.6	29.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	115	1.5	2.5	15.5	782
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	13.2	<0.5	<0.5	1.9	72.4
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	220	<100	<100	<100	1660
C29 - C36 Fraction	----	100	mg/kg	180	<100	<100	<100	890
^ C10 - C36 Fraction (sum)	----	50	mg/kg	400	<50	<50	<50	2550
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	100
>C16 - C34 Fraction	----	100	mg/kg	320	<100	<100	<100	2160
>C34 - C40 Fraction	----	100	mg/kg	170	<100	<100	<100	670
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	490	<50	<50	<50	2930
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	11
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	90.1	99.3	99.7	95.3	95.1
2-Chlorophenol-D4	93951-73-6	0.1	%	91.7	108	102	98.8	101
2,4,6-Tribromophenol	118-79-6	0.1	%	84.0	100	93.3	94.9	88.9
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	96.9	108	98.6	104	101
Anthracene-d10	1719-06-8	0.1	%	89.3	101	91.5	94.5	91.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				2E-0.5	2E-1.0	2E-1.5	2E-2.0	2D-0.5
Client sampling date / time				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-061	ES1228523-062	ES1228523-063	ES1228523-064	ES1228523-065
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	100	110	98.4	104	108
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	111	99.2	116	114	103
Toluene-D8	2037-26-5	0.1	%	112	97.1	112	118	115
4-Bromofluorobenzene	460-00-4	0.1	%	108	102	112	102	95.9



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				2D-1.0	2D-1.5	2D-2.0	3D-0.5	3D-1.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-066	ES1228523-067	ES1228523-068	ES1228523-069	ES1228523-070
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	6.9	6.9	7.6	4.7	7.1
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	502	142	54	384	339
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	7	3	<2	5	4
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	10	7	<5	10	6
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	6.8	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.8
Acenaphthene	83-32-9	0.5	mg/kg	6.6	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	3.8	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	18.3	3.2	<0.5	2.3	<0.5
Anthracene	120-12-7	0.5	mg/kg	5.2	0.8	<0.5	1.0	0.6
Fluoranthene	206-44-0	0.5	mg/kg	10.9	3.8	<0.5	9.9	11.8
Pyrene	129-00-0	0.5	mg/kg	8.8	3.3	<0.5	8.9	10.1
Benz(a)anthracene	56-55-3	0.5	mg/kg	3.3	1.2	<0.5	4.2	5.2
Chrysene	218-01-9	0.5	mg/kg	2.9	1.1	<0.5	3.8	3.9
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	2.6	1.3	<0.5	4.9	5.3
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.2	0.5	<0.5	1.8	2.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.7	1.2	<0.5	3.8	3.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.3	0.6	<0.5	1.8	1.7
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	1.4	0.7	<0.5	2.1	1.8
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	75.8	17.7	<0.5	44.5	47.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	3.6	1.6	<0.5	5.1	5.3
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				2D-1.0	2D-1.5	2D-2.0	3D-0.5	3D-1.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-066	ES1228523-067	ES1228523-068	ES1228523-069	ES1228523-070
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	150	<100	<100	130	130
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	120	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	150	<50	<50	250	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	180	<100	<100	210	180
>C34 - C40 Fraction	----	100	mg/kg	140	<100	<100	110	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	370	<50	<50	320	180
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	2	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	100	102	101	103	106
2-Chlorophenol-D4	93951-73-6	0.1	%	103	104	103	111	111
2,4,6-Tribromophenol	118-79-6	0.1	%	97.8	96.9	98.2	95.6	90.0
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	103	101	105	112	106
Anthracene-d10	1719-06-8	0.1	%	93.5	95.8	98.0	102	99.0
4-Terphenyl-d14	1718-51-0	0.1	%	94.5	105	108	114	116
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	89.0	118	111	123	120
Toluene-D8	2037-26-5	0.1	%	102	110	113	119	113
4-Bromofluorobenzene	460-00-4	0.1	%	117	108	113	116	114



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				3D-1.5	3E-0.5	3E-1.0	3E-1.5	3E-2.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-071	ES1228523-073	ES1228523-074	ES1228523-075	ES1228523-076
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	8.4	5.6	3.5	5.2	4.6
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	78	8150	235	379	309
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	7	107	3	8	4
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	6	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	2	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	13	16	<5	11	5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.4	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	1.3	34.2	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	10.3	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	4.7	80.0	1.0	1.2	1.8
Pyrene	129-00-0	0.5	mg/kg	5.5	77.6	1.1	1.2	1.7
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.0	35.0	0.5	0.6	0.7
Chrysene	218-01-9	0.5	mg/kg	1.6	31.2	<0.5	<0.5	0.7
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	2.0	37.3	0.5	0.5	0.8
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.7	15.1	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.6	28.8	<0.5	<0.5	0.7
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	16.7	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	3.4	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.5	18.2	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	19.9	391	3.1	3.5	6.4
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	2.1	43.1	<0.5	<0.5	0.8
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				3D-1.5	3E-0.5	3E-1.0	3E-1.5	3E-2.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-071	ES1228523-073	ES1228523-074	ES1228523-075	ES1228523-076
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	220	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	180	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	400	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	330	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	140	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	470	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	87.2	100	108	105	111
2-Chlorophenol-D4	93951-73-6	0.1	%	89.9	95.4	110	105	112
2,4,6-Tribromophenol	118-79-6	0.1	%	74.6	76.2	100	97.4	102
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	88.8	102	109	103	111
Anthracene-d10	1719-06-8	0.1	%	82.0	97.0	101	97.3	105
4-Terphenyl-d14	1718-51-0	0.1	%	93.6	114	108	108	111
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	123	120	123	87.8	123
Toluene-D8	2037-26-5	0.1	%	114	117	115	98.5	118
4-Bromofluorobenzene	460-00-4	0.1	%	116	117	114	86.9	119



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				4D-0.5	4D-1.0	4D-1.5	4D-2.0	4E-0.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-077	ES1228523-078	ES1228523-079	ES1228523-080	ES1228523-081
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	5.6	3.8	4.0	5.1	5.5
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	1320	198	1450	617	1310
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	27	3	12	12	34
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	3	<2	<2	<2	2
Zinc	7440-66-6	5	mg/kg	40	15	25	15	34
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	3.2	<0.5	<0.5	<0.5	9.2
Anthracene	120-12-7	0.5	mg/kg	1.1	<0.5	<0.5	<0.5	2.6
Fluoranthene	206-44-0	0.5	mg/kg	12.1	<0.5	0.6	<0.5	24.6
Pyrene	129-00-0	0.5	mg/kg	11.6	<0.5	0.6	<0.5	22.4
Benz(a)anthracene	56-55-3	0.5	mg/kg	5.1	<0.5	<0.5	<0.5	9.6
Chrysene	218-01-9	0.5	mg/kg	4.6	<0.5	<0.5	<0.5	9.0
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	5.3	<0.5	<0.5	<0.5	11.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.2	<0.5	<0.5	<0.5	4.9
Benzo(a)pyrene	50-32-8	0.5	mg/kg	4.4	<0.5	<0.5	<0.5	9.0
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.4	<0.5	<0.5	<0.5	4.8
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.9
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	2.7	<0.5	<0.5	<0.5	5.4
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	54.7	<0.5	1.2	<0.5	114
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	6.0	<0.5	<0.5	<0.5	13.1
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				4D-0.5	4D-1.0	4D-1.5	4D-2.0	4E-0.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-077	ES1228523-078	ES1228523-079	ES1228523-080	ES1228523-081
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	150	<100	<100	<100	140
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	150	<50	<50	<50	140
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	102	105	102	102	107
2-Chlorophenol-D4	93951-73-6	0.1	%	99.9	107	104	104	105
2,4,6-Tribromophenol	118-79-6	0.1	%	85.1	96.1	90.2	90.1	84.1
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	100	106	102	105	105
Anthracene-d10	1719-06-8	0.1	%	92.5	99.1	94.4	95.7	95.6
4-Terphenyl-d14	1718-51-0	0.1	%	100	111	106	106	111
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	86.6	116	120	117	119
Toluene-D8	2037-26-5	0.1	%	103	114	116	100	114
4-Bromofluorobenzene	460-00-4	0.1	%	91.8	111	116	107	114



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				4E-1.0	4E-1.5	4E-2.0	5D-0.5	5D-1.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-082	ES1228523-083	ES1228523-084	ES1228523-085	ES1228523-086
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	3.8	3.5	3.3	6.5	5.6
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	----	No	----
Asbestos Type	1332-21-4	0.1	--	----	----	----	-	----
Sample weight (dry)	----	0.01	g	----	----	----	352	----
APPROVED IDENTIFIER:	----	-	--	----	----	----	P.RENNIE	----
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	111	390	166	2360	57
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	3	5	3	50	<2
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	5	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	3	<2
Zinc	7440-66-6	5	mg/kg	8	7	13	46	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	1.9	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	0.8	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.8	18.2	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.8	18.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	5.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	5.1	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	7.2	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	2.6	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	6.9	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	3.0	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	0.6	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				4E-1.0	4E-1.5	4E-2.0	5D-0.5	5D-1.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-082	ES1228523-083	ES1228523-084	ES1228523-085	ES1228523-086
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	3.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	1.6	73.8	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	<0.5	9.4	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	120	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	110	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	230	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	190	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	190	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	96.6	85.9	91.8	84.5	87.4
2-Chlorophenol-D4	93951-73-6	0.1	%	97.6	96.3	93.5	86.6	87.9
2,4,6-Tribromophenol	118-79-6	0.1	%	91.3	85.1	78.5	67.3	64.9
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	97.2	96.8	94.0	87.5	86.9
Anthracene-d10	1719-06-8	0.1	%	96.2	96.8	94.2	88.0	87.7



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				4E-1.0	4E-1.5	4E-2.0	5D-0.5	5D-1.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-082	ES1228523-083	ES1228523-084	ES1228523-085	ES1228523-086
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	107	110	107	96.8	97.7
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	116	117	117	123	114
Toluene-D8	2037-26-5	0.1	%	112	112	113	119	112
4-Bromofluorobenzene	460-00-4	0.1	%	106	106	108	111	108



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				5D-1.5	5D-2.0	5E-0.5	5E-1.0	5E-1.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-087	ES1228523-088	ES1228523-089	ES1228523-090	ES1228523-091
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	2.7	4.8	8.3	3.7	4.5
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	189	153	10400	800	103
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	1	<1	<1
Chromium	7440-47-3	2	mg/kg	3	3	108	11	2
Copper	7440-50-8	5	mg/kg	<5	<5	17	<5	<5
Lead	7439-92-1	5	mg/kg	<5	<5	31	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	7	<2	<2
Zinc	7440-66-6	5	mg/kg	8	14	296	20	15
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	4.2	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	1.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	0.6	<0.5	26.5	<0.5	0.5
Pyrene	129-00-0	0.5	mg/kg	0.6	<0.5	26.2	<0.5	0.6
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	8.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	7.3	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	10.2	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	4.3	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	10.0	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	4.3	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	1.0	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	5.0	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	1.2	<0.5	109	<0.5	1.1
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	13.8	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				5D-1.5	5D-2.0	5E-0.5	5E-1.0	5E-1.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-087	ES1228523-088	ES1228523-089	ES1228523-090	ES1228523-091
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	170	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	160	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	330	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	270	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	130	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	400	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	88.0	85.3	88.0	88.7	96.2
2-Chlorophenol-D4	93951-73-6	0.1	%	86.4	83.9	86.4	84.9	92.8
2,4,6-Tribromophenol	118-79-6	0.1	%	70.0	68.0	67.1	74.3	76.3
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	87.5	86.9	89.7	86.6	95.6
Anthracene-d10	1719-06-8	0.1	%	87.9	87.9	88.8	89.2	96.9
4-Terphenyl-d14	1718-51-0	0.1	%	99.2	99.4	97.8	99.8	111
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	113	119	99.8	120	120
Toluene-D8	2037-26-5	0.1	%	110	113	99.5	113	113
4-Bromofluorobenzene	460-00-4	0.1	%	105	108	89.8	106	106



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				5E-2.0	6-W1-0.5	6-W1-1.0	6-W1-1.5	6-W1-2.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-092	ES1228523-093	ES1228523-094	ES1228523-095	ES1228523-096
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	4.6	3.2	1.3	2.4	2.5
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	521	2740	55	53	67
Arsenic	7440-38-2	5	mg/kg	<5	6	7	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	3	43	2	<2	<2
Copper	7440-50-8	5	mg/kg	<5	18	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	17	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	5	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	18	64	10	6	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	0.8	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	1.2	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	0.7	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	10.7	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	2.6	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	1.6	30.9	1.5	3.3	0.8
Pyrene	129-00-0	0.5	mg/kg	1.7	30.7	1.4	3.0	0.8
Benz(a)anthracene	56-55-3	0.5	mg/kg	0.5	8.9	0.5	1.0	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	8.7	<0.5	0.9	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	0.6	12.8	0.6	1.0	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4.8	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.6	12.6	0.6	1.0	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	5.8	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	1.2	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	7.2	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	5.0	140	4.6	10.2	1.6
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	0.7	17.2	0.7	1.2	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				5E-2.0	6-W1-0.5	6-W1-1.0	6-W1-1.5	6-W1-2.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-092	ES1228523-093	ES1228523-094	ES1228523-095	ES1228523-096
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	240	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	230	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	470	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	380	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	180	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	560	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	0.3	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	0.3	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	85.9	93.4	94.0	88.0	91.1
2-Chlorophenol-D4	93951-73-6	0.1	%	82.0	90.2	92.0	85.2	89.6
2,4,6-Tribromophenol	118-79-6	0.1	%	74.0	80.5	78.4	75.2	72.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	88.4	90.2	89.1	85.2	87.4
Anthracene-d10	1719-06-8	0.1	%	88.0	93.0	92.8	87.4	88.8
4-Terphenyl-d14	1718-51-0	0.1	%	111	107	107	100	102
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	117	118	115	119	116
Toluene-D8	2037-26-5	0.1	%	112	108	105	109	111
4-Bromofluorobenzene	460-00-4	0.1	%	106	104	93.6	100	105



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				6-W2-0.5	6-W2-1.0	6-W2-1.5	6-W2-2.0	6B-0.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-097	ES1228523-098	ES1228523-099	ES1228523-100	ES1228523-101
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	5.1	3.9	3.4	2.9	7.8
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	93	89	175	110	10100
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	2	<2	5	4	70
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	12
Lead	7439-92-1	5	mg/kg	<5	<5	<5	<5	20
Nickel	7440-02-0	2	mg/kg	<2	<2	2	2	5
Zinc	7440-66-6	5	mg/kg	57	12	151	135	89
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	2.7	1.0	1.8	0.8	1.1
Pyrene	129-00-0	0.5	mg/kg	2.6	1.0	1.8	0.8	1.2
Benz(a)anthracene	56-55-3	0.5	mg/kg	0.9	<0.5	0.6	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	0.8	<0.5	0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	0.9	<0.5	0.7	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.9	<0.5	0.7	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	8.8	2.0	6.1	1.6	2.3
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	1.1	<0.5	0.8	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				6-W2-0.5	6-W2-1.0	6-W2-1.5	6-W2-2.0	6B-0.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-097	ES1228523-098	ES1228523-099	ES1228523-100	ES1228523-101
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	80.8	85.8	85.8	87.4	91.2
2-Chlorophenol-D4	93951-73-6	0.1	%	82.0	85.0	81.0	84.4	90.8
2,4,6-Tribromophenol	118-79-6	0.1	%	88.0	81.1	78.1	80.0	72.3
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	86.5	87.9	84.7	87.9	85.4
Anthracene-d10	1719-06-8	0.1	%	89.0	89.0	87.5	91.0	94.3
4-Terphenyl-d14	1718-51-0	0.1	%	103	104	105	110	115
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	116	116	122	123	120
Toluene-D8	2037-26-5	0.1	%	110	109	115	124	108
4-Bromofluorobenzene	460-00-4	0.1	%	105	106	116	101	110



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				6B-1.0	6B-1.5	6B-2.0	6C-0.5	6C-1.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-102	ES1228523-103	ES1228523-104	ES1228523-105	ES1228523-106
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	5.1	4.7	16.4	4.1	2.9
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	1140	3270	366	1900	109
Arsenic	7440-38-2	5	mg/kg	<5	<5	7	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	16	72	20	46	<2
Copper	7440-50-8	5	mg/kg	11	17	35	6	<5
Lead	7439-92-1	5	mg/kg	16	20	28	14	<5
Nickel	7440-02-0	2	mg/kg	8	12	18	3	3
Zinc	7440-66-6	5	mg/kg	52	63	73	308	550
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.2	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	1.8	1.3	1.3	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	3.5	4.5	2.0	1.7	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	0.8	0.9	<0.5	0.8	<0.5
Fluorene	86-73-7	0.5	mg/kg	0.7	0.6	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	11.9	14.7	3.3	4.8	<0.5
Anthracene	120-12-7	0.5	mg/kg	5.3	6.5	2.2	2.6	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	26.3	34.4	10.9	18.2	<0.5
Pyrene	129-00-0	0.5	mg/kg	26.6	34.9	11.8	18.7	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	12.5	15.0	5.2	7.8	<0.5
Chrysene	218-01-9	0.5	mg/kg	12.0	14.3	5.0	7.2	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	16.3	21.2	7.7	11.6	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	6.6	7.6	2.7	4.2	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	15.3	17.9	6.4	9.4	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	10.2	10.5	3.6	5.4	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	1.8	1.9	0.7	0.9	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	14.4	13.6	4.6	6.6	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	166	200	67.4	99.9	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	21.9	25.5	9.1	13.3	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				6B-1.0	6B-1.5	6B-2.0	6C-0.5	6C-1.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-102	ES1228523-103	ES1228523-104	ES1228523-105	ES1228523-106
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	340	300	160	220	<100
C29 - C36 Fraction	----	100	mg/kg	280	260	160	210	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	620	560	320	430	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	500	440	250	350	<100
>C34 - C40 Fraction	----	100	mg/kg	210	230	120	180	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	710	670	370	530	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	2	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	82.2	102	108	106	104
2-Chlorophenol-D4	93951-73-6	0.1	%	87.2	105	108	108	110
2,4,6-Tribromophenol	118-79-6	0.1	%	94.2	114	118	112	120
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	94.5	104	107	105	106
Anthracene-d10	1719-06-8	0.1	%	87.2	97.6	101	97.4	101
4-Terphenyl-d14	1718-51-0	0.1	%	98.9	104	107	103	106
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	86.3	88.8	81.4	94.5	96.8
Toluene-D8	2037-26-5	0.1	%	93.7	104	91.1	112	112
4-Bromofluorobenzene	460-00-4	0.1	%	74.7	75.7	89.7	102	94.0



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				6C-1.5	6C-2.0	6A-0.5	6A-1.0	6A-1.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-107	ES1228523-108	ES1228523-109	ES1228523-110	ES1228523-111
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	4.2	3.1	3.6	2.6	2.9
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	74	212	2850	359	567
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	2	2	48	8	13
Copper	7440-50-8	5	mg/kg	<5	<5	8	6	6
Lead	7439-92-1	5	mg/kg	<5	<5	15	11	10
Nickel	7440-02-0	2	mg/kg	<2	<2	5	4	4
Zinc	7440-66-6	5	mg/kg	66	48	49	28	31
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	1.1	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	3.1	1.9	2.6
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	1.5	0.6	0.6
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.0	10.8	3.1	8.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	0.9	11.2	3.0	8.2
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	4.6	1.2	3.8
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	4.5	1.1	3.8
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	0.5	7.1	1.7	6.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	3.3	0.6	1.8
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	5.4	1.4	3.6
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	3.2	0.8	2.7
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.6	<0.5	0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	4.2	1.0	3.3
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	2.4	60.6	16.9	45.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	7.9	1.8	5.6
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				6C-1.5	6C-2.0	6A-0.5	6A-1.0	6A-1.5
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-107	ES1228523-108	ES1228523-109	ES1228523-110	ES1228523-111
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	120	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	120	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	240	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	190	<100	110
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	190	<50	110
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	108	103	93.7	95.3	96.1
2-Chlorophenol-D4	93951-73-6	0.1	%	114	112	101	102	99.3
2,4,6-Tribromophenol	118-79-6	0.1	%	122	120	112	113	111
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	109	107	101	99.2	106
Anthracene-d10	1719-06-8	0.1	%	102	101	92.1	90.7	99.2
4-Terphenyl-d14	1718-51-0	0.1	%	107	105	97.2	96.2	105
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	96.6	85.2	99.2	89.2	102
Toluene-D8	2037-26-5	0.1	%	97.8	83.1	112	110	116
4-Bromofluorobenzene	460-00-4	0.1	%	96.0	79.9	95.2	85.9	98.6



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				6A-2.0	5B-0.5	5B-1.0	5B-1.5	5B-2.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-112	ES1228523-113	ES1228523-114	ES1228523-115	ES1228523-116
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	4.3	3.8	2.3	2.1	2.0
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	433	6480	302	86	119
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	8	74	4	2	2
Copper	7440-50-8	5	mg/kg	7	18	<5	<5	<5
Lead	7439-92-1	5	mg/kg	13	20	6	<5	21
Nickel	7440-02-0	2	mg/kg	5	6	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	41	84	26	19	21
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	1.1	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	0.5	8.4	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	1.3	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	0.8	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	0.8	21.2	1.1	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	10.8	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	2.6	66.1	1.8	1.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	2.8	65.5	1.8	1.6	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	1.3	28.0	0.9	0.8	<0.5
Chrysene	218-01-9	0.5	mg/kg	1.3	25.8	0.9	0.6	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	2.2	36.6	1.3	0.9	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.8	16.0	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.9	31.9	1.2	0.8	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.4	16.7	0.6	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	3.1	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	2.1	23.1	0.8	0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	17.7	356	10.4	6.7	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	2.5	45.2	1.5	1.0	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				6A-2.0	5B-0.5	5B-1.0	5B-1.5	5B-2.0
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-112	ES1228523-113	ES1228523-114	ES1228523-115	ES1228523-116
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	120	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	130	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	250	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	190	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	130	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	320	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	78.8	99.0	76.3	66.5	68.7
2-Chlorophenol-D4	93951-73-6	0.1	%	83.9	104	80.0	75.4	99.0
2,4,6-Tribromophenol	118-79-6	0.1	%	92.2	83.7	106	110	106
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	92.3	75.1	106	103	89.3
Anthracene-d10	1719-06-8	0.1	%	84.1	98.5	96.6	102	95.1
4-Terphenyl-d14	1718-51-0	0.1	%	94.2	105	106	116	99.5
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	95.2	99.6	95.3	94.9	92.9
Toluene-D8	2037-26-5	0.1	%	123	127	95.1	116	130
4-Bromofluorobenzene	460-00-4	0.1	%	88.5	95.3	90.4	94.8	88.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				1E-0.5	1E-1.0	6D-0.5	QC1	QC2
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-121	ES1228523-122	ES1228523-123	ES1228523-124	ES1228523-125
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	4.7	5.5	1.1	19.3	5.0
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	7170	127	50	230	81
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	2	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	93	3	<2	4	3
Copper	7440-50-8	5	mg/kg	19	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	35	<5	11	<5	<5
Nickel	7440-02-0	2	mg/kg	4	<2	<2	<2	3
Zinc	7440-66-6	5	mg/kg	245	16	8	7	6
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	3.8	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	2.6	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	8.3	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	5.8	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	67.2	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	21.3	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	108	2.9	<0.5	1.1	<0.5
Pyrene	129-00-0	0.5	mg/kg	89.3	3.3	0.5	1.0	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	42.4	1.7	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	35.8	1.2	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	60.2	1.2	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	20.6	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	35.3	1.3	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	15.3	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	3.0	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	15.8	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	535	11.6	0.5	2.1	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	52.7	1.6	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				1E-0.5	1E-1.0	6D-0.5	QC1	QC2
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-121	ES1228523-122	ES1228523-123	ES1228523-124	ES1228523-125
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	1190	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	820	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	2010	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	70	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	1660	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	740	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	2470	<50	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	7	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	65.8	74.8	95.2	101	90.8
2-Chlorophenol-D4	93951-73-6	0.1	%	113	109	99.9	106	106
2,4,6-Tribromophenol	118-79-6	0.1	%	142	116	134	116	112
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	104	95.2	108	98.9	103
Anthracene-d10	1719-06-8	0.1	%	101	91.5	97.8	101	96.6
4-Terphenyl-d14	1718-51-0	0.1	%	110	117	98.5	109	93.8
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	102	95.0	95.3	88.1	98.7
Toluene-D8	2037-26-5	0.1	%	116	91.4	93.3	115	124
4-Bromofluorobenzene	460-00-4	0.1	%	97.0	89.1	89.7	83.6	89.2



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				QC3	QC4	QC5	QC6	QCB
				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-126	ES1228523-127	ES1228523-128	ES1228523-129	ES1228523-130
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	2.4	5.3	3.8	1.9	----
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	97	104	156	237	----
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	<2	<2	3	4	----
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	----
Lead	7439-92-1	5	mg/kg	<5	<5	<5	<5	----
Nickel	7440-02-0	2	mg/kg	<2	<2	2	<2	----
Zinc	7440-66-6	5	mg/kg	<5	<5	216	6	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	1.1	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	1.0	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	2.1	----
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	----

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Client sample ID

Client sampling date / time

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	QC3	QC4	QC5	QC6	QCB
Client sampling date / time				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	
Compound	CAS Number	LOR	Unit	ES1228523-126	ES1228523-127	ES1228523-128	ES1228523-129	ES1228523-130	
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	----	
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	----	
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	----	
C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft									
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	----	
C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	----	
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	----	
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	----	
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	----	
>C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	----	
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----	
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	----	----	----	----	<0.2	
Toluene	108-88-3	0.5	mg/kg	----	----	----	----	<0.5	
Ethylbenzene	100-41-4	0.5	mg/kg	----	----	----	----	<0.5	
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	----	----	----	<0.5	
ortho-Xylene	95-47-6	0.5	mg/kg	----	----	----	----	<0.5	
Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----	
Total Xylenes	1330-20-7	0.5	mg/kg	----	----	----	----	<0.5	
Sum of BTEX	----	0.2	mg/kg	----	----	----	----	<0.2	
Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----	
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%	104	107	98.2	99.6	----	
2-Chlorophenol-D4	93951-73-6	0.1	%	107	109	101	98.8	----	
2,4,6-Tribromophenol	118-79-6	0.1	%	78.6	81.2	84.9	72.4	----	
EP075(SIM)T: PAH Surrogates									



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				QC3	QC4	QC5	QC6	QCB
Client sampling date / time				[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]	[04-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228523-126	ES1228523-127	ES1228523-128	ES1228523-129	ES1228523-130
EP075(SIM)T: PAH Surrogates - Continued								
2-Fluorobiphenyl	321-60-8	0.1	%	95.9	102	112	94.0	----
Anthracene-d10	1719-06-8	0.1	%	93.0	98.4	106	87.6	----
4-Terphenyl-d14	1718-51-0	0.1	%	120	114	117	108	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	105	105	103	107	108
Toluene-D8	2037-26-5	0.1	%	118	114	111	102	113
4-Bromofluorobenzene	460-00-4	0.1	%	97.2	94.9	93.6	94.4	94.4



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				QCC	TSC	----	----	----
Client sampling date / time				[04-DEC-2012]	[04-DEC-2012]	----	----	----
Compound	CAS Number	LOR	Unit	ES1228523-131	ES1228523-133	----	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	0.5	0.7	----	----	----
Toluene	108-88-3	0.5	mg/kg	16.6	17.7	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	1.5	2.0	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	8.2	10.4	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	3.0	3.8	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg	11.2	14.2	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	29.8	34.6	----	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	101	101	----	----	----
Toluene-D8	2037-26-5	0.1	%	130	98.6	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	98.7	99.8	----	----	----



Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Client sample ID

Client sampling date / time

				QCA	----	----	----	----
				[04-DEC-2012]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1228523-132	----	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L	<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	----	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (WHO)	----	0.5	µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----



Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Client sample ID

Client sampling date / time

				QCA	----	----	----	----
				[04-DEC-2012]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1228523-132	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued								
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	20	µg/L	<20	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	----	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ Total Xylenes	1330-20-7	2	µg/L	<2	----	----	----	----
^ Sum of BTEX	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	24.5	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	62.9	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.1	%	74.0	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	72.1	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	63.6	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	84.2	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	123	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	116	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	111	----	----	----	----



Analytical Results

Descriptive Results

Sub-Matrix: SOIL		
Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	3A-0.5 - [04-DEC-2012]	Grey-brown sandy soil with some vegetation and several medium sized rocks and small coal and shell pieces
EA200: Description	4A-0.5 - [04-DEC-2012]	Grey-brown sandy soil with some vegetation and several medium sized rocks and small coal and shell pieces
EA200: Description	5A-0.5 - [04-DEC-2012]	Brown sandy soil with several large brown rocks and small white rocks and coal pieces and one piece of asbestos cement sheeting 18 x 12 x 3mm
EA200: Description	1C-0.5 - [04-DEC-2012]	Grey-brown sandy soil with several large brown rocks and small coal and shell pieces
EA200: Description	2E-0.5 - [04-DEC-2012]	Grey-brown sandy soil with several large brown rocks and small coal and shell pieces
EA200: Description	5D-0.5 - [04-DEC-2012]	Grey-brown sandy soil with several large brown rocks and slag pieces and small coal and shell pieces



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	127
2-Chlorophenol-D4	93951-73-6	64	126
2,4,6-Tribromophenol	118-79-6	36	136
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	64	130
Anthracene-d10	1719-06-8	69	135
4-Terphenyl-d14	1718-51-0	64	136
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	72.8	133.2
Toluene-D8	2037-26-5	73.9	132.1
4-Bromofluorobenzene	460-00-4	71.6	130.0

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	15.9	102
2,4,6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20.4	112
Anthracene-d10	1719-06-8	29.6	118
4-Terphenyl-d14	1718-51-0	21.5	126
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

CHAIN OF CUSTODY
ALS Laboratory: please tick →

CLIENT: SKM
OFFICE: Newcastle
PROJECT: HBC Lee Wharf
PURCHASE ORDER NUMBER: EN03130
PROJECT MANAGER: B Gauthier
SAMPLER: G Morgan
SAMPLER MOBILE: 0608 728 184
COC emailed to ALS? (YES / NO) ☒ 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):
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):

ALS QUOTE NO.: SY/701/12
CONTACT PH:

FOR LABORATORY USE ONLY (Circle)
Custody/Seal intact? Yes No
Freezer/Freezer bricks present upon receipt? Yes No
Random Sample temperature on Receipt: °C
Other comment:

RECEIVED BY: Frank AS
DATE/TIME: 4-12-12 19:00

RELINQUISHED BY:
DATE/TIME: 4/12/12 17:15

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

LAB ID	SAMPLE ID	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify total (unfilled bottle required) or Dissolved (field filtered bottle required).	Additional Information
1	2A-0.5	4/12/12	S	1g	✓	✓	
2	2A-1.0				✓	✓	
3	2A-1.5				✓	✓	
4	2A-2.0				✓	✓	
5	2B-0.5				✓	✓	
6	2B-1.0				✓	✓	
7	2B-1.5				✓	✓	
8	2B-2.0				✓	✓	
9	3A-0.5				✓	✓	
10	3A-1.0				✓	✓	
11	3A-1.5				✓	✓	
12	3A-2.0				✓	✓	
TOTAL					12		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic; V = VOA Vial HCl Preserved; VS = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial SG = Sulfuric Preserved; Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Specimen 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 Solids; B = Unpreserved Bag.

Environmental Division
Sydney
Work Order
ES1228523
Telephone : +61-2-8784 8555

210395

CHAIN OF CUSTODY
ALS Laboratory: please tick →

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CLIENT: SKM

OFFICE: Newcastle

PROJECT: HDE - Lee Wharf

PURCHASE ORDER NUMBER: EN03131

PROJECT MANAGER: S Gaultier

SAMPLER: G Maylan

SAMPLER MOBILE: 0408 728 184

COC emailed to ALS? (YES / NO) YES

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):

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:
(Standard TAT may be longer for some tests e.g. Ultra Traces Organics)

☐ Standard TAT (List due date):

☐ Non Standard or urgent TAT (List due date):

ALS QUOTE NO.: 54/701/12

CONTACT PH:

RECEIVED BY:

DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

Freeze (frozen) ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comment:

LAB ID	SAMPLE ID	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	Additional Information
13	3B-0.5	4/12/12	S	1G	1	✓	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	3B-1.0				✓		
15	3B-1.5				✓		
16	3B-2.0				✓		
17	3C-0.5				✓		
18	3C-1.0				✓		
19	3C-1.5				✓		
20	3C-2.0				✓		
21	4C-0.5				✓		
22	4C-1.0				✓		
23	4C-1.5				✓		
24	4C-2.0				✓		
TOTAL					12		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved Plastic; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Air-tight Unpreserved Plastic; V = VOA Vial HCl Preserved; VS = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Air-tight Unpreserved Vial SG = Sulfuric Preserved; Amber Glass; H = HCl preserved Plastic; HS = HCl preserved 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 Substrate Solids; B = Unpreserved Bag.

210396



CHAIN OF CUSTODY
ALS Laboratory:
please tick →

☐ ADRIQUE 71 Bama Road, Pottsville SA 5095
Ph: 08 8358 0800 E: adriquer@als.com.au

☐ BRISBANE 92 Swan St, St Leonards NSW 1585
Ph: 02 9439 7222 E: brisbane@als.com.au

☐ CLONMELLE 45 Callinwood Drive, Clonmelle QLD 4680
Ph: 07 4917 5601 E: clonmelle@als.com.au

☐ MACKAY 78 Victoria Road, Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@als.com.au

☐ MELBOURNE 2-4 Vesali Road, St Albans VIC 3171
Ph: 03 8349 9600 E: melbourne@als.com.au

☐ MURREE 27 Spring Road, Murree NSW 2850
Ph: 02 6372 0735 E: murree@als.com.au

☐ NEWCASTLE 5 Regnum Road, Warabrook NSW 2304
Ph: 02 4968 9433 E: newcastle@als.com.au

☐ NOWRA 413 Geary Place, North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@als.com.au

☐ PERTH 110 High Way, Malaga WA 6090
Ph: 08 9269 7865 E: perth@als.com.au

☐ SYDNEY 277 Woodpark Road, Smithfield NSW 2164
Ph: 02 8784 1655 E: sydney@als.com.au

☐ TOWNSVILLE 14-15 Deanna Court, Bohle QLD 4818
Ph: 07 4795 0600 E: townsville@als.com.au

☐ WOLLONGONG 99 Kerry Street, Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@als.com.au

CLIENT: SKM

OFFICE: Newcastle

PROJECT: HDC - Lee Wharf

PURCHASE ORDER NUMBER: ENB3130

PROJECT MANAGER: B Gauthier

SAMPLER: C Maylan

SAMPLER MOBILE: 0408 728 184

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):

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:
(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: 54701/12

CONTACT PH:

RELINQUISHED BY:

DATE/TIME:

4/12/12

Standard TAT (List due date):

Non Standard or urgent TAT (List due date):

COC SEQUENCE NUMBER (Circle)

COC:

OF:

FOR LABORATORY USE ONLY (Circle)

Custody/Seal intact? Yes No

Free ice/frozen ice bricks present upon receipt? Yes No

Random Sample Temperature on Receipt: °C

Other comment:

RECEIVED BY:

DATE/TIME:

4-12-12 1900

RECEIVED BY:

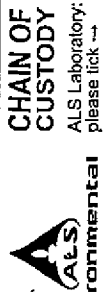
DATE/TIME:

Frank

ALS USE	SAMPLE DETAILS		CONTAINER INFORMATION		ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price)		Additional Information	
	MATRIX: SOLID(S), WATER(W)	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Where (field filtered bottle required)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.	
LAB ID	SAMPLE ID	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Where (field filtered bottle required)	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.	
37	SC-0.5	4/12/12	S	16	1			
38	SC-1.0							
39	SC-1.5							
40	SC-2.0							
41	1A-0.5							
42	1A-1.0							
43	1A-1.5							
44	1A-2.0							
45	1B-0.5							
46	1B-1.0							
47	1B-1.5							
48	1B-2.0							
TOTAL					12			

Water Container Codes: B = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Air-tight Unpreserved Plastic; V = VOA Val HCl Preserved; VB = VOA Val Sodium Bisulfate Preserved; VS = VOA Val Sulfuric Preserved; AV = Air-tight Unpreserved Vial SQ = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Special bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ASS = Plastic Bag for Acid Sulfate Solids; B = Unpreserved Bag.

210398



CHAIN OF CUSTODY
ALS Laboratory:
please tick →

☐ ADLAIDE 21 Burnside Road, Poraka SA 5095
Ph: 08 8359 0860 E: adelaide@alsenviro.com
☐ BRISBANE 12 Street Street, Sturtfield QLD 4053
Ph: 07 3243 7222 E: brisbane@alsenviro.com
☐ GLADSTONE 45 Collins Street, Gladstone QLD 4860
Ph: 07 4971 5600 E: gladstone@alsenviro.com

☐ MACKAY 78 Harbour Road, Mackay QLD 4740
Ph: 07 4944 6177 E: mackay@alsenviro.com
☐ MELBOURNE 24 Westfield Road, Spotswood VIC 3171
Ph: 03 9549 5600 E: melbourne@alsenviro.com
☐ MURRES 27 Sydney Road, Murres NSW 2890
Ph: 02 6372 6735 E: murres@alsenviro.com

☒ NEWCASTLE 5 Reservoir Road, Warabrook NSW 2304
Ph: 02 4988 9433 E: newcastle@alsenviro.com
☐ ROMA 413 Geary Place, Roma NSW 2541
Ph: 02 4223 2063 E: roma@alsenviro.com
☐ PERTH 110 Hot Way, Maida WA 6090
Ph: 08 9209 7655 E: perth@alsenviro.com

☐ SYDNEY 277 Woodpark Road, Smithfield NSW 2164
Ph: 02 8784 8555 E: sydney@alsenviro.com
☐ TOWNSVILLE 14-15 Desera Court, Balle QLD 4818
Ph: 07 4796 0600 E: towns@alsenviro.com
☐ WOLLONGONG 99 Kerry Street, Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsenviro.com

CLIENT: **SKM**

OFFICE: **Newcastle**

PROJECT: **HDC - Lee Wharf**

PURCHASE ORDER NUMBER: **EN03130**

PROJECT MANAGER: **B Canthier**

SAMPLER: **C Maylan** SAMPLER MOBILE: **0408 728 184**

COC emailed to ALS? (YES / NO) **YES** EDD FORMAT (or default): **4/12/12**

Email Reports to (will default to PM if no other addresses are listed):

Email Invoice to (will default to PM if no other addresses are listed):

COMMENTS/ SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:
(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: **54/401/12**

CONTACT PH:

RECEIVED BY: **Franky** DATE/TIME: **4-12-12 19:00**

RELINQUISHED BY: **Franky** DATE/TIME: **4-12-12 19:00**

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:

LAB ID	SAMPLE DETAILS		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	
	MATRIX - SOLID (S), WATER (W)	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS		
49	1C-0.5	4/12/12	S	1G	1	✓	
50	1C-1.0					✓	
51	1C-1.5					✓	
52	1C-2.0					✓	
53	1D-0.5					✓	
54	1D-1.0					✓	
55	1D-1.5					✓	
56	1D-2.0					✓	
57	2C-0.5					✓	
58	2C-1.0					✓	
59	2C-1.5					✓	
60	2C-2.0					✓	
TOTAL							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Hydroxide/Cd Preserved; S = Sodium Hydroxide/Cd Preserved; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved; Amber Glass: H = HCl Preserved Plastic; HS = HCl Preserved Plastic; 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.

210399

CHAIN OF CUSTODY		SAMPLE DETAILS		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																																																																																																																
ALS Environmental	ALS Laboratory: please tick →	MATRIX: SOLID (S), WATER (W)	SAMPLE ID	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.																																																																																																																
☐ SYDNEY 277 Woodpark Road Smithfield NSW 2164 Ph: 02 8764 6555 E: samples.sydney@alsenviro.com	☐ NEWCASTLE 5 Regent Road Waratah NSW 2204 Ph: 02 4966 5435 E: samples.newcastle@alsenviro.com																																																																																																																							
☐ TOWNSVILLE 14-15 Desma Court Balle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsenviro.com	☐ MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsenviro.com																																																																																																																							
☐ WOLLONGONG 99 Kersy Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsenviro.com	☐ MILDURAH 2-4 Mercat Road Springfield VIC 3171 Ph: 03 8549 8000 E: samples.mildurah@alsenviro.com																																																																																																																							
	☐ PERTH 10 Red Way Malaga WA 6050 Ph: 08 5269 7655 E: samples.perth@alsenviro.com																																																																																																																							
	☐ MURDOCH 21 Stirling Road Murdoch NSW 2650 Ph: 02 6572 6135 E: murdoch@alsenviro.com																																																																																																																							
	☐ ADELAIDE 21 Burma Road Porle SA 5095 Ph: 08 8355 1690 E: adelaide@alsenviro.com																																																																																																																							
	☐ BRISBANE 32 Sherd Street Stafford QLD 4053 Ph: 07 3247 7222 E: samples.brisbane@alsenviro.com																																																																																																																							
	☐ GLADSTONE 45 Chelmerditch Drive Clifton QLD 4680 Ph: 07 4917 5800 E: gladstone@alsenviro.com																																																																																																																							
CLIENT: SKM	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g. Ultra Traco Organics)																																																																																																																							
OFFICE: Newcastle	ALS QUOTE NO.: SY/701/12																																																																																																																							
PROJECT: HBC - Lee Wharf	CONTACT PH: 0408 728 184																																																																																																																							
PURCHASE ORDER NUMBER: EN03130	SAMPLER MOBILE: 0408 728 184																																																																																																																							
PROJECT MANAGER: B Ganthier	RELINQUISHED BY: [Signature]																																																																																																																							
SAMPLER: G Moylan	DATE/TIME: 4/12/12																																																																																																																							
COC emailed to ALS? (YES / NO)	DATE/TIME:																																																																																																																							
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<table border="1"> <thead> <tr> <th>LAB ID</th> <th>SAMPLE ID</th> <th>DATE/TIME</th> <th>MATRIX</th> <th>TYPE & PRESERVATIVE (refer to codes below)</th> <th>TOTAL CONTAINERS</th> <th>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).</th> <th>Additional Information</th> </tr> </thead> <tbody> <tr> <td>61</td> <td>2E-0.5</td> <td>4/12/12</td> <td>S</td> <td>16</td> <td>1</td> <td>Swink</td> <td></td> </tr> <tr> <td>62</td> <td>2E-1.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>63</td> <td>2E-1.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>64</td> <td>2E-2.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>65</td> <td>2D-0.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>66</td> <td>2D-0.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>67</td> <td>1D-1.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>68</td> <td>2D-2.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>69</td> <td>3D-0.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>70</td> <td>3D-1.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>71</td> <td>3D-1.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>72</td> <td>3D-2.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="5">TOTAL</td> <td>12</td> <td></td> <td></td> </tr> </tbody> </table>									LAB ID	SAMPLE ID	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	Additional Information	61	2E-0.5	4/12/12	S	16	1	Swink		62	2E-1.0							63	2E-1.5							64	2E-2.0							65	2D-0.5							66	2D-0.5							67	1D-1.5							68	2D-2.0							69	3D-0.5							70	3D-1.0							71	3D-1.5							72	3D-2.0							TOTAL					12		
LAB ID	SAMPLE ID	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	Additional Information																																																																																																																	
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Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Air/tight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Air/tight Unpreserved Vial SG = Sulfuric Preserved; Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved 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 Solids; B = Unpreserved Bag.

210400



CHAIN OF CUSTODY
ALS Laboratory
please tick →

CLIENT: SKM
OFFICE: Newcastle
PROJECT: HDC - Lee Wharf
PURCHASE ORDER NUMBER: EN03130
PROJECT MANAGER: S Ganthier
CONTACT PH: 0408 228 184
SAMPLER: G. Mogan
SAMPLER MOBILE: 0408 228 184
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):

TURNAROUND REQUIREMENTS:
(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)
ALS QUOTE NO.: 54701/12
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:

RECEIVED BY: Frank
DATE/TIME: 4-12-12 1900

RELINQUISHED BY: [Signature]
DATE/TIME: 4/12/12

COMMENTS/ SPECIAL HANDLING/STORAGE OR DISPOSAL:

LAB ID	SAMPLE DETAILS		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
	MATRIX - SOLID(S), WATER(W)	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	
85	SD-0.5	4/12/12	S	lg	✓ Soils	
86	SD-1.0				✓	
87	SD-1.5				✓	
88	SD-2.0				✓	
89	SE-0.5				✓	
90	SE-1.0				✓	
91	SE-1.5				✓	
92	SE-2.0				✓	
93	G-W1-0.5				✓	
94	G-W1-1.0				✓	
95	G-W1-2.0				✓	
96	G-W1-1.5				✓	
TOTAL					12	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic
V = VOA Val HCl Preserved; VB = VOA Val Sodium Bisulphate Preserved; VS = VOA Val Sulfuric Preserved; AV = Airtight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Plastic; SP = Sulfuric Preserved Plastic
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag (or Acid Sulphate Soils; B = Unpreserved Bag)

159752

CHAIN OF CUSTODY
ALS Laboratory: please tick →

☐ ADELAIDE 31 Burma Road Poxaia SA 5085
Ph: 08 8355 0800 E: ade@als.com.au

☐ BRISBANE 32 Spind Street Stafford QLD 4053
Ph: 07 3243 7222 E: bris@als.com.au

☐ GLADSTONE 46 Callinella Drive Clifton QLD 4680
Ph: 07 4971 5800 E: glad@als.com.au

☐ MACKAY 70 Highway Road Mackay QLD 4740
Ph: 07 4944 0177 E: mack@als.com.au

☐ MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8349 9600 E: mel@als.com.au

☐ MUDGEE 27 Stiller Road Mudgie NSW 2850
Ph: 02 6372 6735 E: mud@als.com.au

☐ NEWCASTLE 3 Rosegum Road Warabrook NSW 2304
Ph: 02 4960 9433 E: newc@als.com.au

☐ NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4243 2063 E: nowr@als.com.au

☐ PERTH 10 Red Way Malaga WA 6090
Ph: 08 9209 7655 E: perth@als.com.au

☐ STONEY 277 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: stoney@als.com.au

☐ TOWNSVILLE 14-15 Deans Court Bole QLD 4818
Ph: 07 4796 0600 E: townsv@als.com.au

☐ WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4226 3125 E: woll@als.com.au

CLIENT: **SKM**

OFFICE: **Newcastle**

PROJECT: **HDC - Lee Work**

PURCHASE ORDER NUMBER: **ENO3130**

PROJECT MANAGER: **B Gauthier**

SAMPLER: **C Maylan**

COC emailed to ALS? (YES / NO) **YES** 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):

CONTACT PH: **0408 728 184**

SAMPLER MOBILE: **0408 728 184**

TURNAROUND REQUIREMENTS:
(Standard TAT may be longer for some less e.g. Ultra Trac Organics)

☐ Standard TAT (List due date):

☐ Non Standard or urgent TAT (List due date):

ALSO QUOTE NO. **34701/12**

COC: 1 2 3 4 5 6 7

OF: 1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle):

Custody Sealed 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:

RECEIVED BY: **Franky**

DATE/TIME: **4-12-12 1900**

RELINQUISHED BY: **[Signature]**

DATE/TIME: **4/12/12**

COMMENTS/ SPECIAL HANDLING/STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottles required) or Dissolved (field filtered bottle required).	Additional Information
109	GA-0.5	4/12/12	S	1G	1		
110	GA-1.0						
111	GA-1.5						
112	GA-2.0						
113	SB-0.5						
114	SB-1.0						
115	SB-1.5						
116	SB-2.0						
117	2D-0.5						
118	2D-1.0						
119	2D-1.5						
120	2D-2.0						
TOTAL					11		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Air-tight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; 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 Solids; B = Unpreserved Bag.

159754

CHAIN OF CUSTODY
ALS Environmental please tick →

CLIENT: SKM
OFFICE: Newcastle
PROJECT: HDC - Lee Wharf
PURCHASE ORDER NUMBER: EN03130
PROJECT MANAGER: B Gauthier
SAMPLER: C Moylan

TURNAROUND REQUIREMENTS:
☐ Standard TAT (List due date):
☐ Non Standard or urgent TAT (List due date):
 ALS QUOTE NO.: 5470112
 CONTACT PH: 0408728184
 RELINQUISHED BY: [Signature]
 DATE/TIME: 4/12/12

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

RECEIVED BY: Frank
DATE/TIME: 4/12/12 19:00

RECEIVED BY: [Signature]
DATE/TIME: 4/12/12 17:15

RELINQUISHED BY:
DATE/TIME:

Comments/ Special Handling/Storage or Disposal:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	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
121	1E-0.5	4/12/12	S	1G	1	Asbestos	
122	1E-1.0					Asbestos	
123	6D-0.5					Asbestos	
124	QC1					Asbestos	
125	QC2					Asbestos	
126	QC3					Asbestos	
127	QC4					Asbestos	
128	QC5					Asbestos	
129	QC6					Asbestos	
130	QC8					Asbestos	
131	QC9					Asbestos	
132	QCA					Asbestos	
					TOTAL	15	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved Plastic; SH = Sodium Hydroxide Preserved Plastic; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Airtight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sulfuric Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Plastic; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Stent Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag.

133 TSC 159755

CHAIN OF CUSTODY ALS Laboratory: Environmental please tick → ☐ ADLAINE 21 Burma Road Poraka SA 5095 Ph: 08 8359 0890 E: adla@adlab.com.au ☐ BRISBANE 32 Sand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@adlab.com.au ☐ GLADSTONE 46 Callendannah Drive Clinton QLD 4680 Ph: 07 4971 5600 E: gladstone@adlab.com.au		☐ MACQUAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: macquay@adlab.com.au ☐ MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@adlab.com.au ☐ MUDGEE 27 Sydney Road Mudgie NSW 2851 Ph: 02 6372 6733 E: mudgee@adlab.com.au		☐ NEWCASTLE 5 Reggum Road Warabrook NSW 2304 Ph: 02 8784 8555 E: samples.newcastle@adlab.com.au ☐ NOWRA 4113 Geary Place North Nowra NSW 2541 Ph: 02 4423 2003 E: nowra@adlab.com.au ☐ PERTH 10 Hed Way Midland WA 6060 Ph: 08 9208 7855 E: samples.perth@adlab.com.au		☐ STONEY 27 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.stoney@adlab.com.au ☐ TOWNVILLE 14-15 Desma Court Bells QLD 4818 Ph: 07 4796 0600 E: townville.environmental@adlab.com.au ☐ WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: perkins@adlab.com.au	
CLIENT: SKM OFFICE: Newcastle PROJECT: HPC Lee Wharf PURCHASE ORDER NUMBER: ENO3130 PROJECT MANAGER: B Gauthier SAMPLER: G Morgan 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): COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		TURNAROUND REQUIREMENTS: ☐ Standard TAT may be longer for some tests e.g. Ultra Trace Organics ALS QUOTE NO.: SY/701/12 CONTACT PH:		RECEIVED BY: [Signature] DATE/TIME: 4/12/12			
RELINQUISHED BY: [Signature] DATE/TIME: 4/12/12		RECEIVED BY: Frank AS DATE/TIME: 4-12-12		FOR LABORATORY USE ONLY: (Circle) Custody Seal Intact? Yes No N/A Freezer / frozen ice blocks present upon receipt? Yes No N/A Random Sample Temperature on Receipt °C Other comment:			
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	ANALYSIS REQUIRED INCLUDING SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	Additional Information
1	2A-D-5	4/12/12	S	Iq	1		
2	2A-1-0				✓		
3	2A-1-5				✓		
4	2A-2-0				✓		
5	2B-0-5				✓		
6	2B-1-0				✓		
7	2B-1-5				✓		
8	2B-2-0				✓		
9	3A-0-5				✓		
10	3A-1-0				✓		
11	3A-1-5				✓		
12	3A-2-0				✓		
					TOTAL	12	

Subcon / Forward Lab / Split WO
 Lab / Analysis: Newcaste Asbestos
 Organised By / Date: Frank
 Relinquished By / Date:
 Connote / Courier: esm
 WO No:
 Attach By PO / Internal Sheet:

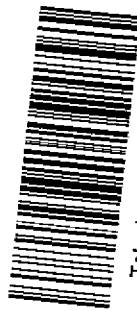
Environmental Division
Sydney
Work Order
ES1228523

Telephone: +61-2-8784 8555

210395

Soil Site = S-26 + MN (As per Grant Morgan 5/12/2012)

Environmental Division
Sydney
Work Order
ES1228523



Telephone: +61-2-8784 8555

210395



CHAIN OF CUSTODY

ALS Laboratory: please tick →

- ☐ ADELAIDE 21 Burns Road, Port Adelaide SA 5005
Ph: 08 8360 0860 E: adelaide@als.com.au
- ☐ BRISBANE 32 Strand Street, Sturtford QLD 4053
Ph: 07 3243 7323 E: brisbane@als.com.au
- ☐ GLADSTONE 46 Colford Road, Gladstone QLD 4850
Ph: 07 4971 5600 E: gladstone@als.com.au
- ☐ MACKAY 78 Harbour Road, Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@als.com.au
- ☐ MELBOURNE 24 Weyland Road, Springvale VIC 3171
Ph: 03 8540 8540 E: melbourne@als.com.au
- ☐ MURDOCH 27 Sydney Road, Murdoch NSW 2355
Ph: 02 6372 6135 E: murdoch@als.com.au
- ☒ NEWCASTLE 5 Rossington Road, Warabrook NSW 2304
Ph: 02 4968 9433 E: newcastle@als.com.au
- ☐ NORRIS 471 Bayside Place, North Norrish NSW 2541
Ph: 02 4423 2863 E: norrish@als.com.au
- ☐ PERTH 10 Rod Way, Malaga WA 6060
Ph: 08 9097 6855 E: perth@als.com.au
- ☐ SYDNEY 277 Woodport Road, Southfield NSW 2164
Ph: 02 8164 8555 E: sydney@als.com.au
- ☐ TOWNSVILLE 14-15 Desma Court, Balle QLD 4818
Ph: 07 4794 0600 E: townsville@als.com.au
- ☐ WOLLONGONG 99 Kenny Street, Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@als.com.au

CLIENT: SKM

OFFICE: Newcastle

PROJECT: HDE - Lee Wharf

PURCHASE ORDER NUMBER: EN03131

PROJECT MANAGER: S Gauthier

SAMPLER: G. Maylan

COC emailed to ALS? (YES / NO) EDD FORMAT (or default): 0408 728 184

RELINQUISHED BY: [Signature]

Email Reports to (will default to PM if no other addresses are listed):

Email Invoice to (will default to PM if no other addresses are listed):

COMMENTS/ SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:
(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: 54701/12

CONTACT PH: 0408 728 184

RECEIVED BY: [Signature]

DATE/TIME: 4/12/12

RELINQUISHED BY: [Signature]

DATE/TIME: 4/12/12

DATE/TIME: 4-12-12 1900

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:

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

Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Air-tight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Air-tight Unpreserved Vial 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.

210396



CHAIN OF CUSTODY

ALS Laboratory: please tick →

- ☐ ARLAITE 21 Buma Road, Peralia SA 5005
Ph: 08 8359 1850 E: aarlaitelab@als.com.au
- ☐ BIRRI 24/25 Street, Seaford QLD 4053
Ph: 07 3363 7222 E: birrilab@als.com.au
- ☐ CLAYTON 46 Callender Road, Clayton QLD 4080
Ph: 07 4971 5600 E: claytonlab@als.com.au

- ☐ MACKAY 78 Highway Road, Mackay QLD 4740
Ph: 07 4944 0177 E: mackaylab@als.com.au
- ☐ MELBOURNE 2-4 Westall Road, Southgate VIC 3171
Ph: 03 9349 5600 E: melbournlab@als.com.au
- ☐ MURBEE 27 Safford Road, Mudgee NSW 2850
Ph: 02 8372 8735 E: mudgeelab@als.com.au

- ☒ NEWCASTLE 55 Rossam Road, Warabrook NSW 2304
Ph: 02 4985 9433 E: newcastlelab@als.com.au
- ☐ NOWRA 213 Ocean Place, Nowra NSW 2541
Ph: 02 4423 2363 E: nowralab@als.com.au
- ☐ PERTH 10 Hag Way, Mosley WA 6050
Ph: 08 9205 7635 E: perthlab@als.com.au

- ☐ SYDNEY 277 Woodpark Road, Southfield NSW 2164
Ph: 02 8784 8333 E: sydneylab@als.com.au
- ☐ TOWNSVILLE 14-15 Desma Court, Bohle QLD 4818
Ph: 07 4796 0600 E: townsvillelab@als.com.au
- ☐ WOLLONGONG 99 Kerry Street, Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongonglab@als.com.au

CLIENT: SKM

OFFICE: Newcastle

PROJECT: HDC - Lee Wharf

PURCHASE ORDER NUMBER: EN03130

PROJECT MANAGER: B Gauthier

SAMPLER: C Maylan

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):

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:
(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: 54/701/12

CONTACT PH:

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

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RELINQUISHED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

LAB ID	SAMPLE ID	DATE/ TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	ANALYSIS REQUIRED including SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	Additional Information
37	SC-0.5	4/12/12	S	16	1	✓	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
38	SC-1.0					✓	
39	SC-1.5					✓	
40	SC-2.0					✓	
41	1A-0.5					✓	
42	1A-1.0					✓	
43	1A-1.5					✓	
44	1A-2.0					✓	
45	1B-0.5					✓	
46	1B-1.0					✓	
47	1B-1.5					✓	
48	1B-2.0					✓	
TOTAL					12		

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 = Airtight Unpreserved Plastic; V = VOA Vial (HCl Preserved); VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial; SG = Sulfuric Preserved; Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Ascorbate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag.

210398



CHAIN OF CUSTODY

ALS Laboratory: please tick →

- ☐ Adelaide 21 Burns Road Adelaide SA 5005
Ph: 08 8359 6880 E: adelaide@als.com.au
- ☐ Brisbane 32 Stirling Street Stirling QLD 4063
Ph: 07 3243 7222 E: brisbane@als.com.au
- ☐ Gladstone 16 Callinicos Drive Gladstone QLD 4680
Ph: 07 4971 5800 E: gladstone@als.com.au

- ☐ Mackay 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@als.com.au
- ☐ Melbourne 241 Pechell Road Springvale VIC 3171
Ph: 03 8549 5600 E: melbourne@als.com.au
- ☐ Mudgee 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6755 E: mudgee@als.com.au

- ☐ Newcastle 53 Mossgum Road Waratah NSW 2204
Ph: 02 4968 5435 E: newcastle@als.com.au
- ☐ Noida 4713 Glen Y Place North Noida NSW 2541
Ph: 02 4423 2063 E: noida@als.com.au
- ☐ Perth 10 Red Way Maga WA 6050
Ph: 08 9209 7655 E: perth@als.com.au

- ☐ Sydney 277 Woodpark Road Smithfield NSW 2164
Ph: 02 8764 8555 E: sydney@als.com.au
- ☐ Townsville 14-15 Debra Court Bohle QLD 4818
Ph: 07 4786 0600 E: townsville@als.com.au
- ☐ Wollongong 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@als.com.au

CLIENT: **SKM**

OFFICE: **Newcastle**

PROJECT: **HDC - Lee Wharf**

PURCHASE ORDER NUMBER: **EN03130**

PROJECT MANAGER: **B Ganthier**

SAMPLER: **G Maylan** SAMPLER MOBILE: **0408 728 184**

COC emailed to ALS? (YES / NO) **YES** 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):

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:
(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: **54/701/12**

CONTACT PH:

RECEIVED BY: **Franky** DATE/TIME: **4-12-12 19:00**

RELINQUISHED BY: DATE/TIME:

FOR LABORATORY USE ONLY: (Circle)

Custody Seal Initialed? Yes No N/A

Freeze/ice/frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comment:

LAB ID	SAMPLE DETAILS		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	
	MATRIX - SOLID (S), WATER (W)	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS		
49	IC-0.5	4/12/12	S	19	1	Soil	
50	IC-1.0					Asbestos	
51	IC-1.5						
52	IC-2.0						
53	ID-0.5						
54	ID-1.0						
55	ID-1.5						
56	ID-2.0						
57	2C-0.5						
58	2C-1.0						
59	2C-1.5						
60	2C-2.0						
TOTAL							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Air-tight Unpreserved Plastic; V = VOA Val HCl Preserved; VB = VOA Val Sodium Bisulfate Preserved; VS = VOA Val Sulfuric Preserved; AV = Air-tight Unpreserved Val SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Special 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 Solids; B = Unpreserved Bag.

210399

CHAIN OF CUSTODY		SAMPLE DETAILS		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	
ALS USE	MATRIX: SOLID (S), WATER (W)	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Suite Codes	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.	
61	2E-0.5	4/12/12	S			1	Alkalinity		
62	2E-1.0								
63	2E-1.5								
64	2E-2.0								
65	2D-0.5								
66	2D-0.5								
67	2D-1.0								
68	2D-2.0								
69	3D-0.5								
70	3D-1.0								
71	3D-1.5								
72	3D-2.0								
TOTAL						12		Informed consent of SNR.	

CLIENT: SKM OFFICE: Newcastle PROJECT: HBC - Lee Wharf PURCHASE ORDER NUMBER: ERV03130 PROJECT MANAGER: B Gantler SAMPLER: G Moylan COC emailed to ALS (YES / NO): 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):		TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date): ALS QUOTE NO.: SY/701/12 CONTACT PH: SAMPLER MOBILE: 0408 728 184 RECEIVED BY: [Signature] DATE/TIME: 4/12/12 RELINQUISHED BY: [Signature] DATE/TIME: 4/12/12	
FOR LABORATORY USE ONLY: (Circle) Custody Seal intact? Yes No Free ice / frozen ice bricks present upon receipt? Yes No Random Sample temperature on Receipt: °C Other comment:		RECEIVED BY: [Signature] DATE/TIME: 4-12-12 19:00 RELINQUISHED BY: [Signature] DATE/TIME:	

COMMENTS/ SPECIAL HANDLING/STORAGE OR DISPOSAL:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORD = Nitric Preserved Plastic; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Air-tight Unpreserved Plastic; V = VOA Vial HCl Preserved; VS = VOA Vial Sulfuric Preserved; VS = VOA Vial Sulfuric Preserved; AV = Air-tight Unpreserved Vial SG = Sulfuric Preserved; Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen 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 Solids; B = Unpreserved Bag.

210400



CHAIN OF CUSTODY

ALS Laboratory:
Please tick →

- ☐ ABELADE 21 Burns Road Portlaoise S4 5095
Ph: 08 8359 0890 E: ade@alsenviro.com
- ☐ BRISBANE 32 Sheaf Street Salford O4 4553
Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com
- ☐ GLAUSTONE 46 Callington Drive Clifton O4 4680
Ph: 07 4871 5500 E: glaston@alsenviro.com

- ☐ MACKAY 28 Hapton Road Mackay QLD 4740
Ph: 07 4544 0177 E: mackay@alsenviro.com
- ☐ MELBOURNE 2-4 Wessell Road Springvale VIC 3171
Ph: 03 8543 5600 E: samples.melbourne@alsenviro.com
- ☐ MURREE 27 Sydney Road Murree NSW 2850
Ph: 02 6372 8135 E: murree@alsenviro.com

- ☒ NEWCASTLE 5 Beesum Road Warminster NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsenviro.com
- ☐ ALMYRA 4713 Easby Place North Maitland NSW 2321
Ph: 02 4425 2063 E: newcastle@alsenviro.com
- ☐ PERTH 101 Bay Way Malaga WA 6092
Ph: 08 9259 7059 E: samples.perth@alsenviro.com

- ☐ SYDNEY 277 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 6535 E: samples.sydney@alsenviro.com
- ☐ TUNNSVILLE 14-15 Desma Court Balle D.D 4818
Ph: 07 4795 0600 E: tunnsville@alsenviro.com
- ☐ WOLLONGONG 99 Xerxes Street Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsenviro.com

CLIENT: SKM	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	Standard TAT (List due date): ☐ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):	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:
OFFICE: Newcastle	ALS QUOTE NO.: 54/301/12	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	RECEIVED BY: [Signature] DATE/TIME: 4/12/12
PROJECT: 4048-2-2-12	CONTACT PH: 0408 728 184	RELINQUISHED BY: [Signature] DATE/TIME: 4/12/12	RECEIVED BY: [Signature] DATE/TIME: 4-12-12
PURCHASE ORDER NUMBER: EN03130	SAMPLER MOBILE: 0408 728 184		
PROJECT MANAGER: B Gauthier	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):		

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).
LAB ID	SAMPLE ID	DATE/ TIME	MATRIX
73	3E-0.5	4/12/12	S
74	3E-1.0		
75	3E-1.5		
76	3E-2.0		
77	4D-0.5		
78	4D-1.0		
79	4D-1.5		
80	4D-2.0		
81	4E-0.5		
82	4E-1.0		
83	4E-1.5		
84	4E-2.0		
TOTAL: 12			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Air-tight Unpreserved Plastic;
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Air-tight Unpreserved Vial SG = Sulfuric Preserved; Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

159751



CHAIN OF CUSTODY

ALS Laboratory:
please tick →

☐ ADELAIDE 21 Bury Road, Port Adelaide SA 5095
Ph: 08 8359 0300 E: adelaide@alsenviro.com

☐ BRISBANE 32 Shepp Street, Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com

☐ GLAINSTONE 46 Callers Road, Drake, Carlton QLD 4860
Ph: 07 4971 5000 E: glainstone@alsenviro.com

☐ MACKAY 78 Harbour Road, Mackay QLD 4240
Ph: 07 4544 0177 E: mackay@alsenviro.com

☐ MELBOURNE 24 Westall Road, Springvale VIC 3171
Ph: 03 6549 5600 E: samples.melbourne@alsenviro.com

☐ MURDOCH 27 Sydney Road, Murdoch NSW 2850
Ph: 02 9372 0135 E: murdoch@alsenviro.com

☒ NEWCASTLE 54 Argemone Road, Warabrook NSW 2294
Ph: 02 4980 9435 E: samples.newcastle@alsenviro.com

☐ ROME 471 3 Garry Place, North Ryde NSW 2111
Ph: 02 423 2063 E: rome@alsenviro.com

☐ PERTH 101 Red Way, Madding WA 6000
Ph: 08 9268 7655 E: samples.perth@alsenviro.com

☐ STONEY 277 Woodpark Road, Smithfield NSW 2164
Ph: 02 8194 6535 E: stoney@alsenviro.com

☐ TOWNSVILLE 14-15 Osuna Court, Bribie QLD 4818
Ph: 07 4796 0600 E: townsville@alsenviro.com

☐ WOLLONGONG 99 Kerry Street, Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsenviro.com

CLIENT: SKM

OFFICE: Newcastle

PROJECT: HDC - Lee Wharf

PURCHASE ORDER NUMBER: EN03130

PROJECT MANAGER: S Gauthier

SAMPLER: C. Moghan

COC emailed to ALS? (YES / NO) EDD FORMAT (or default): 0408 728 184

Email Reports to (will default to PM if no other addresses are listed):

Email Invoice to (will default to PM if no other addresses are listed):

COMMENTS/ SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:
(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: 54701/12

☐ Standard TAT (List due date):

☐ Non Standard or urgent TAT (List due date):

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

Free ice / frozen ice bricks present upon receipt? Yes No

Random Sample Temperature on Receipt: °C

Other comment:

RELINQUISHED BY:

DATE/TIME: 4/12/12

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME: 4-12-12 1900

ALS USE	SAMPLE DETAILS		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	
	MATRIX - SOLID (S), WATER (W)	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS		
LAB ID	SAMPLE ID	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.	
85	SD-0.5	4/12/12	S	1G	1		
86	SD-1.0					Assemble Suite!	
87	SD-1.5						
88	SD-2.0						
89	SE-0.5						
90	SE-1.0						
91	SE-1.5						
92	SE-2.0						
93	G-W1-0.5						
94	G-W1-1.0					TOTAL 12	
95	G-W1-2.0						
96	G-W1-1.5						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide/Cd Preserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate 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 Solids; B = Unpreserved Bag.

159752

CHAIN OF CUSTODY		SAMPLE DETAILS		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	
ALS Laboratory:	Client:	MATRIX - SOLID (S), WATER (W)	SAMPLE ID	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS		
☐ ADELAIDE 21 Burma Road Port Adelaide SA 5005 Ph: 08 9355 0890 E: adelaide@als.com.au	☒ SKM		6-W2-0.5	4/12/12	S	lg	1		
☐ BRISBANE 32 Shand Street Sturtville QLD 4053 Ph: 07 3243 7222 E: brisbane@als.com.au	☐ Newcastle		6-W2-1.0						
☐ GLADSTONE 46 Callamondah Drive Clinton QLD 4680 Ph: 07 4971 5600 E: gladstone@als.com.au	☐ HBC-Lee Wharf		6-W2-1.5						
☐ MELBOURNE 2-A Westall Road Springvale VIC 3171 Ph: 03 9349 5600 E: melbourne@als.com.au	☐ PURCHASE ORDER NUMBER: EN03130		6-W2-2.0						
☐ NEWCASTLE 55 Broadmead Road Warminster NSW 2304 Ph: 02 4968 9433 E: newcastle@als.com.au	☐ PROJECT MANAGER: B Gauthier		GB-0.5						
☐ MOWRA 471 Geary Place North Mowra NSW 2541 Ph: 02 4423 2865 E: mowra@als.com.au	☐ PROJECT MOBILE: 0408728184		GB-1.0						
☐ PERTH 100 Noel Way Midland WA 6050 Ph: 08 9269 7655 E: perth@als.com.au	☐ CONTACT PH: 0408728184		GB-1.5						
☐ SYDNEY 27 Sydney Road Marogong NSW 2550 Ph: 02 6372 6735 E: sydney@als.com.au	☐ SAMPLER: G Maylan		GB-2.0						
☐ TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 6600 E: townsville@environmentalresources.com.au	☐ COC emailed to ALS? YES / NO)								
☐ WOLLONGONG 59 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@als.com.au	☐ Email Reports to (will default to PM if no other addresses are listed):								
☐ STONEY 277 Woodhead Road Smithfield NSW 2164 Ph: 02 9784 8535 E: stoney@environmentalresources.com.au	☐ 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):		COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7		RECEIVED BY: DATE/TIME: 4/12/12		RELINQUISHED BY: DATE/TIME: 4/12/12		RECEIVED BY: DATE/TIME: 4/12/12	
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:									

CHAIN OF CUSTODY
ALS Laboratory:
please tick --

☐ ADELAIDE 21 Burma Road Port Adelaide SA 5005
Ph: 08 8356 0800 E: ade@als.com.au

☐ BRISBANE 23 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: bris@als.com.au

☐ GLADSTONE 46 Cullenmore Drive Clinton QLD 4680
Ph: 07 4971 6800 E: glad@als.com.au

☐ MACKAY 78 Hubway Road Mackay QLD 4740
Ph: 07 4944 0177 E: mack@als.com.au

☐ MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8243 3000 E: mel@als.com.au

☐ AUSTRALIA 27 Sydney Road Mulgoa NSW 2850
Ph: 02 6372 6735 E: auct@als.com.au

☐ NEWCASTLE 3 Kensington Road Waratah NSW 2304
Ph: 02 4968 9433 E: newcas@als.com.au

☐ MOWRA 4/13 Geary Place Mowra NSW 2541
Ph: 02 4423 2063 E: mowra@als.com.au

☐ PERTH 10 Red Way, Malaga WA 6090
Ph: 08 9209 7855 E: perth@als.com.au

☐ SYDNEY 277 Woodpark Road Smithfield NSW 2164
Ph: 02 6784 8555 E: sydney@als.com.au

☐ TOWNSVILLE 14-15 Desna Court Bohle QLD 4818
Ph: 07 4750 0600 E: townsvi@als.com.au

☐ WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: wollong@als.com.au

CLIENT: SKM

OFFICE: Newcastle

PROJECT: HFC - Lee Werf

PURCHASE ORDER NUMBER: ENO3130

PROJECT MANAGER: B Gauthier

SAMPLER: C Maylan

SAMPLER MOBILE: 0408 728 184

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):

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):

ALS QUOTE NO: 34701/12

CONTACT PH:

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:

DATE/TIME:

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 (filtered bottle required).

LAB ID	SAMPLE ID	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Additional Information
109	6A-0.5	4/12/12	S	19	1	Informed Grant of the double up on the COC.
110	6A-1.0					
111	6A-1.5					
112	6A-2.0					
113	5B-0.5					
114	5B-1.0					
115	5B-1.5					
116	5B-2.0					
117	2D-0.5					
118	2D-1.0					
119	2D-1.5					
120	2D-2.0					
TOTAL					1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AG = Amber Glass Unpreserved Plastic; V = VOA Val HCl Preserved; VB = VOA Val Sodium Bisulfate Preserved; VS = VOA Val Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; GP = Sulfuric Preserved Plastic; F = Fomalddehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Stone Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY
ALS Laboratory: please tick →

CLIENT: SKM
OFFICE: Newcastle
PROJECT: HDC - Lee Wharf
PURCHASE ORDER NUMBER: EN03130
PROJECT MANAGER: B Gauthier
SAMPLER: C Maylan
SAMPLER MOBILE: 0408 728184
RELINQUISHED BY: [Signature]
DATE/TIME: 4/12/12

TURNAROUND REQUIREMENTS:
(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)
ALS QUOTE NO.: 54701/12
CONTACT PH:

COC emailed to ALS? (YES/NO) YES
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):

COMMENTS/ SPECIAL HANDLING/STORAGE OR DISPOSAL:

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:

RECEIVED BY: Frank
DATE/TIME: 4-12-12 1900

RECEIVED BY: [Signature]
DATE/TIME: 4/12/12 17-15

RECEIVED BY: [Signature]
DATE/TIME: 4/12/12

ALS USE	SAMPLE DETAILS MATRIX - SOLID(S), WATER(W)	DATE/ TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	Additional Information
121	1E-0.5	4/12/12	S	1G	1	Soil	
122	1E-1.0						
123	6D-0.5						
124	QC1						
125	QC2						
126	QC3						
127	QC4						
128	QC5						
129	QC6						
130	QC8						
131	QC9						
132	QCA						
TOTAL					15		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Plastic; 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.

159755

133 TSC

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: ES1228708	Page	: 1 of 45
Client	: SINCLAIR KNIGHT MERZ	Laboratory	: Environmental Division Sydney
Contact	: B GAUTHIER	Contact	: Client Services
Address	: 710 HUNTER STREET NEWCASTLE WEST NSW, AUSTRALIA 2302	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: bgauthier@globalskm.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 02 4979 2600	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 4979 2666	Facsimile	: +61-2-8784 8500
Project	: HDC-LEE WHARF	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: EN03130	Date Samples Received	: 05-DEC-2012
C-O-C number	: 159757-765	Issue Date	: 18-DEC-2012
Sampler	: GM	No. of samples received	: 90
Site	: ----	No. of samples analysed	: 90
Quote number	: SY/701/12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits



General Comments

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

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

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

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

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

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

LOR = Limit of reporting

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

- **EA200 Legend for Asbestos Type:**
- **EA200 'Am'** Amosite (brown asbestos)
- **EA200 'Ch'** Chrysotile (white asbestos)
- **EA200 'Cr'** Crocidolite (blue asbestos)
- **EA200 't'** Trace levels
- **EA200: 'UMF'** Unknown Mineral Fibres - Fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- **EA200:** Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- **EA200:** Negative results for vinyl tiles should be confirmed by an independent analytical technique.
- **EG005T:** Poor precision was obtained for Manganese on sample ES1228708#11 and #21 due to sample heterogeneity. Results have been confirmed by re-extraction and reanalysis.
- **EG005T:** Poor precision was obtained for Manganese on sample ES1228708#92 due to sample heterogeneity.
- **EP071 and EP075(SIM):** Poor duplicate precision due to sample heterogeneity. Confirmed by re-extraction and re-analysis.



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Evie.Sidarta	Inorganic Chemist	Sydney Inorganics
Nanthini Coilparampil	Laboratory Manager - Inorganics	Sydney Inorganics
Peter Rennie	Team Leader - Asbestos	Newcastle
Phalak Inthaksone	Laboratory Manager - Organics	Sydney Organics
Raymond Commodor	Instrument Chemist	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				18A-0.5	18A-1.0	18A-1.5	18A-2.0	18D-0.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-001	ES1228708-002	ES1228708-003	ES1228708-004	ES1228708-005
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	9.2	5.8	6.1	5.9	7.4
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	8820	9	6	7	6
Arsenic	7440-38-2	5	mg/kg	7	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	9	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg	21	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	8	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	12	<2	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	66	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	74.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	34.6	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	44.1	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	88.7	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	951	<0.5	<0.5	0.7	<0.5
Anthracene	120-12-7	0.5	mg/kg	181	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	938	<0.5	<0.5	0.9	0.5
Pyrene	129-00-0	0.5	mg/kg	898	<0.5	<0.5	0.9	0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	286	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	263	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	278	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	109	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	287	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	215	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	35.6	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	284	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	4970	<0.5	<0.5	2.5	1.0
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	417	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				18A-0.5	18A-1.0	18A-1.5	18A-2.0	18D-0.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-001	ES1228708-002	ES1228708-003	ES1228708-004	ES1228708-005
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	150	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	5490	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	2500	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	8140	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	350	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	6880	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	1450	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	8680	<50	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	3	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	79.8	71.8	72.4	69.3	79.0
2-Chlorophenol-D4	93951-73-6	0.1	%	105	82.6	94.6	93.7	89.8
2,4,6-Tribromophenol	118-79-6	0.1	%	99.7	93.9	101	100	93.1
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	87.4	85.6	90.5	91.5	87.7
Anthracene-d10	1719-06-8	0.1	%	96.1	84.9	89.8	92.3	87.6
4-Terphenyl-d14	1718-51-0	0.1	%	139	87.4	88.9	92.5	92.3
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	93.2	95.3	95.5	87.7	92.6
Toluene-D8	2037-26-5	0.1	%	102	101	102	92.4	93.7
4-Bromofluorobenzene	460-00-4	0.1	%	90.0	108	101	95.8	92.7



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				18D-1.0	18D-1.5	18D-2.0	14B-0.5	14B-1.0
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-006	ES1228708-007	ES1228708-008	ES1228708-009	ES1228708-010
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	3.4	4.9	8.0	13.6	2.5
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	10	<5	43	1920	28
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	35	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	36	<1
Chromium	7440-47-3	2	mg/kg	<2	<2	<2	31	<2
Copper	7440-50-8	5	mg/kg	<5	<5	<5	122	<5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	382	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	99	4
Zinc	7440-66-6	5	mg/kg	<5	<5	6	6800	104
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	0.4	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	1.0	2.3	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	0.7	5.9	12.8	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	1.7	3.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	2.2	17.5	34.2	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	2.2	17.7	33.7	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	0.5	4.0	9.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	4.0	9.6	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	4.4	10.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	1.4	4.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	0.5	5.0	11.7	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	3.2	7.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	1.2	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	4.3	9.7	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	6.1	70.1	151	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	0.6	6.4	16.3	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				18D-1.0	18D-1.5	18D-2.0	14B-0.5	14B-1.0
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-006	ES1228708-007	ES1228708-008	ES1228708-009	ES1228708-010
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	330	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	340	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	670	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	110	540	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	240	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	110	780	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	80.0	76.4	79.1	83.0	81.8
2-Chlorophenol-D4	93951-73-6	0.1	%	92.5	87.0	89.4	91.8	90.6
2,4,6-Tribromophenol	118-79-6	0.1	%	89.8	93.4	96.4	91.7	91.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	92.0	85.1	91.0	93.2	89.6
Anthracene-d10	1719-06-8	0.1	%	93.0	87.1	89.2	94.8	91.4
4-Terphenyl-d14	1718-51-0	0.1	%	93.8	89.3	90.9	97.8	92.8
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	95.6	99.9	111	104	95.2
Toluene-D8	2037-26-5	0.1	%	103	107	120	107	104
4-Bromofluorobenzene	460-00-4	0.1	%	110	108	126	110	109



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14B-1.5	14B-2.0	14W2-0.5	14W2-1.0	14W2-1.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-011	ES1228708-012	ES1228708-013	ES1228708-014	ES1228708-015
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	2.4	4.1	5.9	3.1	2.9
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	75	1510	3240	17	<5
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	2	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	23	11	<2	<2
Copper	7440-50-8	5	mg/kg	<5	10	9	<5	<5
Lead	7439-92-1	5	mg/kg	6	24	9	<5	<5
Nickel	7440-02-0	2	mg/kg	5	14	3	<2	<2
Zinc	7440-66-6	5	mg/kg	191	534	58	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	4.3	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	40.6	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	10.6	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	22.4	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	0.9	333	<0.5	2.1
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	85.2	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	2.3	698	<0.5	4.1
Pyrene	129-00-0	0.5	mg/kg	<0.5	2.3	683	<0.5	3.8
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	0.7	169	<0.5	1.1
Chrysene	218-01-9	0.5	mg/kg	<0.5	0.6	161	<0.5	1.1
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	0.6	190	<0.5	0.9
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	72.6	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	0.7	205	<0.5	1.3
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	164	<0.5	1.0
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	25.7	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	0.5	202	<0.5	1.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	8.6	3070	<0.5	16.9
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	0.8	294	<0.5	1.6
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14B-1.5	14B-2.0	14W2-0.5	14W2-1.0	14W2-1.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-011	ES1228708-012	ES1228708-013	ES1228708-014	ES1228708-015
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	4120	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	2680	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	6800	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	190	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	5680	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	1710	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	7580	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	5	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	81.0	73.9	80.0	67.7	69.8
2-Chlorophenol-D4	93951-73-6	0.1	%	91.5	89.9	72.6	81.2	90.5
2,4,6-Tribromophenol	118-79-6	0.1	%	89.6	94.6	62.4	87.9	102
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	90.7	93.5	70.6	73.4	75.2
Anthracene-d10	1719-06-8	0.1	%	90.5	90.8	72.2	82.2	85.6
4-Terphenyl-d14	1718-51-0	0.1	%	91.9	93.3	79.4	99.9	95.2
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	96.6	98.7	109	97.2	92.6
Toluene-D8	2037-26-5	0.1	%	103	100	117	95.0	94.2
4-Bromofluorobenzene	460-00-4	0.1	%	107	103	98.1	97.6	95.9



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14W2-2.0	14C-0.5	14C-1.0	14C-1.5	14C-2.0
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-016	ES1228708-017	ES1228708-018	ES1228708-019	ES1228708-020
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	4.9	8.5	8.0	9.5	7.3
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	12	92	7040	2230	236
Arsenic	7440-38-2	5	mg/kg	<5	6	9	6	6
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	6	13	30	6
Copper	7440-50-8	5	mg/kg	<5	28	34	30	22
Lead	7439-92-1	5	mg/kg	<5	176	54	66	52
Nickel	7440-02-0	2	mg/kg	<2	6	12	6	6
Zinc	7440-66-6	5	mg/kg	<5	95	120	135	120
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.4	0.6	0.8	0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.7	0.7	0.7
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.7	0.8	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	1.0	1.0	9.2	10.1	4.1
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	3.1	3.5	1.4
Fluoranthene	206-44-0	0.5	mg/kg	2.0	3.4	22.4	20.8	14.6
Pyrene	129-00-0	0.5	mg/kg	1.9	3.1	23.6	19.1	14.0
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.6	8.8	7.9	5.1
Chrysene	218-01-9	0.5	mg/kg	<0.5	1.5	8.0	6.9	4.4
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	1.9	8.8	5.8	4.7
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	0.8	4.0	2.4	1.8
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.5	1.6	8.7	7.4	4.9
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.1	5.6	5.0	3.6
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	1.2	1.0	0.7
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.5	1.4	6.5	6.1	4.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	5.9	17.4	112	97.5	64.7
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	0.5	2.2	12.8	10.6	7.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14W2-2.0	14C-0.5	14C-1.0	14C-1.5	14C-2.0
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-016	ES1228708-017	ES1228708-018	ES1228708-019	ES1228708-020
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	230	200	120
C29 - C36 Fraction	----	100	mg/kg	<100	<100	180	130	110
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	410	330	230
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	340	280	180
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	130	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	470	280	180
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	70.4	70.7	71.2	70.0	80.3
2-Chlorophenol-D4	93951-73-6	0.1	%	98.7	93.9	79.3	101	88.1
2,4,6-Tribromophenol	118-79-6	0.1	%	96.3	123	100	93.3	96.0
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	93.8	91.2	90.0	69.3	90.3
Anthracene-d10	1719-06-8	0.1	%	87.6	89.3	85.5	87.3	90.5
4-Terphenyl-d14	1718-51-0	0.1	%	90.4	108	88.1	101	96.4
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	97.0	94.9	95.6	91.8	96.2
Toluene-D8	2037-26-5	0.1	%	99.0	98.5	94.8	95.5	91.2
4-Bromofluorobenzene	460-00-4	0.1	%	103	98.6	99.7	93.5	87.4



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14A-0.5	14A-1.0	14A-1.5	14A-2.0	10A-0.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-021	ES1228708-022	ES1228708-023	ES1228708-024	ES1228708-025
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	4.7	20.8	15.3	10.2	7.0
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	----
Asbestos Type	1332-21-4	0.1	--	-	----	----	----	----
Sample weight (dry)	----	0.01	g	379	----	----	----	----
APPROVED IDENTIFIER:	----	-	--	P.RENNIE	----	----	----	----
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	310	258	197	388	131
Arsenic	7440-38-2	5	mg/kg	<5	8	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	6	26	8	11	2
Copper	7440-50-8	5	mg/kg	12	48	15	11	5
Lead	7439-92-1	5	mg/kg	10	38	78	18	7
Nickel	7440-02-0	2	mg/kg	4	24	7	6	2
Zinc	7440-66-6	5	mg/kg	27	102	55	46	19
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.2	0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.6
Acenaphthylene	208-96-8	0.5	mg/kg	1.8	0.6	1.3	0.6	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	0.6	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	12.9	1.9	5.1	1.5	4.5
Anthracene	120-12-7	0.5	mg/kg	4.6	0.9	2.0	0.7	1.1
Fluoranthene	206-44-0	0.5	mg/kg	38.6	8.1	17.8	4.7	7.5
Pyrene	129-00-0	0.5	mg/kg	36.9	8.4	18.3	4.7	7.3
Benz(a)anthracene	56-55-3	0.5	mg/kg	11.5	2.2	4.7	1.5	2.0
Chrysene	218-01-9	0.5	mg/kg	11.2	2.3	4.9	1.6	2.2
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	16.8	3.7	7.8	2.7	3.2
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	5.6	1.4	2.8	0.8	1.2
Benzo(a)pyrene	50-32-8	0.5	mg/kg	12.8	2.8	5.9	2.2	2.3
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	8.4	1.7	3.6	1.3	1.4
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	1.6	<0.5	0.7	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14A-0.5	14A-1.0	14A-1.5	14A-2.0	10A-0.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-021	ES1228708-022	ES1228708-023	ES1228708-024	ES1228708-025
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	11.2	2.2	5.2	2.0	2.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	174	36.2	80.1	24.3	35.3
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	18.8	3.7	8.6	2.9	3.1
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	240	<100	110	<100	<100
C29 - C36 Fraction	----	100	mg/kg	210	<100	100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	450	<50	210	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	360	<100	170	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	190	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	550	<50	170	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	113	94.5	94.3	86.9	98.8
2-Chlorophenol-D4	93951-73-6	0.1	%	107	95.0	89.7	89.2	96.8
2,4,6-Tribromophenol	118-79-6	0.1	%	109	104	98.8	100	103
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	106	93.1	95.6	91.8	94.7
Anthracene-d10	1719-06-8	0.1	%	102	94.1	94.4	86.9	93.8



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				14A-0.5	14A-1.0	14A-1.5	14A-2.0	10A-0.5
Client sampling date / time				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-021	ES1228708-022	ES1228708-023	ES1228708-024	ES1228708-025
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	95.8	82.9	85.3	80.2	82.8
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	96.6	91.6	94.7	94.7	100
Toluene-D8	2037-26-5	0.1	%	103	96.4	95.0	101	108
4-Bromofluorobenzene	460-00-4	0.1	%	90.9	88.5	88.1	93.4	98.8



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14D-0.5	14D-1.0	14D-1.5	14D-2.0	9W3-0.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-029	ES1228708-030	ES1228708-031	ES1228708-032	ES1228708-033
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	5.7	6.2	5.3	4.1	7.2
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	460	1360	1360	496	8040
Arsenic	7440-38-2	5	mg/kg	6	6	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	7	19	17	4	25
Copper	7440-50-8	5	mg/kg	176	33	22	6	8
Lead	7439-92-1	5	mg/kg	20	49	35	10	12
Nickel	7440-02-0	2	mg/kg	4	9	8	3	4
Zinc	7440-66-6	5	mg/kg	154	235	204	71	41
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	2.3	<0.5	2.3	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	8.9	1.8	11.2	0.7	2.6
Anthracene	120-12-7	0.5	mg/kg	3.3	0.8	3.6	<0.5	0.9
Fluoranthene	206-44-0	0.5	mg/kg	19.5	6.4	27.4	1.8	9.0
Pyrene	129-00-0	0.5	mg/kg	19.6	6.5	26.7	1.8	8.2
Benz(a)anthracene	56-55-3	0.5	mg/kg	6.9	2.4	9.6	0.5	2.8
Chrysene	218-01-9	0.5	mg/kg	7.0	2.5	9.9	0.6	2.7
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	10.6	3.8	14.2	0.9	3.8
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	3.8	1.4	5.6	<0.5	1.4
Benzo(a)pyrene	50-32-8	0.5	mg/kg	8.0	3.0	10.7	0.7	2.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	4.9	1.8	6.5	<0.5	1.4
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	1.1	<0.5	1.4	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	6.7	2.3	8.8	<0.5	1.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	103	32.7	138	7.0	37.0
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	11.8	4.0	15.9	0.8	3.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14D-0.5	14D-1.0	14D-1.5	14D-2.0	9W3-0.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-029	ES1228708-030	ES1228708-031	ES1228708-032	ES1228708-033
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	160	<100	210	<100	<100
C29 - C36 Fraction	----	100	mg/kg	150	<100	180	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	310	<50	390	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	250	<100	320	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	110	<100	130	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	360	<50	450	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	95.2	92.0	86.0	92.0	90.8
2-Chlorophenol-D4	93951-73-6	0.1	%	96.5	91.8	89.9	94.4	91.6
2,4,6-Tribromophenol	118-79-6	0.1	%	94.6	96.5	107	102	104
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	96.9	95.8	98.3	96.8	98.3
Anthracene-d10	1719-06-8	0.1	%	95.4	99.9	97.2	96.0	96.8
4-Terphenyl-d14	1718-51-0	0.1	%	88.0	84.1	91.6	83.9	86.0
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	102	102	105	100	97.3
Toluene-D8	2037-26-5	0.1	%	107	112	117	108	107
4-Bromofluorobenzene	460-00-4	0.1	%	97.5	98.0	101	95.2	95.3



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				9W3-1.0	9W3-1.5	9W3-2.0	10D-0.5	10D-1.0
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-034	ES1228708-035	ES1228708-036	ES1228708-037	ES1228708-038
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	8.7	9.6	7.2	15.3	12.4
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	----	No	----
Asbestos Type	1332-21-4	0.1	--	----	----	----	-	----
Sample weight (dry)	----	0.01	g	----	----	----	378	----
APPROVED IDENTIFIER:	----	-	--	----	----	----	P.RENNIE	----
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	14	24	312	72	2100
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	<2	4	2	25
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	9
Lead	7439-92-1	5	mg/kg	<5	<5	<5	<5	17
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	2	4
Zinc	7440-66-6	5	mg/kg	<5	<5	10	29	74
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	1.8	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	2.4	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	1.4	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	2.1	0.8	2.0	25.9	1.6
Pyrene	129-00-0	0.5	mg/kg	1.9	0.7	1.9	22.8	1.6
Benz(a)anthracene	56-55-3	0.5	mg/kg	0.7	<0.5	0.6	10.1	0.6
Chrysene	218-01-9	0.5	mg/kg	0.6	<0.5	0.6	8.6	0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	0.8	<0.5	0.9	10.8	0.8
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	3.8	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.6	<0.5	0.6	7.3	0.6
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	3.0	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	1.0	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				9W3-1.0	9W3-1.5	9W3-2.0	10D-0.5	10D-1.0
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-034	ES1228708-035	ES1228708-036	ES1228708-037	ES1228708-038
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	3.2	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	6.7	1.5	6.6	102	5.7
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	0.8	<0.5	0.8	11.2	0.7
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	310	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	180	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	490	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	420	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	420	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	107	94.5	89.0	98.7	91.5
2-Chlorophenol-D4	93951-73-6	0.1	%	106	94.8	91.3	101	93.6
2,4,6-Tribromophenol	118-79-6	0.1	%	114	97.5	71.5	102	91.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	104	97.6	95.9	99.1	93.9
Anthracene-d10	1719-06-8	0.1	%	104	97.4	94.5	101	93.9



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				9W3-1.0	9W3-1.5	9W3-2.0	10D-0.5	10D-1.0
Client sampling date / time				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-034	ES1228708-035	ES1228708-036	ES1228708-037	ES1228708-038
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	91.4	85.7	83.5	94.4	82.7
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	102	96.7	104	96.1	101
Toluene-D8	2037-26-5	0.1	%	110	102	109	97.8	108
4-Bromofluorobenzene	460-00-4	0.1	%	95.4	88.0	98.6	92.5	98.8



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				10D-1.5	10D-2.0	9W1-0.5	9W1-1.0	9W1-1.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-039	ES1228708-040	ES1228708-041	ES1228708-042	ES1228708-043
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	8.3	6.7	9.4	11.5	18.3
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	192	8	163	397	466
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	7
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	3	<2	5	6	19
Copper	7440-50-8	5	mg/kg	<5	<5	<5	9	34
Lead	7439-92-1	5	mg/kg	<5	<5	10	13	25
Nickel	7440-02-0	2	mg/kg	<2	<2	3	6	16
Zinc	7440-66-6	5	mg/kg	44	<5	27	55	82
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.6	<0.5	0.6
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	1.6	0.8	1.6
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	1.0	0.5	0.8
Fluoranthene	206-44-0	0.5	mg/kg	3.5	<0.5	9.4	3.8	6.0
Pyrene	129-00-0	0.5	mg/kg	3.3	<0.5	9.9	4.1	6.3
Benz(a)anthracene	56-55-3	0.5	mg/kg	1.2	<0.5	3.5	1.5	2.2
Chrysene	218-01-9	0.5	mg/kg	1.2	<0.5	3.5	1.6	2.3
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	1.7	<0.5	5.6	2.6	3.6
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.6	<0.5	2.1	0.9	1.3
Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.3	<0.5	4.1	2.0	2.9
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	0.6	<0.5	2.1	1.1	1.6
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.7	<0.5	2.7	1.5	2.1
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	14.1	<0.5	46.1	20.4	31.3
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	1.7	<0.5	5.5	2.6	3.8
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				10D-1.5	10D-2.0	9W1-0.5	9W1-1.0	9W1-1.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-039	ES1228708-040	ES1228708-041	ES1228708-042	ES1228708-043
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	120	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	120	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	90.8	89.9	93.5	93.0	85.9
2-Chlorophenol-D4	93951-73-6	0.1	%	94.0	93.5	95.9	92.0	89.0
2,4,6-Tribromophenol	118-79-6	0.1	%	91.0	87.0	90.4	97.3	96.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	94.8	97.9	94.2	94.1	91.6
Anthracene-d10	1719-06-8	0.1	%	94.4	98.6	94.0	94.0	91.5
4-Terphenyl-d14	1718-51-0	0.1	%	84.1	85.4	84.0	82.4	81.2
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	100	102	107	104	98.2
Toluene-D8	2037-26-5	0.1	%	105	106	105	110	103
4-Bromofluorobenzene	460-00-4	0.1	%	89.9	93.6	93.8	94.5	91.2



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				9W1-2.0	18C-0.5	18C-1.0	18C-1.5	18C-2.0
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-044	ES1228708-045	ES1228708-046	ES1228708-047	ES1228708-048
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	12.7	7.4	3.8	5.3	4.4
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	----	----	----
Asbestos Type	1332-21-4	0.1	--	----	-	----	----	----
Sample weight (dry)	----	0.01	g	----	368	----	----	----
APPROVED IDENTIFIER:	----	-	--	----	P.RENNIE	----	----	----
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	2280	2320	16	31	13
Arsenic	7440-38-2	5	mg/kg	<5	6	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	23	21	<2	<2	<2
Copper	7440-50-8	5	mg/kg	13	28	<5	<5	<5
Lead	7439-92-1	5	mg/kg	17	15	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	5	8	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	66	52	<5	8	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	36.4	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	0.6	34.5	<0.5	0.8	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	28.1	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	46.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	1.1	796	<0.5	18.2	2.3
Anthracene	120-12-7	0.5	mg/kg	0.6	150	<0.5	2.9	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	4.7	919	<0.5	19.9	4.0
Pyrene	129-00-0	0.5	mg/kg	5.1	843	<0.5	18.3	3.8
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.0	253	<0.5	4.6	1.0
Chrysene	218-01-9	0.5	mg/kg	2.0	246	<0.5	4.7	1.0
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	3.0	316	<0.5	6.1	1.4
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.3	110	<0.5	2.2	0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.5	244	<0.5	5.3	1.2
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.6	154	<0.5	3.2	0.7
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	28.7	<0.5	0.6	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				9W1-2.0	18C-0.5	18C-1.0	18C-1.5	18C-2.0
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-044	ES1228708-045	ES1228708-046	ES1228708-047	ES1228708-048
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	2.2	208	<0.5	4.7	0.9
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	26.7	4410	<0.5	91.5	16.8
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	3.3	360	<0.5	7.6	1.6
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	140	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	7820	<100	100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	4160	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	12100	<50	100	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	390	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	160	10300	<100	130	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	2460	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	160	13200	<50	130	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	6	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	90.3	87.7	93.7	96.2	98.8
2-Chlorophenol-D4	93951-73-6	0.1	%	90.5	95.7	93.2	95.2	93.7
2,4,6-Tribromophenol	118-79-6	0.1	%	102	54.2	90.2	93.7	102
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	84.4	94.0	86.9	88.7	92.8
Anthracene-d10	1719-06-8	0.1	%	85.7	89.9	84.1	82.5	88.8



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				9W1-2.0	18C-0.5	18C-1.0	18C-1.5	18C-2.0
Client sampling date / time				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-044	ES1228708-045	ES1228708-046	ES1228708-047	ES1228708-048
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	79.8	96.1	88.0	79.9	82.4
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	90.4	103	101	101	95.1
Toluene-D8	2037-26-5	0.1	%	84.4	102	111	88.1	94.5
4-Bromofluorobenzene	460-00-4	0.1	%	81.1	90.2	100	93.0	80.7



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				19W1-0.5	19W1-1.0	19W1-1.5	19W1-2.0	18B-0.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-049	ES1228708-050	ES1228708-051	ES1228708-052	ES1228708-053
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	4.1	2.8	4.9	5.8	4.6
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	390	10	172	143	1740
Arsenic	7440-38-2	5	mg/kg	6	<5	<5	<5	8
Cadmium	7440-43-9	1	mg/kg	3	<1	<1	<1	2
Chromium	7440-47-3	2	mg/kg	6	<2	3	<2	18
Copper	7440-50-8	5	mg/kg	20	<5	10	10	36
Lead	7439-92-1	5	mg/kg	29	<5	7	<5	35
Nickel	7440-02-0	2	mg/kg	6	3	6	4	9
Zinc	7440-66-6	5	mg/kg	367	37	358	182	440
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	33.4	<0.5	<0.5	1.1	47.6
Acenaphthylene	208-96-8	0.5	mg/kg	8.0	<0.5	<0.5	0.7	20.8
Acenaphthene	83-32-9	0.5	mg/kg	11.2	<0.5	<0.5	0.9	24.1
Fluorene	86-73-7	0.5	mg/kg	33.8	<0.5	<0.5	1.3	53.3
Phenanthrene	85-01-8	0.5	mg/kg	267	0.6	2.7	16.4	565
Anthracene	120-12-7	0.5	mg/kg	52.9	<0.5	0.6	3.1	104
Fluoranthene	206-44-0	0.5	mg/kg	254	0.9	4.9	19.4	622
Pyrene	129-00-0	0.5	mg/kg	236	0.9	4.8	18.5	581
Benz(a)anthracene	56-55-3	0.5	mg/kg	54.0	<0.5	1.2	4.8	147
Chrysene	218-01-9	0.5	mg/kg	53.4	<0.5	1.2	4.8	145
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	61.2	<0.5	1.9	6.5	177
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	21.4	<0.5	0.6	2.3	64.8
Benzo(a)pyrene	50-32-8	0.5	mg/kg	56.4	<0.5	1.7	6.1	154
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	26.8	<0.5	1.0	3.6	88.9
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	5.0	<0.5	<0.5	0.6	16.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	36.2	<0.5	1.4	5.0	122
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	1210	2.4	22.0	95.1	2930
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	78.6	<0.5	2.2	8.5	221
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				19W1-0.5	19W1-1.0	19W1-1.5	19W1-2.0	18B-0.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-049	ES1228708-050	ES1228708-051	ES1228708-052	ES1228708-053
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	90	<50	<50	<50	150
C15 - C28 Fraction	----	100	mg/kg	1960	<100	<100	130	5060
C29 - C36 Fraction	----	100	mg/kg	830	<100	<100	<100	2550
^ C10 - C36 Fraction (sum)	----	50	mg/kg	2880	<50	<50	130	7760
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	180	<50	<50	<50	350
>C16 - C34 Fraction	----	100	mg/kg	2390	<100	<100	180	6450
>C34 - C40 Fraction	----	100	mg/kg	480	<100	<100	<100	1560
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	3050	<50	<50	180	8360
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	15
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	88.6	94.5	96.0	96.1	83.3
2-Chlorophenol-D4	93951-73-6	0.1	%	84.2	89.8	92.3	94.4	72.9
2,4,6-Tribromophenol	118-79-6	0.1	%	61.2	101	104	106	55.4
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	81.1	88.9	87.8	90.5	76.2
Anthracene-d10	1719-06-8	0.1	%	104	85.5	82.3	82.8	92.2
4-Terphenyl-d14	1718-51-0	0.1	%	86.6	88.8	87.5	80.5	105
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	106	101	106	103	108
Toluene-D8	2037-26-5	0.1	%	104	92.4	103	97.3	104
4-Bromofluorobenzene	460-00-4	0.1	%	90.0	109	90.9	89.1	91.2



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				18E-0.5	18E-1.0	18E-1.5	18E-2.0	19W2-0.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-054	ES1228708-055	ES1228708-056	ES1228708-057	ES1228708-058
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	6.1	3.5	4.2	4.2	5.2
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	1100	6	5	12	253
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	6
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	6	<2	<2	<2	5
Copper	7440-50-8	5	mg/kg	6	<5	<5	<5	26
Lead	7439-92-1	5	mg/kg	10	<5	<5	<5	17
Nickel	7440-02-0	2	mg/kg	5	<2	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	38	<5	<5	<5	18
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	5.4	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	12.4	<0.5	<0.5	1.1	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<4.0	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<4.0	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	76.6	<0.5	<0.5	14.7	1.7
Anthracene	120-12-7	0.5	mg/kg	22.7	<0.5	<0.5	3.1	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	184	<0.5	0.8	23.3	5.6
Pyrene	129-00-0	0.5	mg/kg	193	<0.5	1.0	22.1	5.0
Benz(a)anthracene	56-55-3	0.5	mg/kg	51.7	<0.5	<0.5	5.5	1.4
Chrysene	218-01-9	0.5	mg/kg	55.2	<0.5	<0.5	5.8	1.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	88.0	<0.5	<0.5	7.4	2.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	28.7	<0.5	<0.5	2.3	0.7
Benzo(a)pyrene	50-32-8	0.5	mg/kg	75.5	<0.5	<0.5	6.8	1.7
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	47.8	<0.5	<0.5	4.0	1.0
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	8.7	<0.5	<0.5	0.8	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	69.2	<0.5	<0.5	5.3	1.4
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	919	<0.5	1.8	102	22.1
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	107	<0.5	<0.5	9.6	2.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				18E-0.5	18E-1.0	18E-1.5	18E-2.0	19W2-0.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-054	ES1228708-055	ES1228708-056	ES1228708-057	ES1228708-058
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	1430	<100	<100	140	<100
C29 - C36 Fraction	----	100	mg/kg	1360	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	2790	<50	<50	140	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	70	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	2250	<100	<100	200	<100
>C34 - C40 Fraction	----	100	mg/kg	840	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	3160	<50	<50	200	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	8	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	98.3	94.4	96.5	95.2	96.0
2-Chlorophenol-D4	93951-73-6	0.1	%	76.8	91.6	94.1	91.9	95.4
2,4,6-Tribromophenol	118-79-6	0.1	%	54.1	98.7	102	106	101
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	79.1	88.6	91.9	90.4	91.9
Anthracene-d10	1719-06-8	0.1	%	86.5	86.6	87.3	84.3	84.8
4-Terphenyl-d14	1718-51-0	0.1	%	78.0	92.8	88.0	80.3	87.5
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	118	106	96.0	100	102
Toluene-D8	2037-26-5	0.1	%	105	113	82.2	98.3	99.3
4-Bromofluorobenzene	460-00-4	0.1	%	109	100	101	91.1	91.3



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				19W2-1.0	19W2-1.5	19W2-2.0	16B-0.5	16B-1.0
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-059	ES1228708-060	ES1228708-061	ES1228708-062	ES1228708-063
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	4.7	4.5	4.3	4.0	4.5
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	12	20	24	23	5
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	<5	<5	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	1.2	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	1.0	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	2.2	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				19W2-1.0	19W2-1.5	19W2-2.0	16B-0.5	16B-1.0
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-059	ES1228708-060	ES1228708-061	ES1228708-062	ES1228708-063
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	93.7	95.1	96.0	96.3	96.7
2-Chlorophenol-D4	93951-73-6	0.1	%	86.5	92.2	93.5	93.4	91.4
2,4,6-Tribromophenol	118-79-6	0.1	%	103	100	109	89.7	90.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	88.8	85.5	110	92.4	87.3
Anthracene-d10	1719-06-8	0.1	%	100	81.2	94.3	92.6	84.7
4-Terphenyl-d14	1718-51-0	0.1	%	85.2	87.8	80.2	86.6	87.0
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	106	102	103	107	92.4
Toluene-D8	2037-26-5	0.1	%	104	102	106	101	95.9
4-Bromofluorobenzene	460-00-4	0.1	%	94.6	91.4	94.3	92.4	84.9



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				16B-1.5	16B-2.0	16E-0.5	16E-1.0	16E-1.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-064	ES1228708-065	ES1228708-066	ES1228708-067	ES1228708-068
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	3.8	3.9	8.0	20.1	7.7
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	<5	<5	17	67	21
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	<2	<2	3	<2
Copper	7440-50-8	5	mg/kg	<5	<5	<5	8	<5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	7	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	3	<2
Zinc	7440-66-6	5	mg/kg	<5	<5	6	16	5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	0.2	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	2.8	0.9	4.7
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.8	<0.5	0.8
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	10.4	3.6	7.8
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	10.4	3.4	7.3
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	3.2	1.2	2.0
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	3.2	1.1	1.9
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	4.4	1.5	2.6
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	1.8	0.5	1.1
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	3.7	1.2	2.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	2.6	0.7	1.4
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	3.5	0.9	1.9
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	46.8	15.0	33.6
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	5.0	1.6	2.8
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				16B-1.5	16B-2.0	16E-0.5	16E-1.0	16E-1.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-064	ES1228708-065	ES1228708-066	ES1228708-067	ES1228708-068
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	130	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	130	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	200	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	200	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	81.6	79.7	77.2	73.5	78.4
2-Chlorophenol-D4	93951-73-6	0.1	%	84.2	82.4	78.0	76.7	80.9
2,4,6-Tribromophenol	118-79-6	0.1	%	79.5	74.7	73.4	72.7	75.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	85.6	85.1	84.3	78.3	85.3
Anthracene-d10	1719-06-8	0.1	%	78.4	77.3	77.0	73.0	77.1
4-Terphenyl-d14	1718-51-0	0.1	%	78.1	78.2	76.1	72.7	76.6
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	95.6	94.3	105	98.8	102
Toluene-D8	2037-26-5	0.1	%	105	105	105	108	88.4
4-Bromofluorobenzene	460-00-4	0.1	%	103	101	105	101	101



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				16E-2.0	13C-0.5	13C-1.0	13C-1.5	13C-2.0
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-069	ES1228708-070	ES1228708-071	ES1228708-072	ES1228708-073
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	14.0	3.3	5.4	5.6	7.3
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	15	60	8	244	7
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	<2	<2	2	<2
Copper	7440-50-8	5	mg/kg	<5	8	<5	7	<5
Lead	7439-92-1	5	mg/kg	<5	6	<5	11	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	<5	68	<5	45	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	1.7	<0.5	<0.5	1.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	3.7	1.0	<0.5	3.8	<0.5
Pyrene	129-00-0	0.5	mg/kg	3.5	1.0	<0.5	3.4	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	1.0	<0.5	<0.5	1.2	<0.5
Chrysene	218-01-9	0.5	mg/kg	0.9	<0.5	<0.5	1.1	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	1.3	<0.5	<0.5	1.3	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.0	<0.5	<0.5	1.2	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	0.7	<0.5	<0.5	0.6	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.9	<0.5	<0.5	0.7	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	14.7	2.0	<0.5	15.3	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	1.3	<0.5	<0.5	1.6	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				16E-2.0	13C-0.5	13C-1.0	13C-1.5	13C-2.0
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-069	ES1228708-070	ES1228708-071	ES1228708-072	ES1228708-073
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	74.5	79.1	77.6	79.5	78.5
2-Chlorophenol-D4	93951-73-6	0.1	%	77.6	82.4	79.0	83.1	82.0
2,4,6-Tribromophenol	118-79-6	0.1	%	72.2	71.9	74.7	71.8	75.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	80.1	86.0	84.0	85.5	85.2
Anthracene-d10	1719-06-8	0.1	%	73.1	78.4	78.4	77.3	77.1
4-Terphenyl-d14	1718-51-0	0.1	%	73.2	78.2	79.0	77.1	77.4
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	90.1	105	98.6	99.8	102
Toluene-D8	2037-26-5	0.1	%	79.1	89.1	84.3	88.1	83.2
4-Bromofluorobenzene	460-00-4	0.1	%	90.7	99.1	96.7	94.8	95.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				17D-0.5	17D-1.0	17D-1.5	17D-2.0	14W1-0.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-074	ES1228708-075	ES1228708-076	ES1228708-077	ES1228708-078
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	10.3	20.5	4.9	3.7	9.4
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	8	7	11	102	19
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	<2	<2	<2	2
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	<5	<5	<5	7	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	1.2
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	1.8	0.8
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	0.9	0.7
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	3.0	1.4
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	26.5	21.1
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	6.4	3.8
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	1.2	39.8	23.6
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	1.3	37.9	22.2
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	12.2	5.8
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	11.9	5.7
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.7	16.7	7.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	5.3	2.6
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.6	14.5	6.7
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.5	9.8	4.2
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	1.5	0.6
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.7	13.1	5.6
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	5.0	201	114
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	0.7	20.6	9.4
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				17D-0.5	17D-1.0	17D-1.5	17D-2.0	14W1-0.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-074	ES1228708-075	ES1228708-076	ES1228708-077	ES1228708-078
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	260	170
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	190	120
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	450	290
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	380	230
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	120	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	500	230
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	74.4	73.0	77.1	77.5	77.9
2-Chlorophenol-D4	93951-73-6	0.1	%	75.4	77.1	81.8	81.7	81.6
2,4,6-Tribromophenol	118-79-6	0.1	%	74.8	72.9	74.0	75.0	75.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	82.0	79.8	84.6	85.3	84.4
Anthracene-d10	1719-06-8	0.1	%	74.9	73.1	76.2	73.8	74.9
4-Terphenyl-d14	1718-51-0	0.1	%	75.5	73.6	76.2	79.0	76.4
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	103	87.0	103	105	101
Toluene-D8	2037-26-5	0.1	%	98.7	89.3	98.9	103	100
4-Bromofluorobenzene	460-00-4	0.1	%	88.7	81.0	85.4	91.9	89.7



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14W1-1.0	14W1-1.5	14W1-2.0	18W1-0.5	13E-0.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-079	ES1228708-080	ES1228708-081	ES1228708-082	ES1228708-083
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	3.8	2.7	4.1	13.3	20.3
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	2130	416	20	3710	1760
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	15	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	5	2
Chromium	7440-47-3	2	mg/kg	10	4	<2	17	6
Copper	7440-50-8	5	mg/kg	8	15	<5	79	44
Lead	7439-92-1	5	mg/kg	9	<5	<5	49	51
Nickel	7440-02-0	2	mg/kg	2	<2	<2	32	6
Zinc	7440-66-6	5	mg/kg	62	19	7	431	238
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	2.2	1.6	<0.5	127	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	3.8	1.6	<0.5	30.3	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	3.1	1.1	<0.5	51.6	<0.5
Fluorene	86-73-7	0.5	mg/kg	5.5	2.4	<0.5	91.6	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	67.8	36.0	<0.5	1370	3.1
Anthracene	120-12-7	0.5	mg/kg	14.4	6.9	<0.5	219	0.6
Fluoranthene	206-44-0	0.5	mg/kg	89.6	44.2	<0.5	1430	6.7
Pyrene	129-00-0	0.5	mg/kg	86.4	42.1	<0.5	1320	6.6
Benz(a)anthracene	56-55-3	0.5	mg/kg	30.1	12.7	<0.5	347	1.8
Chrysene	218-01-9	0.5	mg/kg	30.6	12.7	<0.5	344	2.0
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	39.5	15.9	<0.5	412	2.6
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	14.9	5.4	<0.5	149	1.0
Benzo(a)pyrene	50-32-8	0.5	mg/kg	32.6	14.0	<0.5	336	2.3
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	22.3	9.1	<0.5	218	1.4
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	3.5	1.4	<0.5	35.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	29.3	12.0	<0.5	272	1.7
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	476	219	<0.5	6750	29.8
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	47.4	20.0	<0.5	490	3.0
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14W1-1.0	14W1-1.5	14W1-2.0	18W1-0.5	13E-0.5
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-079	ES1228708-080	ES1228708-081	ES1228708-082	ES1228708-083
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	280	<50
C15 - C28 Fraction	----	100	mg/kg	550	330	<100	11400	<100
C29 - C36 Fraction	----	100	mg/kg	350	180	<100	5200	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	900	510	<50	16900	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	660	<50
>C16 - C34 Fraction	----	100	mg/kg	770	430	<100	14200	<100
>C34 - C40 Fraction	----	100	mg/kg	220	100	<100	3100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	990	530	<50	18000	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	2	<1	<1	79	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	78.4	78.2	78.4	76.0	75.9
2-Chlorophenol-D4	93951-73-6	0.1	%	82.9	81.9	81.9	79.3	79.1
2,4,6-Tribromophenol	118-79-6	0.1	%	74.2	74.4	78.4	78.3	81.0
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	85.0	84.9	85.4	84.8	81.6
Anthracene-d10	1719-06-8	0.1	%	72.2	72.9	77.6	71.3	75.1
4-Terphenyl-d14	1718-51-0	0.1	%	86.3	79.6	77.2	120	73.9
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	105	96.9	106	102	93.2
Toluene-D8	2037-26-5	0.1	%	113	102	110	111	91.5
4-Bromofluorobenzene	460-00-4	0.1	%	96.5	88.7	93.3	92.3	90.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				13E-1.0	17A-0.5	17A-1.0	17A-1.5	17A-2.0
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-084	ES1228708-087	ES1228708-088	ES1228708-089	ES1228708-090
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	5.9	16.5	19.0	11.9	6.4
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	440	438	7	10	8
Arsenic	7440-38-2	5	mg/kg	6	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	12	4	<2	<2	<2
Copper	7440-50-8	5	mg/kg	40	10	<5	<5	<5
Lead	7439-92-1	5	mg/kg	73	15	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	6	2	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	195	54	<5	7	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	0.7	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	7.8	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	1.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	14.5	0.8	<0.5	<0.5	0.8
Pyrene	129-00-0	0.5	mg/kg	14.0	0.9	<0.5	<0.5	0.8
Benz(a)anthracene	56-55-3	0.5	mg/kg	4.1	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	4.2	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	5.9	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	4.8	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.0	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	0.6	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	4.2	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	67.8	1.7	<0.5	<0.5	1.6
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	7.0	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				13E-1.0	17A-0.5	17A-1.0	17A-1.5	17A-2.0
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1228708-084	ES1228708-087	ES1228708-088	ES1228708-089	ES1228708-090
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	180	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	130	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	310	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	270	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	270	<50	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	99.6	104	105	102	94.3
2-Chlorophenol-D4	93951-73-6	0.1	%	101	102	104	102	97.9
2,4,6-Tribromophenol	118-79-6	0.1	%	110	110	109	113	104
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	100	97.1	97.1	101	97.0
Anthracene-d10	1719-06-8	0.1	%	92.6	92.6	93.1	95.8	90.6
4-Terphenyl-d14	1718-51-0	0.1	%	91.0	87.6	87.9	90.2	85.9
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	103	87.2	93.3	79.1	92.5
Toluene-D8	2037-26-5	0.1	%	105	89.8	95.6	99.2	95.9
4-Bromofluorobenzene	460-00-4	0.1	%	95.2	84.6	88.1	95.3	81.0



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				9W2-0.5	QC7	QC8	QC9	----
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	----
Compound	CAS Number	LOR	Unit	ES1228708-091	ES1228708-092	ES1228708-093	ES1228708-094	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	8.9	8.1	5.8	5.6	----
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	3360	1090	13	179	----
Arsenic	7440-38-2	5	mg/kg	<5	6	<5	<5	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg	44	5	<2	2	----
Copper	7440-50-8	5	mg/kg	8	29	<5	19	----
Lead	7439-92-1	5	mg/kg	9	55	<5	30	----
Nickel	7440-02-0	2	mg/kg	3	5	<2	2	----
Zinc	7440-66-6	5	mg/kg	36	102	5	97	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.6	<0.1	<0.1	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg	2.8	3.2	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	1.3	0.6	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	0.7	0.5	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	26.9	20.2	2.3	0.9	----
Anthracene	120-12-7	0.5	mg/kg	7.3	6.4	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	66.2	64.5	3.7	2.3	----
Pyrene	129-00-0	0.5	mg/kg	63.4	66.0	3.5	2.3	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	24.0	25.4	0.8	0.7	----
Chrysene	218-01-9	0.5	mg/kg	23.7	25.6	0.8	0.8	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	35.0	33.6	1.2	1.2	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	11.2	11.3	<0.5	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	24.3	23.0	0.9	0.8	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	17.1	15.0	0.6	0.5	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	3.9	3.5	<0.5	<0.5	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	23.8	20.7	0.8	0.7	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	332	320	14.6	10.2	----
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	37.4	35.5	1.2	1.0	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				9W2-0.5	QC7	QC8	QC9	----
				05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	----
Compound	CAS Number	LOR	Unit	ES1228708-091	ES1228708-092	ES1228708-093	ES1228708-094	----
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg	560	200	<100	<100	----
C29 - C36 Fraction	----	100	mg/kg	480	130	<100	<100	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	1040	330	<50	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	----
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	----
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	----
>C16 - C34 Fraction	----	100	mg/kg	840	290	<100	<100	----
>C34 - C40 Fraction	----	100	mg/kg	360	<100	<100	<100	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	1200	290	<50	<50	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	94.4	100	102	93.3	----
2-Chlorophenol-D4	93951-73-6	0.1	%	94.6	103	107	95.7	----
2,4,6-Tribromophenol	118-79-6	0.1	%	102	113	107	112	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	101	99.9	100	100	----
Anthracene-d10	1719-06-8	0.1	%	90.2	91.2	94.6	93.8	----
4-Terphenyl-d14	1718-51-0	0.1	%	98.2	97.5	88.1	87.6	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	82.0	83.7	80.7	80.7	----
Toluene-D8	2037-26-5	0.1	%	111	102	98.7	103	----
4-Bromofluorobenzene	460-00-4	0.1	%	103	103	96.6	102	----



Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Client sample ID

Client sampling date / time

				QCD	----	----	----	----
				05-DEC-2012 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1228708-095	----	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L	<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	----	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (WHO)	----	0.5	µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----



Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Client sample ID

				QCD	----	----	----	----
Client sampling date / time				05-DEC-2012 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1228708-095	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued								
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	20	µg/L	<20	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	----	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ Total Xylenes	1330-20-7	2	µg/L	<2	----	----	----	----
^ Sum of BTEX	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	21.8	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	56.7	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.1	%	61.7	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	64.6	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	80.9	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	75.6	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	103	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	106	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	111	----	----	----	----



Analytical Results

Descriptive Results

Sub-Matrix: SOIL		
Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	14A-0.5 - 05-DEC-2012 15:00	Pale brown sandy soil with shell debris plus a trace of vegetation
EA200: Description	10D-0.5 - 05-DEC-2012 15:00	Pale brown sandy soil with some shell debris plus a trace of vegetation
EA200: Description	18C-0.5 - 05-DEC-2012 15:00	Pale grey rocky soil with some slag grains plus a trace of vegetation



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	127
2-Chlorophenol-D4	93951-73-6	64	126
2,4,6-Tribromophenol	118-79-6	36	136
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	64	130
Anthracene-d10	1719-06-8	69	135
4-Terphenyl-d14	1718-51-0	64	136
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	72.8	133.2
Toluene-D8	2037-26-5	73.9	132.1
4-Bromofluorobenzene	460-00-4	71.6	130.0

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	15.9	102
2,4,6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20.4	112
Anthracene-d10	1719-06-8	29.6	118
4-Terphenyl-d14	1718-51-0	21.5	126
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

Environmental Division

QUALITY CONTROL REPORT

Work Order	: ES1228708	Page	: 1 of 38
Client	: SINCLAIR KNIGHT MERZ	Laboratory	: Environmental Division Sydney
Contact	: B GAUTHIER	Contact	: Client Services
Address	: 710 HUNTER STREET NEWCASTLE WEST NSW, AUSTRALIA 2302	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: bgauthier@globalskm.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 02 4979 2600	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 4979 2666	Facsimile	: +61-2-8784 8500
Project	: HDC-LEE WHARF	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----	Date Samples Received	: 05-DEC-2012
C-O-C number	: 159757-765	Issue Date	: 18-DEC-2012
Sampler	: GM	No. of samples received	: 90
Order number	: EN03130	No. of samples analysed	: 90
Quote number	: SY/701/12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

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



General Comments

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

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

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

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

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



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Laboratory 825

Accredited for
compliance with
ISO/IEC 17025.

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Evie.Sidarta	Inorganic Chemist	Sydney Inorganics
Nanthini Coilparampil	Laboratory Manager - Inorganics	Sydney Inorganics
Peter Rennie	Team Leader - Asbestos	Newcastle
Phalak Inthaksone	Laboratory Manager - Organics	Sydney Organics
Raymond Commodor	Instrument Chemist	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics



Laboratory Duplicate (DUP) Report

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

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA055: Moisture Content (QC Lot: 2638417)									
ES1228708-003	18A-1.5	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	6.1	6.0	1.9	No Limit
ES1228708-014	14W2-1.0	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	3.1	2.8	11.0	No Limit
EA055: Moisture Content (QC Lot: 2638418)									
ES1228708-023	14A-1.5	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	15.3	16.6	8.4	0% - 50%
ES1228708-037	10D-0.5	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	15.3	13.8	10.2	0% - 50%
EA055: Moisture Content (QC Lot: 2639546)									
ES1228708-043	9W1-1.5	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	18.3	19.9	8.3	0% - 50%
ES1228708-054	18E-0.5	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	6.1	7.1	15.0	No Limit
EA055: Moisture Content (QC Lot: 2639547)									
ES1228708-063	16B-1.0	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	4.5	4.4	0.0	No Limit
ES1228708-074	17D-0.5	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	10.3	9.7	6.1	No Limit
EA055: Moisture Content (QC Lot: 2639548)									
ES1228708-083	13E-0.5	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	20.3	20.0	1.7	0% - 20%
EA055: Moisture Content (QC Lot: 2639994)									
ES1228841-042	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	2.5	1.8	31.4	No Limit
ES1228841-053	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	3.6	4.2	14.7	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 2636847)									
ES1228523-061	Anonymous	EG005T: Manganese	7439-96-5	5	mg/kg	12200	11400	6.9	0% - 20%
ES1228523-071	Anonymous	EG005T: Manganese	7439-96-5	5	mg/kg	78	167	# 72.5	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 2638314)									
ES1228708-001	18A-0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	9	7	28.2	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	12	12	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	6	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	21	22	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	8	7	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	8820	7950	10.3	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	66	60	9.1	0% - 50%
ES1228708-011	14B-1.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	5	7	26.6	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	6	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	75	415	# 139	0% - 20%

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 Work Order : ES1228708
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005T: Total Metals by ICP-AES (QC Lot: 2638314) - continued									
ES1228708-011	14B-1.5	EG005T: Zinc	7440-66-6	5	mg/kg	191	169	12.2	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 2638316)									
ES1228708-021	14A-0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	6	5	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	3	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	12	6	58.8	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	10	49	130	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	310	625	# 67.3	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	27	32	18.3	No Limit
ES1228708-034	9W3-1.0	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	14	12	17.7	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 2639374)									
ES1228806-001	Anonymous	EG005T: Zinc	7440-66-6	5	mg/kg	46	47	2.8	No Limit
ES1228806-006	Anonymous	EG005T: Zinc	7440-66-6	5	mg/kg	516	516	0.0	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 2639916)									
ES1228665-006	Anonymous	EG005T: Zinc	7440-66-6	5	mg/kg	54	34	46.7	No Limit
ES1228839-003	Anonymous	EG005T: Zinc	7440-66-6	5	mg/kg	580	557	4.0	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 2640499)									
ES1228664-057	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	14	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	4	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	9	10	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	244	254	3.9	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	9	10	0.0	No Limit
ES1228708-048	18C-2.0	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
EG005T: Manganese	7439-96-5	5	mg/kg	13	22	50.4	No Limit		

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 Work Order : ES1228708
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005T: Total Metals by ICP-AES (QC Lot: 2640499) - continued									
ES1228708-048	18C-2.0	EG005T: Zinc	7440-66-6	5	mg/kg	<5	6	21.4	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 2640501)									
ES1228708-058	19W2-0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	5	5	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	26	26	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	17	17	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	253	240	5.4	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	18	18	0.0	No Limit
ES1228708-068	16E-1.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	21	45	70.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	5	<5	0.0	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 2642618)									
ES1228708-070	13C-0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	8	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	6	7	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	60	63	3.8	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	68	62	10.1	0% - 50%
ES1228708-080	14W1-1.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	4	3	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	15	<5	98.5	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	416	400	3.8	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	19	21	9.6	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 2642620)									
ES1228708-092	QC7	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	5	7	36.3	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	5	5	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005T: Total Metals by ICP-AES (QC Lot: 2642620) - continued									
ES1228708-092	QC7	EG005T: Copper	7440-50-8	5	mg/kg	29	26	11.9	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	55	55	0.0	0% - 50%
		EG005T: Manganese	7439-96-5	5	mg/kg	1090	804	# 29.9	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	102	97	5.6	0% - 50%
ES1228930-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	18	18	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	8	9	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	15	16	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	29	29	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	158	159	0.8	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	66	68	1.8	0% - 50%
		EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2638315)							
ES1228708-001	18A-0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1228708-011	14B-1.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2638317)									
ES1228708-021	14A-0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1228708-034	9W3-1.0	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2640500)									
ES1228664-057	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1228708-048	18C-2.0	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2640502)									
ES1228708-058	19W2-0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1228708-068	16E-1.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2642619)									
ES1228708-070	13C-0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1228708-080	14W1-1.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2642621)									
ES1228708-092	QC7	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.6	0.6	0.0	No Limit
ES1228930-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2637585)									
ES1228708-001	18A-0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	74.5	79.0	5.9	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	34.6	32.4	6.6	0% - 20%
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	44.1	42.7	3.2	0% - 20%
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	88.7	84.7	4.7	0% - 20%
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	951	1020	6.7	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	181	186	2.8	0% - 20%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	938	948	1.1	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	898	658	# 30.7	0% - 20%



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2637585) - continued											
ES1228708-001	18A-0.5	EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	286	296	3.4	0% - 20%		
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	263	274	4.0	0% - 20%		
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	278	282	1.4	0% - 20%		
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	109	135	# 21.5	0% - 20%		
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	287	299	4.2	0% - 20%		
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	215	224	4.3	0% - 20%		
		EP075(SIM): Dibenzo(a,h)anthracene	53-70-3	0.5	mg/kg	35.6	36.7	2.9	0% - 20%		
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	284	296	4.1	0% - 20%		
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	4970	4890	1.5	0% - 20%		
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	417	435	4.3	0% - 20%		
ES1228708-011	14B-1.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Dibenzo(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2637589)									
		ES1228708-021	14A-0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Acenaphthylene	208-96-8			0.5	mg/kg	1.8	2.0	9.9	No Limit		
EP075(SIM): Acenaphthene	83-32-9			0.5	mg/kg	0.6	0.6	0.0	No Limit		
EP075(SIM): Fluorene	86-73-7			0.5	mg/kg	<0.5	0.5	0.0	No Limit		
EP075(SIM): Phenanthrene	85-01-8			0.5	mg/kg	12.9	13.8	7.3	0% - 20%		
EP075(SIM): Anthracene	120-12-7			0.5	mg/kg	4.6	5.0	8.1	0% - 50%		
EP075(SIM): Fluoranthene	206-44-0			0.5	mg/kg	38.6	42.1	8.6	0% - 20%		
EP075(SIM): Pyrene	129-00-0			0.5	mg/kg	36.9	37.5	1.7	0% - 20%		
EP075(SIM): Benz(a)anthracene	56-55-3			0.5	mg/kg	11.5	12.4	7.6	0% - 20%		



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2637589) - continued									
ES1228708-021	14A-0.5	EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	11.2	12.0	6.5	0% - 20%
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	16.8	17.0	1.3	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	5.6	5.3	5.8	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	12.8	12.9	0.0	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	8.4	8.9	6.2	0% - 50%
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	1.6	1.8	10.3	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	11.2	12.0	7.1	0% - 20%
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	174	184	5.2	0% - 20%
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	18.8	19.3	2.3	0% - 20%
ES1228708-034	9W3-1.0	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	2.1	1.6	23.4	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	1.9	1.5	22.9	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	0.7	0.5	28.4	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	0.6	<0.5	24.8	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	0.8	0.6	23.7	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.6	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	6.7	4.2	45.9	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	0.8	<0.5	40.8	No Limit
		EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2638655)							
ES1228708-044	9W1-2.0	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.6	0.5	19.2	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.1	1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.6	0.5	18.3	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	4.7	4.6	2.9	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	5.1	4.6	9.8	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	2.0	1.7	13.1	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	2.0	2.0	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2638655) - continued									
ES1228708-044	9W1-2.0	EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	3.0	2.8	6.3	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.3	1.0	22.7	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.5	2.0	20.6	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.6	1.3	23.2	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	2.2	1.7	24.7	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	26.7	23.7	11.9	0% - 20%
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	3.3	2.7	20.3	No Limit
ES1228708-054	18E-0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	5.4	5.3	0.0	0% - 50%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	12.4	13.0	5.3	0% - 20%
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<4.0	4.5	12.1	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	76.6	75.3	1.6	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	22.7	23.0	1.2	0% - 20%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	184	187	2.0	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	193	196	1.6	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	51.7	53.0	2.4	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	55.2	56.1	1.6	0% - 20%
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	88.0	86.7	1.4	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	28.7	30.0	4.7	0% - 20%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	75.5	78.9	4.4	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	47.8	48.0	0.5	0% - 20%
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	8.7	9.0	3.4	0% - 50%
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	69.2	72.2	4.2	0% - 20%
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	919	938	2.0	0% - 20%
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	107	111	3.6	0% - 20%
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2638669)									
ES1228708-064	16B-1.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2638669) - continued									
ES1228708-064	16B-1.5	EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1228708-074	17D-0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2639040)							
ES1228806-021	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2639040) - continued											
ES1228806-021	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
ES1228806-024	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2637575)									
		ES1228708-001	18A-0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228708-011	14B-1.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit		
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2637576)											
ES1228708-021	14A-0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit		
ES1228708-034	9W3-1.0	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit		
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2637584)											
ES1228708-001	18A-0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	5490	6700	19.9	0% - 20%		
		EP071: C29 - C36 Fraction	----	100	mg/kg	2500	3000	18.2	0% - 20%		
		EP071: C10 - C14 Fraction	----	50	mg/kg	150	140	7.4	No Limit		
ES1228708-011	14B-1.5	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit		
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit		
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit		
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2637588)											

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 Work Order : ES1228708
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2637588) - continued									
ES1228708-021	14A-0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	240	240	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	210	210	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228708-034	9W3-1.0	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2638396)									
ES1228708-044	9W1-2.0	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228708-054	18E-0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2638403)									
ES1228708-063	16B-1.0	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228708-073	13C-2.0	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2638407)									
ES1228708-083	13E-0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228708-084	13E-1.0	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2638654)									
ES1228708-044	9W1-2.0	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228708-054	18E-0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	1430	1150	21.4	0% - 50%
		EP071: C29 - C36 Fraction	----	100	mg/kg	1360	1140	18.0	0% - 50%
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2638668)									
ES1228708-064	16B-1.5	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228708-074	17D-0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2639039)									
ES1228806-021	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228806-024	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2639589)									
ES1228806-021	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228806-024	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit

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 Work Order : ES1228708
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2637575)									
ES1228708-001	18A-0.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228708-011	14B-1.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2637576)									
ES1228708-021	14A-0.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228708-034	9W3-1.0	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2637584)									
ES1228708-001	18A-0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	6880	8310	18.8	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	1450	1730	17.7	0% - 50%
		EP071: >C10 - C16 Fraction	----	50	mg/kg	350	360	3.7	No Limit
ES1228708-011	14B-1.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2637588)									
ES1228708-021	14A-0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	360	350	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	190	170	12.4	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228708-034	9W3-1.0	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2638396)									
ES1228708-044	9W1-2.0	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228708-054	18E-0.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2638403)									
ES1228708-063	16B-1.0	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228708-073	13C-2.0	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2638407)									
ES1228708-083	13E-0.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228708-084	13E-1.0	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2638654)									
ES1228708-044	9W1-2.0	EP071: >C16 - C34 Fraction	----	100	mg/kg	160	120	23.2	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228708-054	18E-0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	2250	1790	# 22.8	0% - 50%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	840	740	12.3	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	70	70	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2638668)									
ES1228708-064	16B-1.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2638668) - continued									
ES1228708-074	17D-0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2639039)									
ES1228806-021	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228806-024	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2639589)									
ES1228806-021	Anonymous	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228806-024	Anonymous	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 2637575)									
ES1228708-001	18A-0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1228708-011	14B-1.5	EP080: Naphthalene	91-20-3	1	mg/kg	3	5	38.3	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 2637576)									
ES1228708-021	14A-0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1228708-034	9W3-1.0	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080: BTEXN (QC Lot: 2637576) - continued									
ES1228708-034	9W3-1.0	EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 2638396)									
ES1228708-044	9W1-2.0	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1228708-054	18E-0.5	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
ES1228708-054		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	8	8	0.0	No Limit
EP080: BTEXN (QC Lot: 2638403)									
ES1228708-063	16B-1.0	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1228708-073	13C-2.0	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
ES1228708-073		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 2638407)									
ES1228708-083	13E-0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080: BTEXN (QC Lot: 2638407) - continued									
ES1228708-083	13E-0.5	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
ES1228708-084	13E-1.0	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EP080: BTEXN (QC Lot: 2639589)									
ES1228806-021	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
ES1228806-024	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 2638641)									
EN1204644-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	8.99	9.28	3.1	0% - 20%
		EG020A-F: Lead	7439-92-1	0.001	mg/L	0.006	0.006	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.005	0.005	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.028	0.030	5.7	No Limit
ES1228744-003	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.001	<0.001	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit

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 Work Order : ES1228708
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 2638641) - continued									
ES1228744-003	Anonymous	EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.008	0.007	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 2638642)									
ES1228677-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2638597)									
ES1228740-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1228800-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2638597)									
ES1228740-001	Anonymous	EP080: C6 - C10 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1228800-001	Anonymous	EP080: C6 - C10 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 2638597)									
ES1228740-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	<2	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
ES1228800-001	Anonymous	EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
		EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	<2	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit		



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

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			LCS	Low
EG005T: Total Metals by ICP-AES (QCLot: 2638314)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	104	84	128
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	102	79	119
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	95.5	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	104	83	127
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	95.9	81	117
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	96.6	83	121
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	105	79	127
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	102	78	130
EG005T: Total Metals by ICP-AES (QCLot: 2638316)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	98.0	84	128
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	97.2	79	119
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	93.8	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	101	83	127
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	90.5	81	117
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	93.7	83	121
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	102	79	127
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	99.8	78	130
EG005T: Total Metals by ICP-AES (QCLot: 2640499)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	106	84	128
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	101	79	119
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	100	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	105	83	127
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	99.8	81	117
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	98.4	83	121
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	106	79	127
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	103	78	130
EG005T: Total Metals by ICP-AES (QCLot: 2640501)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	107	84	128
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	102	79	119
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	98.5	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	103	83	127
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	98.6	81	117
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	102	83	121
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	107	79	127



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
Method: Compound	CAS Number	LOR	Unit		Result	Spike	Spike Recovery (%)	Recovery Limits (%)	
						Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 2640501) - continued									
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	107	78	130	
EG005T: Total Metals by ICP-AES (QCLot: 2642618)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	97.3	84	128	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	92.9	79	119	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	89.8	70	130	
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	94.2	83	127	
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	93.1	81	117	
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	94.1	83	121	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	97.4	79	127	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	94.4	78	130	
EG005T: Total Metals by ICP-AES (QCLot: 2642620)									
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	99.3	84	128	
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	94.8	79	119	
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	89.1	70	130	
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	98.5	83	127	
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	91.1	81	117	
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	97.9	83	121	
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	97.4	79	127	
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	94.4	78	130	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2638315)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	84.8	72	114	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2638317)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	92.6	72	114	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2640500)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	89.2	72	114	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2640502)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	92.2	72	114	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2642619)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	94.0	72	114	
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2642621)									
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	79.8	72	114	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2637585)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	109	81.9	113	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	106	79.6	113	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	103	81.5	112	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	110	79.9	112	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	109	79.4	114	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	110	81.1	112	



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit		Spike	Spike Recovery (%)	Recovery Limits (%)	
					Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2637585) - continued								
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	110	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	110	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	110	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	108	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	108	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	112	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	109	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	104	71	113
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	104	71.7	113
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	105	72.4	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2637589)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	96.8	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	95.7	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	105	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	101	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	101	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	104	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	104	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	101	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	87.5	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	95.5	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	98.2	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	91.7	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	90.8	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	85.9	71	113
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	95.9	71.7	113
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	84.1	72.4	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638655)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	93.9	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	98.5	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	106	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	99.4	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	99.0	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	105	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	102	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	105	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	86.5	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	95.5	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	98.1	71.8	118



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638655) - continued								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	97.1	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	92.1	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	85.3	71	113
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	90.7	71.7	113
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	87.6	72.4	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638669)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	95.6	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	95.1	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	95.0	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	97.4	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	101	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	99.8	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	103	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	104	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	89.1	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	94.8	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	89.4	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	93.6	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	89.6	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	86.2	71	113
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	91.3	71.7	113
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	82.7	72.4	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2639040)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	85.2	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	90.3	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	89.3	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	88.2	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	92.4	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	94.5	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	103	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	104	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	86.4	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	88.7	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	79.8	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	80.6	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	85.3	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	81.5	71	113
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	80.1	71.7	113
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	77.0	72.4	114



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2637575)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	102	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2637576)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	99.5	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2637584)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	105	59	131
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	107	74	138
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	100	63	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2637588)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	110	59	131
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	98.3	74	138
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	101	63	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638396)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	87.7	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638403)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	126	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638407)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	90.2	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638654)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	72.7	59	131
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	250 mg/kg	131	74	138
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	104	63	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638668)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	103	59	131
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	101	74	138
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	95.3	63	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2639039)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	107	59	131
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	115	74	138
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	98.0	63	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2639589)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	102	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2637575)								
EP080: C6 - C10 Fraction	----	10	mg/kg	<10	31 mg/kg	101	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2637576)								
EP080: C6 - C10 Fraction	----	10	mg/kg	<10	31 mg/kg	97.1	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2637584)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	106	59	131



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit		Result	Spike	Spike Recovery (%)	Recovery Limits (%)
				Concentration		LCS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2637584) - continued								
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	104	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
		50	mg/kg	----	150 mg/kg	102	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2637588)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	111	59	131
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	95.8	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
		50	mg/kg	----	150 mg/kg	105	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638396)								
EP080: C6 - C10 Fraction	----	10	mg/kg	<10	31 mg/kg	84.6	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638403)								
EP080: C6 - C10 Fraction	----	10	mg/kg	<10	31 mg/kg	124	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638407)								
EP080: C6 - C10 Fraction	----	10	mg/kg	<10	31 mg/kg	87.1	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638654)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	102	59	131
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	111	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
		50	mg/kg	----	150 mg/kg	99.2	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638668)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	103	59	131
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	98.4	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
		50	mg/kg	----	150 mg/kg	93.8	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2639039)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	98.4	59	131
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	115	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
		50	mg/kg	----	150 mg/kg	92.0	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2639589)								
EP080: C6 - C10 Fraction	----	10	mg/kg	<10	31 mg/kg	105	68.4	128
EP080: BTEXN (QCLot: 2637575)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	95.0	62	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	94.9	62	128
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	95.3	58	118
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	95.9	60	120
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	100	60	120



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP080: BTEXN (QCLot: 2637575) - continued								
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	73.2	62	138
EP080: BTEXN (QCLot: 2637576)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	95.4	62	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	97.9	62	128
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	99.1	58	118
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	99.5	60	120
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	104	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	73.4	62	138
EP080: BTEXN (QCLot: 2638396)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	87.8	62	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	88.7	62	128
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	88.5	58	118
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	88.3	60	120
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	97.9	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	77.0	62	138
EP080: BTEXN (QCLot: 2638403)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	104	62	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	106	62	128
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	99.1	58	118
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	98.7	60	120
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	95.6	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	84.8	62	138
EP080: BTEXN (QCLot: 2638407)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	86.7	62	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	86.9	62	128
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	86.8	58	118
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	86.8	60	120
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	92.5	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	72.2	62	138
EP080: BTEXN (QCLot: 2639589)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	106	62	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	101	62	128
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	102	58	118
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	95.1	60	120
	106-42-3							



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit		Spike	Spike Recovery (%)	Recovery Limits (%)	
				Concentration	LCS	Low	High	
EP080: BTEXN (QCLot: 2639589) - continued								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	99.8	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	89.4	62	138

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit		Result	Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High
				EG020F: Dissolved Metals by ICP-MS (QCLot: 2638641)				
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	99.7	80	118
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	97.1	82	114
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	98.2	80	114
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	91.2	79	115
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	97.7	81	113
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	99.7	80	114
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	102	80	116
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	95.9	75	121
EG035F: Dissolved Mercury by FIMS (QCLot: 2638642)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	93.0	72	120
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2641451)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	5 µg/L	66.6	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	5 µg/L	74.1	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	5 µg/L	74.4	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	5 µg/L	81.0	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	5 µg/L	83.8	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	5 µg/L	83.5	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	5 µg/L	98.6	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	5 µg/L	89.5	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	5 µg/L	67.2	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	5 µg/L	85.1	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	5 µg/L	65.6	61.7	119
		1	µg/L	<1.0	----	----	----	----



Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
<i>Method: Compound</i>	<i>CAS Number</i>	<i>LOR</i>	<i>Unit</i>	<i>Result</i>				
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2641451) - continued								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	5 µg/L	84.6	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	5 µg/L	68.6	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	5 µg/L	67.9	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.2	µg/L	----	5 µg/L	65.3	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.2	µg/L	----	5 µg/L	65.5	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	1	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638597)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	88.8	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2641450)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	104	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	92.8	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	93.8	62.7	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638597)								
EP080: C6 - C10 Fraction	----	20	µg/L	<20	310 µg/L	96.9	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2641450)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	2500 µg/L	81.7	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	81.7	73.9	138
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
		50	µg/L	----	1500 µg/L	91.2	62.7	131
EP080: BTEXN (QCLot: 2638597)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	98.7	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	75.7	66	132
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	72.4	70	120
EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	10 µg/L	70.5	69	121
	106-42-3							
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	76.2	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	73.1	70	124

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Matrix Spike (MS) Report		
Spike	SpikeRecovery(%)	Recovery Limits (%)

Page : 27 of 38
 Work Order : ES1228708
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 2638314)							
ES1228708-001	18A-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	98.0	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	86.1	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	90.3	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	106	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	84.5	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.8	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	90.7	70	130
EG005T: Total Metals by ICP-AES (QCLot: 2638316)							
ES1228708-021	14A-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	99.2	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	92.5	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	98.6	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	96.2	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	90.4	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	94.4	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	91.2	70	130
EG005T: Total Metals by ICP-AES (QCLot: 2640499)							
ES1228664-057	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	98.2	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	97.6	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	93.9	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	101	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	99.2	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	100	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	101	70	130
EG005T: Total Metals by ICP-AES (QCLot: 2640501)							
ES1228708-058	19W2-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	120	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	110	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	113	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	114	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	112	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	115	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	114	70	130
EG005T: Total Metals by ICP-AES (QCLot: 2642618)							
ES1228708-070	13C-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	97.6	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	91.6	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	95.7	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	97.7	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	93.4	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.4	70	130

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 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 2642618) - continued							
ES1228708-070	13C-0.5	EG005T: Zinc	7440-66-6	250 mg/kg	93.3	70	130
EG005T: Total Metals by ICP-AES (QCLot: 2642620)							
ES1228708-092	QC7	EG005T: Arsenic	7440-38-2	50 mg/kg	98.8	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	91.2	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	98.6	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	98.8	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	96.9	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	94.2	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	88.1	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2638315)							
ES1228708-001	18A-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	94.5	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2638317)							
ES1228708-021	14A-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	110	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2640500)							
ES1228664-057	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	101	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2640502)							
ES1228708-058	19W2-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	105	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2642619)							
ES1228708-070	13C-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	102	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2642621)							
ES1228708-092	QC7	EG035T: Mercury	7439-97-6	5 mg/kg	117	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2637585)							
ES1228708-001	18A-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	# Not Determined	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	# Not Determined	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2637589)							
ES1228708-021	14A-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	103	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	106	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638655)							
ES1228708-044	9W1-2.0	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	102	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	90.2	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638669)							
ES1228708-064	16B-1.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	93.2	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	102	70	130

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLOT: 2639040)							
ES1228806-021	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	93.1	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	90.0	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLOT: 2637575)							
ES1228708-001	18A-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	128	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLOT: 2637576)							
ES1228708-021	14A-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	83.4	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLOT: 2637584)							
ES1228708-001	18A-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	81.9	73	137
		EP071: C15 - C28 Fraction	----	3140 mg/kg	128	53	131
		EP071: C29 - C36 Fraction	----	2860 mg/kg	90.1	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLOT: 2637588)							
ES1228708-021	14A-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	103	73	137
		EP071: C15 - C28 Fraction	----	3140 mg/kg	118	53	131
		EP071: C29 - C36 Fraction	----	2860 mg/kg	89.2	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLOT: 2638396)							
ES1228708-044	9W1-2.0	EP080: C6 - C9 Fraction	----	32.5 mg/kg	81.7	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLOT: 2638403)							
ES1228708-063	16B-1.0	EP080: C6 - C9 Fraction	----	32.5 mg/kg	103	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLOT: 2638407)							
ES1228708-083	13E-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	71.8	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLOT: 2638654)							
ES1228708-044	9W1-2.0	EP071: C10 - C14 Fraction	----	640 mg/kg	99.3	73	137
		EP071: C15 - C28 Fraction	----	3140 mg/kg	109	53	131
		EP071: C29 - C36 Fraction	----	2860 mg/kg	85.2	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLOT: 2638668)							
ES1228708-064	16B-1.5	EP071: C10 - C14 Fraction	----	640 mg/kg	85.7	73	137
		EP071: C15 - C28 Fraction	----	3140 mg/kg	97.1	53	131
		EP071: C29 - C36 Fraction	----	2860 mg/kg	78.2	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLOT: 2639039)							
ES1228806-021	Anonymous	EP071: C10 - C14 Fraction	----	640 mg/kg	97.2	73	137
		EP071: C15 - C28 Fraction	----	3140 mg/kg	111	53	131
		EP071: C29 - C36 Fraction	----	2860 mg/kg	86.4	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLOT: 2639589)							
ES1228806-021	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	84.6	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLOT: 2637575)							

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 Project : HDC-LEE WHARF



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2637575) - continued							
ES1228708-001	18A-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	114	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2637576)							
ES1228708-021	14A-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	81.3	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2637584)							
ES1228708-001	18A-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	112	73	137
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	114	53	131
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	56.7	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2637588)							
ES1228708-021	14A-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	131	73	137
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	105	53	131
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	57.0	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638396)							
ES1228708-044	9W1-2.0	EP080: C6 - C10 Fraction	----	37.5 mg/kg	79.4	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638403)							
ES1228708-063	16B-1.0	EP080: C6 - C10 Fraction	----	37.5 mg/kg	104	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638407)							
ES1228708-083	13E-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	70.4	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638654)							
ES1228708-044	9W1-2.0	EP071: >C10 - C16 Fraction	----	850 mg/kg	125	73	137
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	98.6	53	131
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	53.9	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638668)							
ES1228708-064	16B-1.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	102	73	137
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	91.0	53	131
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	60.7	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2639039)							
ES1228806-021	Anonymous	EP071: >C10 - C16 Fraction	----	850 mg/kg	123	73	137
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	100	53	131
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	56.0	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2639589)							
ES1228806-021	Anonymous	EP080: C6 - C10 Fraction	----	37.5 mg/kg	87.5	70	130
EP080: BTEXN (QCLot: 2637575)							
ES1228708-001	18A-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	71.0	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	76.2	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	73.8	70	130



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 2637575) - continued							
ES1228708-001	18A-0.5	EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	71.5	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	79.7	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	105	70	130
EP080: BTEXN (QCLot: 2637576)							
ES1228708-021	14A-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	73.4	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	83.8	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	87.6	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	86.8	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	92.8	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	71.4	70	130
EP080: BTEXN (QCLot: 2638396)							
ES1228708-044	9W1-2.0	EP080: Benzene	71-43-2	2.5 mg/kg	74.7	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	78.0	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	77.8	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	78.2	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	84.4	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	71.1	70	130
EP080: BTEXN (QCLot: 2638403)							
ES1228708-063	16B-1.0	EP080: Benzene	71-43-2	2.5 mg/kg	86.5	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	84.5	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	83.7	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	81.5	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	77.5	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	74.3	70	130
EP080: BTEXN (QCLot: 2638407)							
ES1228708-083	13E-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	71.9	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	74.1	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	74.2	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	72.7	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	80.1	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	73.0	70	130
EP080: BTEXN (QCLot: 2639589)							
ES1228806-021	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	87.2	70	130



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 2639589) - continued							
ES1228806-021	Anonymous	EP080: Toluene	108-88-3	2.5 mg/kg	88.4	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	86.2	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	84.2	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	89.0	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	90.0	70	130
Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 2638641)							
EN1204644-001	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	99.4	70	130
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	99.8	70	130
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	96.3	70	130
		EG020A-F: Copper	7440-50-8	0.2 mg/L	# Not Determined	70	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	101	70	130
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	102	70	130
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	104	70	130
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	100	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 2638642)							
ES1228708-095	QCD	EG035F: Mercury	7439-97-6	0.0100 mg/L	71.6	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638597)							
ES1228740-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	106	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638597)							
ES1228740-001	Anonymous	EP080: C6 - C10 Fraction	----	375 µg/L	106	70	130
EP080: BTEXN (QCLot: 2638597)							
ES1228740-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	82.1	70	130
		EP080: Toluene	108-88-3	25 µg/L	82.2	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	77.0	70	130
		EP080: meta- & para-Xylene	108-38-3	25 µg/L	80.8	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	25 µg/L	80.7	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	74.0	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

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

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 Work Order : ES1228708
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
				Concentration	MS	MSD	Low	High	Value	Control Limit
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2637575)										
ES1228708-001	18A-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	128	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2637575)										
ES1228708-001	18A-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	114	----	70	130	----	----
EP080: BTEXN (QCLot: 2637575)										
ES1228708-001	18A-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	71.0	----	70	130	----	----
		EP080: Toluene	108-88-3	2.5 mg/kg	76.2	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	73.8	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	71.5	----	70	130	----	----
			106-42-3							
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	79.7	----	70	130	----	----
		EP080: Naphthalene	91-20-3	2.5 mg/kg	105	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2637576)										
ES1228708-021	14A-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	83.4	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2637576)										
ES1228708-021	14A-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	81.3	----	70	130	----	----
EP080: BTEXN (QCLot: 2637576)										
ES1228708-021	14A-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	73.4	----	70	130	----	----
		EP080: Toluene	108-88-3	2.5 mg/kg	83.8	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	87.6	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	86.8	----	70	130	----	----
			106-42-3							
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	92.8	----	70	130	----	----
		EP080: Naphthalene	91-20-3	2.5 mg/kg	71.4	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2637584)										
ES1228708-001	18A-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	81.9	----	73	137	----	----
		EP071: C15 - C28 Fraction	----	3140 mg/kg	128	----	53	131	----	----
		EP071: C29 - C36 Fraction	----	2860 mg/kg	90.1	----	52	132	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2637584)										
ES1228708-001	18A-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	112	----	73	137	----	----
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	114	----	53	131	----	----
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	56.7	----	52	132	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2637585)										
ES1228708-001	18A-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	# Not Determined	----	70	130	----	----
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	# Not Determined	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2637588)										
ES1228708-021	14A-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	103	----	73	137	----	----

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 Work Order : ES1228708
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					MS	MSD	Low	High	Value	Control Limit
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number							
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2637588) - continued										
ES1228708-021	14A-0.5	EP071: C15 - C28 Fraction	----	3140 mg/kg	118	----	53	131	----	----
		EP071: C29 - C36 Fraction	----	2860 mg/kg	89.2	----	52	132	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2637588)										
ES1228708-021	14A-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	131	----	73	137	----	----
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	105	----	53	131	----	----
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	57.0	----	52	132	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2637589)										
ES1228708-021	14A-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	103	----	70	130	----	----
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	106	----	70	130	----	----
EG005T: Total Metals by ICP-AES (QCLot: 2638314)										
ES1228708-001	18A-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	98.0	----	70	130	----	----
		EG005T: Cadmium	7440-43-9	50 mg/kg	86.1	----	70	130	----	----
		EG005T: Chromium	7440-47-3	50 mg/kg	90.3	----	70	130	----	----
		EG005T: Copper	7440-50-8	250 mg/kg	106	----	70	130	----	----
		EG005T: Lead	7439-92-1	250 mg/kg	84.5	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	95.8	----	70	130	----	----
		EG005T: Zinc	7440-66-6	250 mg/kg	90.7	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2638315)										
ES1228708-001	18A-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	94.5	----	70	130	----	----
EG005T: Total Metals by ICP-AES (QCLot: 2638316)										
ES1228708-021	14A-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	99.2	----	70	130	----	----
		EG005T: Cadmium	7440-43-9	50 mg/kg	92.5	----	70	130	----	----
		EG005T: Chromium	7440-47-3	50 mg/kg	98.6	----	70	130	----	----
		EG005T: Copper	7440-50-8	250 mg/kg	96.2	----	70	130	----	----
		EG005T: Lead	7439-92-1	250 mg/kg	90.4	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	94.4	----	70	130	----	----
		EG005T: Zinc	7440-66-6	250 mg/kg	91.2	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2638317)										
ES1228708-021	14A-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	110	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638396)										
ES1228708-044	9W1-2.0	EP080: C6 - C9 Fraction	----	32.5 mg/kg	81.7	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638396)										
ES1228708-044	9W1-2.0	EP080: C6 - C10 Fraction	----	37.5 mg/kg	79.4	----	70	130	----	----
EP080: BTEXN (QCLot: 2638396)										
ES1228708-044	9W1-2.0	EP080: Benzene	71-43-2	2.5 mg/kg	74.7	----	70	130	----	----
		EP080: Toluene	108-88-3	2.5 mg/kg	78.0	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	77.8	----	70	130	----	----



Sub-Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number		MS	MSD	Low	High	Value	Control Limit
EP080: BTEXN (QCLot: 2638396) - continued										
ES1228708-044	9W1-2.0	EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	78.2	----	70	130	----	----
			106-42-3							
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	84.4	----	70	130	----	----
		EP080: Naphthalene	91-20-3	2.5 mg/kg	71.1	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638403)										
ES1228708-063	16B-1.0	EP080: C6 - C9 Fraction	----	32.5 mg/kg	103	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638403)										
ES1228708-063	16B-1.0	EP080: C6 - C10 Fraction	----	37.5 mg/kg	104	----	70	130	----	----
EP080: BTEXN (QCLot: 2638403)										
ES1228708-063	16B-1.0	EP080: Benzene	71-43-2	2.5 mg/kg	86.5	----	70	130	----	----
		EP080: Toluene	108-88-3	2.5 mg/kg	84.5	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	83.7	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	81.5	----	70	130	----	----
			106-42-3							
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	77.5	----	70	130	----	----
		EP080: Naphthalene	91-20-3	2.5 mg/kg	74.3	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638407)										
ES1228708-083	13E-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	71.8	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638407)										
ES1228708-083	13E-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	70.4	----	70	130	----	----
EP080: BTEXN (QCLot: 2638407)										
ES1228708-083	13E-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	71.9	----	70	130	----	----
		EP080: Toluene	108-88-3	2.5 mg/kg	74.1	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	74.2	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	72.7	----	70	130	----	----
			106-42-3							
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	80.1	----	70	130	----	----
		EP080: Naphthalene	91-20-3	2.5 mg/kg	73.0	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638654)										
ES1228708-044	9W1-2.0	EP071: C10 - C14 Fraction	----	640 mg/kg	99.3	----	73	137	----	----
		EP071: C15 - C28 Fraction	----	3140 mg/kg	109	----	53	131	----	----
		EP071: C29 - C36 Fraction	----	2860 mg/kg	85.2	----	52	132	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638654)										
ES1228708-044	9W1-2.0	EP071: >C10 - C16 Fraction	----	850 mg/kg	125	----	73	137	----	----
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	98.6	----	53	131	----	----
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	53.9	----	52	132	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638655)										
ES1228708-044	9W1-2.0	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	102	----	70	130	----	----

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 Work Order : ES1228708
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638655) - continued										
ES1228708-044	9W1-2.0	EP075(SIM): Pyrene	129-00-0	10 mg/kg	90.2	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638668)										
ES1228708-064	16B-1.5	EP071: C10 - C14 Fraction	----	640 mg/kg	85.7	----	73	137	----	----
		EP071: C15 - C28 Fraction	----	3140 mg/kg	97.1	----	53	131	----	----
		EP071: C29 - C36 Fraction	----	2860 mg/kg	78.2	----	52	132	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638668)										
ES1228708-064	16B-1.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	102	----	73	137	----	----
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	91.0	----	53	131	----	----
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	60.7	----	52	132	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638669)										
ES1228708-064	16B-1.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	93.2	----	70	130	----	----
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	102	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2639039)										
ES1228806-021	Anonymous	EP071: C10 - C14 Fraction	----	640 mg/kg	97.2	----	73	137	----	----
		EP071: C15 - C28 Fraction	----	3140 mg/kg	111	----	53	131	----	----
		EP071: C29 - C36 Fraction	----	2860 mg/kg	86.4	----	52	132	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2639039)										
ES1228806-021	Anonymous	EP071: >C10 - C16 Fraction	----	850 mg/kg	123	----	73	137	----	----
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	100	----	53	131	----	----
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	56.0	----	52	132	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2639040)										
ES1228806-021	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	93.1	----	70	130	----	----
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	90.0	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2639589)										
ES1228806-021	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	84.6	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2639589)										
ES1228806-021	Anonymous	EP080: C6 - C10 Fraction	----	37.5 mg/kg	87.5	----	70	130	----	----
EP080: BTEXN (QCLot: 2639589)										
ES1228806-021	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	87.2	----	70	130	----	----
		EP080: Toluene	108-88-3	2.5 mg/kg	88.4	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	86.2	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	84.2	----	70	130	----	----
			106-42-3							
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	89.0	----	70	130	----	----
		EP080: Naphthalene	91-20-3	2.5 mg/kg	90.0	----	70	130	----	----
EG005T: Total Metals by ICP-AES (QCLot: 2640499)										
ES1228664-057	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	98.2	----	70	130	----	----



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					MS	MSD	Low	High	Value	Control Limit
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number							
EG005T: Total Metals by ICP-AES (QCLot: 2640499) - continued										
ES1228664-057	Anonymous	EG005T: Cadmium	7440-43-9	50 mg/kg	97.6	----	70	130	----	----
		EG005T: Chromium	7440-47-3	50 mg/kg	93.9	----	70	130	----	----
		EG005T: Copper	7440-50-8	250 mg/kg	101	----	70	130	----	----
		EG005T: Lead	7439-92-1	250 mg/kg	99.2	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	100	----	70	130	----	----
		EG005T: Zinc	7440-66-6	250 mg/kg	101	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2640500)										
ES1228664-057	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	101	----	70	130	----	----
EG005T: Total Metals by ICP-AES (QCLot: 2640501)										
ES1228708-058	19W2-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	120	----	70	130	----	----
		EG005T: Cadmium	7440-43-9	50 mg/kg	110	----	70	130	----	----
		EG005T: Chromium	7440-47-3	50 mg/kg	113	----	70	130	----	----
		EG005T: Copper	7440-50-8	250 mg/kg	114	----	70	130	----	----
		EG005T: Lead	7439-92-1	250 mg/kg	112	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	115	----	70	130	----	----
		EG005T: Zinc	7440-66-6	250 mg/kg	114	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2640502)										
ES1228708-058	19W2-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	105	----	70	130	----	----
EG005T: Total Metals by ICP-AES (QCLot: 2642618)										
ES1228708-070	13C-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	97.6	----	70	130	----	----
		EG005T: Cadmium	7440-43-9	50 mg/kg	91.6	----	70	130	----	----
		EG005T: Chromium	7440-47-3	50 mg/kg	95.7	----	70	130	----	----
		EG005T: Copper	7440-50-8	250 mg/kg	97.7	----	70	130	----	----
		EG005T: Lead	7439-92-1	250 mg/kg	93.4	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	95.4	----	70	130	----	----
		EG005T: Zinc	7440-66-6	250 mg/kg	93.3	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2642619)										
ES1228708-070	13C-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	102	----	70	130	----	----
EG005T: Total Metals by ICP-AES (QCLot: 2642620)										
ES1228708-092	QC7	EG005T: Arsenic	7440-38-2	50 mg/kg	98.8	----	70	130	----	----
		EG005T: Cadmium	7440-43-9	50 mg/kg	91.2	----	70	130	----	----
		EG005T: Chromium	7440-47-3	50 mg/kg	98.6	----	70	130	----	----
		EG005T: Copper	7440-50-8	250 mg/kg	98.8	----	70	130	----	----
		EG005T: Lead	7439-92-1	250 mg/kg	96.9	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	94.2	----	70	130	----	----
		EG005T: Zinc	7440-66-6	250 mg/kg	88.1	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2642621)										
ES1228708-092	QC7	EG035T: Mercury	7439-97-6	5 mg/kg	117	----	70	130	----	----

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 Work Order : ES1228708
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: **WATER**

Sub-Matrix: WATER				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					MS	MSD	Low	High	Value	Control Limit
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number							
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638597)										
ES1228740-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	106	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638597)										
ES1228740-001	Anonymous	EP080: C6 - C10 Fraction	----	375 µg/L	106	----	70	130	----	----
EP080: BTEXN (QCLot: 2638597)										
ES1228740-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	82.1	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	82.2	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	77.0	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3	25 µg/L	80.8	----	70	130	----	----
			106-42-3							
		EP080: ortho-Xylene	95-47-6	25 µg/L	80.7	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	74.0	----	70	130	----	----
EG020F: Dissolved Metals by ICP-MS (QCLot: 2638641)										
EN1204644-001	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	99.4	----	70	130	----	----
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	99.8	----	70	130	----	----
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	96.3	----	70	130	----	----
		EG020A-F: Copper	7440-50-8	0.2 mg/L	# Not Determined	----	70	130	----	----
		EG020A-F: Lead	7439-92-1	0.2 mg/L	101	----	70	130	----	----
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	102	----	70	130	----	----
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	104	----	70	130	----	----
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	100	----	70	130	----	----
EG035F: Dissolved Mercury by FIMS (QCLot: 2638642)										
ES1228708-095	QCD	EG035F: Mercury	7439-97-6	0.0100 mg/L	71.6	----	70	130	----	----

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: ES1228708	Page	: 1 of 25
Client	: SINCLAIR KNIGHT MERZ	Laboratory	: Environmental Division Sydney
Contact	: B GAUTHIER	Contact	: Client Services
Address	: 710 HUNTER STREET NEWCASTLE WEST NSW, AUSTRALIA 2302	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: bgauthier@globalskm.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 02 4979 2600	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 4979 2666	Facsimile	: +61-2-8784 8500
Project	: HDC-LEE WHARF	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----	Date Samples Received	: 05-DEC-2012
C-O-C number	: 159757-765	Issue Date	: 18-DEC-2012
Sampler	: GM	No. of samples received	: 90
Order number	: EN03130	No. of samples analysed	: 90
Quote number	: SY/701/12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL** Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content - Continued								
18A-0.5, 18A-1.5, 18D-0.5, 18D-1.5, 14B-0.5, 14B-1.5, 14W2-0.5, 14W2-1.5, 14C-0.5, 14C-1.5, 14A-0.5, 14A-1.5, 10A-0.5, 14D-1.0, 14D-2.0, 9W3-1.0, 9W3-2.0, 10D-1.0, 10D-2.0, 9W1-1.0, 9W1-2.0, 18C-1.0, 18C-2.0, 19W1-1.0, 19W1-2.0, 18E-0.5, 18E-1.5, QC8, 19W2-0.5, 19W2-1.5, 16B-0.5, 16B-1.5, 16E-0.5, 16E-1.5, 13C-0.5, 13C-1.5, 17D-0.5, 17D-1.5, 14W1-0.5, 14W1-1.5, 18W1-0.5, 13E-1.0,	18A-1.0, 18A-2.0, 18D-1.0, 18D-2.0, 14B-1.0, 14B-2.0, 14W2-1.0, 14W2-2.0, 14C-1.0, 14C-2.0, 14A-1.0, 14A-2.0, 14D-0.5, QC7, 14D-1.5, 9W3-0.5, 9W3-1.5, 10D-0.5, 10D-1.5, 9W1-0.5, 9W1-1.5, 18C-0.5, 18C-1.5, 19W1-0.5, 19W1-1.5, 18B-0.5, 18E-1.0, 18E-2.0, 19W2-1.0, 19W2-2.0, 16B-1.0, 16B-2.0, 16E-1.0, 16E-2.0, 13C-1.0, 13C-2.0, 17D-1.0, 17D-2.0, 14W1-1.0, 14W1-2.0, 13E-0.5, 17A-0.5,	05-DEC-2012	----	----	----	10-DEC-2012	19-DEC-2012	✓



Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content - Continued							
17A-1.0, 17A-2.0, QC9	17A-1.5, 9W2-0.5,						
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples							
Snap Lock Bag (EA200)							
14A-0.5, 18C-0.5	10D-0.5,	05-DEC-2012	---	03-JUN-2013	----	14-DEC-2012	12-JUN-2013 ✔



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)		05-DEC-2012	10-DEC-2012	03-JUN-2013	✓	10-DEC-2012	03-JUN-2013	✓
18A-0.5,	18A-1.0,							
18A-1.5,	18A-2.0,							
18D-0.5,	18D-1.0,							
18D-1.5,	18D-2.0,							
14B-0.5,	14B-1.0,							
14B-1.5,	14B-2.0,							
14W2-0.5,	14W2-1.0,							
14W2-1.5,	14W2-2.0,							
14C-0.5,	14C-1.0,							
14C-1.5,	14C-2.0,							
14A-0.5,	14A-1.0,							
14A-1.5,	14A-2.0,							
10A-0.5,	14D-0.5,							
14D-1.0,	14D-1.5,							
14D-2.0,	9W3-0.5,							
9W3-1.0,	9W3-1.5,							
9W3-2.0,	10D-0.5,							
10D-1.0,	10D-1.5,							
10D-2.0,	9W1-0.5,							
9W1-1.0,	9W1-1.5							
Soil Glass Jar - Unpreserved (EG005T)		05-DEC-2012	11-DEC-2012	03-JUN-2013	✓	11-DEC-2012	03-JUN-2013	✓
9W1-2.0,	18C-0.5,							
18C-1.0,	18C-1.5,							
18C-2.0,	19W1-0.5,							
19W1-1.0,	19W1-1.5,							
19W1-2.0,	18B-0.5,							
18E-0.5,	18E-1.0,							
18E-1.5,	18E-2.0,							
19W2-0.5,	19W2-1.0,							
19W2-1.5,	19W2-2.0,							
16B-0.5,	16B-1.0,							
16B-1.5,	16B-2.0,							
16E-0.5,	16E-1.0,							
16E-1.5,	16E-2.0							
Soil Glass Jar - Unpreserved (EG005T)								

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005T: Total Metals by ICP-AES - Continued								
13C-0.5,	13C-1.0,	05-DEC-2012	12-DEC-2012	03-JUN-2013	✓	12-DEC-2012	03-JUN-2013	✓
13C-1.5,	13C-2.0,							
17D-0.5,	17D-1.0,							
17D-1.5,	17D-2.0,							
14W1-0.5,	14W1-1.0,							
14W1-1.5,	14W1-2.0,							
18W1-0.5,	13E-0.5,							
13E-1.0,	17A-0.5,							
17A-1.0,	17A-1.5,							
17A-2.0,	9W2-0.5,							
QC7,	QC8,							
QC9								



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)		05-DEC-2012	10-DEC-2012	02-JAN-2013	✓	10-DEC-2012	02-JAN-2013	✓
18A-0.5,	18A-1.0,							
18A-1.5,	18A-2.0,							
18D-0.5,	18D-1.0,							
18D-1.5,	18D-2.0,							
14B-0.5,	14B-1.0,							
14B-1.5,	14B-2.0,							
14W2-0.5,	14W2-1.0,							
14W2-1.5,	14W2-2.0,							
14C-0.5,	14C-1.0,							
14C-1.5,	14C-2.0,							
14A-0.5,	14A-1.0,							
14A-1.5,	14A-2.0,							
10A-0.5,	14D-0.5,							
14D-1.0,	14D-1.5,							
14D-2.0,	9W3-0.5,							
9W3-1.0,	9W3-1.5,							
9W3-2.0,	10D-0.5,							
10D-1.0,	10D-1.5,							
10D-2.0,	9W1-0.5,							
9W1-1.0,	9W1-1.5							
Soil Glass Jar - Unpreserved (EG035T)		05-DEC-2012	11-DEC-2012	02-JAN-2013	✓	11-DEC-2012	02-JAN-2013	✓
9W1-2.0,	18C-0.5,							
18C-1.0,	18C-1.5,							
18C-2.0,	19W1-0.5,							
19W1-1.0,	19W1-1.5,							
19W1-2.0,	18B-0.5,							
18E-0.5,	18E-1.0,							
18E-1.5,	18E-2.0,							
19W2-0.5,	19W2-1.0,							
19W2-1.5,	19W2-2.0,							
16B-0.5,	16B-1.0,							
16B-1.5,	16B-2.0,							
16E-0.5,	16E-1.0,							
16E-1.5,	16E-2.0							
Soil Glass Jar - Unpreserved (EG035T)								



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
Soil Glass Jar - Unpreserved (EP071)		05-DEC-2012	07-DEC-2012	19-DEC-2012	✓	10-DEC-2012	16-JAN-2013	✓
18A-0.5,	18A-1.0,							
18A-1.5,	18A-2.0,							
18D-0.5,	18D-1.0,							
18D-1.5,	18D-2.0,							
14B-0.5,	14B-1.0,							
14B-1.5,	14B-2.0,							
14W2-0.5,	14W2-1.0,							
14W2-1.5,	14W2-2.0,							
14C-0.5,	14C-1.0,							
14C-1.5,	14C-2.0,							
14A-0.5,	14A-1.0,							
14A-1.5,	14A-2.0,							
10A-0.5,	14D-0.5,							
14D-1.0,	14D-1.5,							
14D-2.0,	9W3-0.5,							
9W3-1.0,	9W3-1.5,							
9W3-2.0,	10D-0.5,							
10D-1.0,	10D-1.5,							
10D-2.0,	9W1-0.5,							
9W1-1.0,	9W1-1.5							
Soil Glass Jar - Unpreserved (EP071)		05-DEC-2012	10-DEC-2012	19-DEC-2012	✓	10-DEC-2012	19-JAN-2013	✓
16B-1.5,	16B-2.0,							
16E-0.5,	16E-1.0,							
16E-1.5,	16E-2.0,							
13C-0.5,	13C-1.0,							
13C-1.5,	13C-2.0,							
17D-0.5,	17D-1.0,							
17D-1.5,	17D-2.0,							
14W1-0.5,	14W1-1.0,							
14W1-1.5,	14W1-2.0,							
18W1-0.5,	13E-0.5							
Soil Glass Jar - Unpreserved (EP071)								



Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft - Continued								
9W1-2.0, 18C-1.0, 18C-2.0, 19W1-1.0, 19W1-2.0, 18E-0.5, 18E-1.5, 19W2-0.5, 19W2-1.5, 16B-0.5, 13E-1.0, 17A-1.0, 17A-2.0, QC7, QC9	18C-0.5, 18C-1.5, 19W1-0.5, 19W1-1.5, 18B-0.5, 18E-1.0, 18E-2.0, 19W2-1.0, 19W2-2.0, 16B-1.0, 17A-0.5, 17A-1.5, 9W2-0.5, QC8,	05-DEC-2012	10-DEC-2012	19-DEC-2012	✔	11-DEC-2012	19-JAN-2013	✔



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))		05-DEC-2012	07-DEC-2012	19-DEC-2012	✓	11-DEC-2012	16-JAN-2013	✓
18A-0.5,	18A-1.0,							
18A-1.5,	18A-2.0,							
18D-0.5,	18D-1.0,							
18D-1.5,	18D-2.0,							
14B-0.5,	14B-1.0,							
14B-1.5,	14B-2.0,							
14W2-0.5,	14W2-1.0,							
14W2-1.5,	14W2-2.0,							
14C-0.5,	14C-1.0,							
14C-1.5,	14C-2.0,							
14A-0.5,	14A-1.0,							
14A-1.5,	14A-2.0,							
10A-0.5,	14D-0.5,							
14D-1.0,	14D-1.5,							
14D-2.0,	9W3-0.5,							
9W3-1.0,	9W3-1.5,							
9W3-2.0,	10D-0.5,							
10D-1.0,	10D-1.5,							
10D-2.0,	9W1-0.5,							
9W1-1.0,	9W1-1.5							
Soil Glass Jar - Unpreserved (EP075(SIM))		05-DEC-2012	10-DEC-2012	19-DEC-2012	✓	10-DEC-2012	19-JAN-2013	✓
9W1-2.0,	18C-0.5,							
18C-1.0,	18C-1.5,							
18C-2.0,	19W1-0.5,							
19W1-1.0,	19W1-1.5,							
19W1-2.0,	18B-0.5,							
18E-0.5,	18E-1.0,							
18E-1.5,	18E-2.0,							
19W2-0.5,	19W2-1.0,							
19W2-1.5,	19W2-2.0,							
16B-0.5,	16B-1.0,							
13E-1.0,	17A-0.5,							
17A-1.0,	17A-1.5,							
17A-2.0,	9W2-0.5,							
QC7,	QC8,							
QC9								
Soil Glass Jar - Unpreserved (EP075(SIM))								

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
16B-1.5,	16B-2.0,	05-DEC-2012	10-DEC-2012	19-DEC-2012	✓	11-DEC-2012	19-JAN-2013	✓
16E-0.5,	16E-1.0,							
16E-1.5,	16E-2.0,							
13C-0.5,	13C-1.0,							
13C-1.5,	13C-2.0,							
17D-0.5,	17D-1.0,							
17D-1.5,	17D-2.0,							
14W1-0.5,	14W1-1.0,							
14W1-1.5,	14W1-2.0,							
18W1-0.5,	13E-0.5							



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080: BTEX								
Soil Glass Jar - Unpreserved (EP080)	05-DEC-2012	07-DEC-2012	19-DEC-2012	✓	11-DEC-2012	19-DEC-2012	✓	
14A-0.5, 14A-1.5, 10A-0.5, 14D-1.0, 14D-2.0, 9W3-1.0, 9W3-2.0, 10D-1.0, 10D-2.0, 9W1-1.0,								14A-1.0, 14A-2.0, 14D-0.5, 14D-1.5, 9W3-0.5, 9W3-1.5, 10D-0.5, 10D-1.5, 9W1-0.5, 9W1-1.5
Soil Glass Jar - Unpreserved (EP080)	05-DEC-2012	07-DEC-2012	19-DEC-2012	✓	12-DEC-2012	19-DEC-2012	✓	
18A-0.5, 18A-1.5, 18D-0.5, 18D-1.5, 14B-0.5, 14B-1.5, 14W2-0.5, 14W2-1.5, 14C-0.5, 14C-1.5,								18A-1.0, 18A-2.0, 18D-1.0, 18D-2.0, 14B-1.0, 14B-2.0, 14W2-1.0, 14W2-2.0, 14C-1.0, 14C-2.0
Soil Glass Jar - Unpreserved (EP080)	05-DEC-2012	10-DEC-2012	19-DEC-2012	✓	11-DEC-2012	19-DEC-2012	✓	
17A-1.5, 9W2-0.5, QC8,								17A-2.0, QC7, QC9
Soil Glass Jar - Unpreserved (EP080)								

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEX - Continued								
9W1-2.0, 18C-1.0, 18C-2.0, 19W1-1.0, 19W1-2.0, 18E-0.5, 18E-1.5, 19W2-0.5, 19W2-1.5, 16B-0.5, 16B-1.5, 16E-0.5, 16E-1.5, 13C-0.5, 13C-1.5, 17D-0.5, 17D-1.5, 14W1-0.5, 14W1-1.5, 18W1-0.5, 13E-1.0, 17A-1.0	18C-0.5, 18C-1.5, 19W1-0.5, 19W1-1.5, 18B-0.5, 18E-1.0, 18E-2.0, 19W2-1.0, 19W2-2.0, 16B-1.0, 16B-2.0, 16E-1.0, 16E-2.0, 13C-1.0, 13C-2.0, 17D-1.0, 17D-2.0, 14W1-1.0, 14W1-2.0, 13E-0.5, 17A-0.5,	05-DEC-2012	10-DEC-2012	19-DEC-2012	✓	12-DEC-2012	19-DEC-2012	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080)		05-DEC-2012	07-DEC-2012	19-DEC-2012	✓	11-DEC-2012	19-DEC-2012	✓
14A-0.5,	14A-1.0,							
14A-1.5,	14A-2.0,							
10A-0.5,	14D-0.5,							
14D-1.0,	14D-1.5,							
14D-2.0,	9W3-0.5,							
9W3-1.0,	9W3-1.5,							
9W3-2.0,	10D-0.5,							
10D-1.0,	10D-1.5,							
10D-2.0,	9W1-0.5,							
9W1-1.0,	9W1-1.5							
Soil Glass Jar - Unpreserved (EP080)		05-DEC-2012	07-DEC-2012	19-DEC-2012	✓	12-DEC-2012	19-DEC-2012	✓
18A-0.5,	18A-1.0,							
18A-1.5,	18A-2.0,							
18D-0.5,	18D-1.0,							
18D-1.5,	18D-2.0,							
14B-0.5,	14B-1.0,							
14B-1.5,	14B-2.0,							
14W2-0.5,	14W2-1.0,							
14W2-1.5,	14W2-2.0,							
14C-0.5,	14C-1.0,							
14C-1.5,	14C-2.0							
Soil Glass Jar - Unpreserved (EP080)		05-DEC-2012	10-DEC-2012	19-DEC-2012	✓	11-DEC-2012	19-DEC-2012	✓
17A-1.5,	17A-2.0,							
9W2-0.5,	QC7,							
QC8,	QC9							
Soil Glass Jar - Unpreserved (EP080)								

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN - Continued								
9W1-2.0, 18C-1.0, 18C-2.0, 19W1-1.0, 19W1-2.0, 18E-0.5, 18E-1.5, 19W2-0.5, 19W2-1.5, 16B-0.5, 16B-1.5, 16E-0.5, 16E-1.5, 13C-0.5, 13C-1.5, 17D-0.5, 17D-1.5, 14W1-0.5, 14W1-1.5, 18W1-0.5, 13E-1.0, 17A-1.0	18C-0.5, 18C-1.5, 19W1-0.5, 19W1-1.5, 18B-0.5, 18E-1.0, 18E-2.0, 19W2-1.0, 19W2-2.0, 16B-1.0, 16B-2.0, 16E-1.0, 16E-2.0, 13C-1.0, 13C-2.0, 17D-1.0, 17D-2.0, 14W1-1.0, 14W1-2.0, 13E-0.5, 17A-0.5,	05-DEC-2012	10-DEC-2012	19-DEC-2012	✓	12-DEC-2012	19-DEC-2012	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)	05-DEC-2012	07-DEC-2012	19-DEC-2012	✓	11-DEC-2012	19-DEC-2012	✓	
14A-0.5, 14A-1.5, 10A-0.5, 14D-1.0, 14D-2.0, 9W3-1.0, 9W3-2.0, 10D-1.0, 10D-2.0, 9W1-1.0,								14A-1.0, 14A-2.0, 14D-0.5, 14D-1.5, 9W3-0.5, 9W3-1.5, 10D-0.5, 10D-1.5, 9W1-0.5, 9W1-1.5
Soil Glass Jar - Unpreserved (EP080)	05-DEC-2012	07-DEC-2012	19-DEC-2012	✓	12-DEC-2012	19-DEC-2012	✓	
18A-0.5, 18A-1.5, 18D-0.5, 18D-1.5, 14B-0.5, 14B-1.5, 14W2-0.5, 14W2-1.5, 14C-0.5, 14C-1.5,								18A-1.0, 18A-2.0, 18D-1.0, 18D-2.0, 14B-1.0, 14B-2.0, 14W2-1.0, 14W2-2.0, 14C-1.0, 14C-2.0
Soil Glass Jar - Unpreserved (EP080)	05-DEC-2012	10-DEC-2012	19-DEC-2012	✓	11-DEC-2012	19-DEC-2012	✓	
17A-1.5, 9W2-0.5, QC8,								17A-2.0, QC7, QC9
Soil Glass Jar - Unpreserved (EP080)								



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft - Continued								
9W1-2.0, 18C-1.0, 18C-2.0, 19W1-1.0, 19W1-2.0, 18E-0.5, 18E-1.5, 19W2-0.5, 19W2-1.5, 16B-0.5, 16B-1.5, 16E-0.5, 16E-1.5, 13C-0.5, 13C-1.5, 17D-0.5, 17D-1.5, 14W1-0.5, 14W1-1.5, 18W1-0.5, 13E-1.0, 17A-1.0	18C-0.5, 18C-1.5, 19W1-0.5, 19W1-1.5, 18B-0.5, 18E-1.0, 18E-2.0, 19W2-1.0, 19W2-2.0, 16B-1.0, 16B-2.0, 16E-1.0, 16E-2.0, 13C-1.0, 13C-2.0, 17D-1.0, 17D-2.0, 14W1-1.0, 14W1-2.0, 13E-0.5, 17A-0.5,	05-DEC-2012	10-DEC-2012	19-DEC-2012	✓	12-DEC-2012	19-DEC-2012	✓

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F) QCD	05-DEC-2012	---	03-JUN-2013	----	10-DEC-2012	03-JUN-2013	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F) QCD	05-DEC-2012	---	02-JAN-2013	----	11-DEC-2012	02-JAN-2013	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) QCD	05-DEC-2012	11-DEC-2012	12-DEC-2012	✓	12-DEC-2012	20-JAN-2013	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) QCD	05-DEC-2012	11-DEC-2012	12-DEC-2012	✓	12-DEC-2012	20-JAN-2013	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) QCD	05-DEC-2012	10-DEC-2012	19-DEC-2012	✓	10-DEC-2012	19-DEC-2012	✓



Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP080) QCD	05-DEC-2012	10-DEC-2012	19-DEC-2012	✔	10-DEC-2012	19-DEC-2012	✔



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	11	111	9.9	10.0	✖	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	10	95	10.5	10.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	12	108	11.1	10.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	12	111	10.8	10.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	10	95	10.5	10.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	12	99	12.1	10.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	5	95	5.3	5.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	6	108	5.6	5.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	6	111	5.4	5.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	5	95	5.3	5.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	6	99	6.1	5.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	5	95	5.3	5.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	6	108	5.6	5.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	6	111	5.4	5.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	5	95	5.3	5.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	6	99	6.1	5.0	✔	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	5	95	5.3	5.0	✔	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	6	108	5.6	5.0	✔	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	6	111	5.4	5.0	✔	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	5	95	5.3	5.0	✔	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	6	99	6.1	5.0	✔	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	1	2	50.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	19	10.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	2	50.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Page : 21 of 25
 Work Order : ES1228708
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Control Samples (LCS) - Continued							
TPH - Semivolatile Fraction	EP071	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	19	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	2	50.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	19	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	2	50.0	5.0	✓	ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.0	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	19	5.3	5.0	✓	ALS QCS3 requirement



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2010 Draft) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Asbestos Identification in bulk solids	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)



<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.



Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005T: Total Metals by ICP-AES	ES1228708-092	QC7	Manganese	7439-96-5	29.9 %	0-20%	RPD exceeds LOR based limits
EG005T: Total Metals by ICP-AES	ES1228708-011	14B-1.5	Manganese	7439-96-5	139 %	0-20%	RPD exceeds LOR based limits
EG005T: Total Metals by ICP-AES	ES1228708-021	14A-0.5	Manganese	7439-96-5	67.3 %	0-20%	RPD exceeds LOR based limits
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1228708-001	18A-0.5	Pyrene	129-00-0	30.7 %	0-20%	RPD exceeds LOR based limits
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1228708-001	18A-0.5	Benzo(k)fluoranthene	207-08-9	21.5 %	0-20%	RPD exceeds LOR based limits
EP080/071: Total Recoverable Hydrocarbons - NEPM 2	ES1228708-054	18E-0.5	>C16 - C34 Fraction	----	22.8 %	0-20%	RPD exceeds LOR based limits
Matrix Spike (MS) Recoveries							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1228708-001	18A-0.5	Acenaphthene	83-32-9	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1228708-001	18A-0.5	Pyrene	129-00-0	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EG020F: Dissolved Metals by ICP-MS	EN1204644-001	Anonymous	Copper	7440-50-8	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

- For all matrices, no Method Blank value outliers occur.
- For all matrices, no Laboratory Control outliers occur.

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP075(SIM)T: PAH Surrogates	ES1228708-001	18A-0.5	4-Terphenyl-d14	1718-51-0	139 %	64-136 %	Recovery greater than upper data quality objective

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- No Analysis Holding Time Outliers exist.



Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

Matrix: SOIL

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Moisture Content	11	111	9.9	10.0	NEPM 1999 Schedule B(3) and ALS QCS3 requirement



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ALS Laboratory:
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Ph: 07 4796 0500 E: townsville@als.com.au

☐ WOLLONGONG 39 Kenny Street, Wollongong NSW 2500
Ph: 02 4222 3125 E: wollongong@als.com.au

CLIENT: SKM

OFFICE: Newcastle

PROJECT: HDX - Lee Wharf

PURCHASE ORDER NUMBER: EN03130

PROJECT MANAGER: B Gauthier

SAMPLER: C Maylan

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):

COMMENTS/ SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:
(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: SY/701/12

COC: 1 2 3 4 5 6 7 8

RECEIVED BY: Sme

DATE/TIME: 5/12/12 1700

RELINQUISHED BY: Sme

DATE/TIME: 5/12/12 1920

RECEIVED BY: Sme

DATE/TIME: 5/12/12 1920

☐ Standard TAT (list due date):
☐ Non Standard or urgent TAT (list due date):

FOR LABORATORY USE ONLY (circle)

Custody Seal Intact? (Yes) (No)

Free Ice / Frozen Ice bricks present upon receipt? Yes No

Random Sample Temperature on Receipt: 4.8

Comment:

Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.

Additional 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 (filtered bottle required).

CONTAINER INFORMATION

TYPE & PRESERVATIVE (refer to codes below)

TOTAL CONTAINERS

LAB ID

SAMPLE ID

DATE/ TIME

MATRIX

1 18A-0.5 5/12/12 S

2 18A-1.0

3 18A-1.5

4 18A-2.0

5 18D-0.5

6 18D-1.0

7 18D-1.5

8 18D-2.0

9 14B-0.5

10 14B-1.0

11 14B-1.5

12 14B-2.0

TOTAL 12



Telephone : + 61-2-8784 8555

Environmental Division
Work Order
ES1228708

Subson/Forward Lab / Split WO
Lab / Analysts: Newcastle / Split WO
Organized By / Date: Frank
Relinquished By / Date: Frank
Comments / Counter: 12508
Attach By PO / Internal Sheet: 1
159757

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ALS Laboratory:
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- ☐ ADAMANT 27 Riving Road, Northcote SA 5005
Ph: 08 8339 0690 E: adam@adamant.com.au
- ☐ BRISBANE 32 Strand Street, Sturtford QLD 4053
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- ☐ GLADSTONE 49 Callaghan Drive, Clinton QLD 4690
Ph: 07 4971 5600 E: gladstone@als.com.au
- ☐ MACKAY 78 Harbour Road, Mackay QLD 4740
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- ☐ MELBOURNE 2-4 Warral Road, Springvale VIC 3171
Ph: 03 9549 9600 E: samples.melbourne@als.com.au
- ☐ MURFEE 27 Sydney Road, Murree NSW 2280
Ph: 02 6372 6735 E: murree@als.com.au
- ☒ NEWCASTLE 5 Rosegum Road, Newcastle NSW 2304
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- ☐ NORRIS 413 Pace Place, Northcote NSW 2261
Ph: 02 4423 2063 E: norris@als.com.au
- ☐ PERTH 101 Midway, Malaga WA 6093
Ph: 08 9239 7853 E: samples.perth@als.com.au
- ☐ STONEY 277 Woodbank Road, Smithfield NSW 2164
Ph: 02 9761 6595 E: samples.stoney@als.com.au
- ☐ TOWNSVILLE 14-15 Deanna Court, Baffle QLD 4818
Ph: 07 4795 0500 E: townsville.environmental@als.com.au
- ☐ WOLLONGONG 99 Kenny Street, Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@als.com.au

CLIENT: SKM

TURNAROUND REQUIREMENTS:
☐ Standard TAT (list due date):
☐ Non Standard or urgent TAT (list due date):

FOR LABORATORY USE ONLY (Circle)
Quality Seal Intact? (Yes) Yes No
Free Ice / frozen ice bricks present upon receipt? (Yes) Yes No
Random Sample Temperature on Receipt: 20

OFFICE: Abbeville

ALS QUOTE NO.: 51/201/12

PROJECT: HDC Lee Wharf

PURCHASE ORDER NUMBER: EN03136

PROJECT MANAGER: B. Gauthier

CONTACT PH: 0408 728 184

SAMPLER: G. Moyle

SAMPLER MOBILE: 0408 728 184

COC emailed to ALS? (YES / NO) YES

EDD FORMAT (or default): DATE/TIME

Email Reports to (will default to PM if no other addresses are listed):

RECEIVED BY: SH DATE/TIME: 5/12/12

Email Invoice to (will default to PM if no other addresses are listed):

RECEIVED BY: Soe Hye DATE/TIME: 5/12/12

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					Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	14W2-0.5	5/12/12	S	1A	1	✓	Soil	✓	Albion	
14	14W2-1.0					✓				
15	14W2-1.5					✓				
16	14W2-2.0					✓				
17	14C-0.5					✓				
18	14C-1.0					✓				
19	14C-1.5					✓				
20	14C-2.0					✓				
21	14A-0.5					✓				
22	14A-1.0					✓				
23	14A-1.5					✓				
24	14A-2.0					✓				
TOTAL					12					

Order Container Codes: P = Unpreserved Plastic, N = Nitric Preserved Plastic, ORC = Nitric Preserved ORC, SU = Sodium Unpreserved Plastic, etc.

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved; AG = Amber Glass Unpreserved; AP = Air-tight Unpreserved Plastic; V = VOA Via HCl Preserved; VB = VOA Via Sodium Bisulfate Preserved; VS = VOA Via Sulfuric Preserved; AV = Air-tight 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 Solids; B = Unpreserved Bag.

159758



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please tick -

☐ ADELAIDE 21 Burns Road, Adelaide SA 5005
Ph: 08 8359 0800 E: adelaide@alslaboratory.com
☐ BRISBANE 32 Chapel Street, Brisbane QLD 4003
Ph: 07 3263 2222 E: samples.melbourne@alslaboratory.com
☐ CLONMELLE 46 Callan Road, Clonmelle CO. DU 4600
Ph: 01 4971 5500 E: clonmelle@alslaboratory.com

☐ MACQUARY 78 Haddon Road, Macquary QLD 4740
Ph: 07 4944 0177 E: macquary@alslaboratory.com
☐ MELBOURNE 2-4 Western Road, Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alslaboratory.com
☐ MURREE 27 Sydney Road, Murree NSW 2550
Ph: 02 6372 6735 E: murree.mel@alslaboratory.com

☒ NEWCASTLE 5 Bessie Road, Newcastle NSW 2304
Ph: 02 4988 9433 E: samples.newcastle@alslaboratory.com
☐ NOWRA 4113 Geary Place, North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alslaboratory.com
☐ PERTH 11 Haddon Road, Perth WA 6100
Ph: 08 9208 7655 E: samples.perth@alslaboratory.com

☐ STURDY 227 Woodcock Road, Smithfield NSW 2164
Ph: 02 8761 8535 E: samples.sturdy@alslaboratory.com
☐ TOWNSVILLE 14-16 Desma Court, Townsville QLD 4818
Ph: 07 4785 0600 E: townsville@alslaboratory.com
☐ WOLLONGONG 99 Kenny Street, Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alslaboratory.com

CLIENT: **SKM**

OFFICE: **Newcastle**

PROJECT: **HDC - Lee Wyat**

PURCHASE ORDER NUMBER: **E003130**

PROJECT MANAGER: **B Gauthier**

SAMPLER: **G Moyla**

COC emailed to AL: **S7 (YES NO)**

Email Reports to (will default to PM if no other addresses are listed):

Email Invoice to (will default to PM if no other addresses are listed):

COMMENTS/ SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:
(Standard TAT 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.: **57/701/12**

CONTACT PH: _____

RELINQUISHED BY: **[Signature]**

DATE/TIME: **5/12/12**

RECEIVED BY: **SMO**

DATE/TIME: **5/12/12 1700**

RELINQUISHED BY: **[Signature]**

DATE/TIME: **5/12/12 1920**

COC SEQUENCE NUMBER (Circle)

1 2 3 4 5 6 7

Free icy/frozen ice bricks present upon receipt? **Yes** ☒ **No** ☐

Random Sample Temperature on Receipt: **10**

Other comment: **See**

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? **Yes** ☒ **No** ☐

Additional Information

Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.

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					Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	10A-0.5	5/12/12	S	1A	1	✓				
~~26~~ SUE	10A-1.0					✓				
~~27~~ SUE	10A-1.5					✓				
~~28~~ SUE	10A-2.0					✓				
29	14D-0.5					✓				
30	14D-1.0					✓				
31	14D-1.5					✓				
32	14D-2.0					✓				
33	9W3-0.5					✓				
34	9W3-1.0					✓				
35	9W3-1.5					✓				
36	9W3-2.0					✓				
TOTAL					12					

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved Plastic; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Air-tight Unpreserved Plastic; V = VOA (Vial HCl) Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Air-tight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Specimen bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag.

159759



CHAIN OF CUSTODY
Environmental
ALS Laboratory:
please tick -

☐ ADELAIDE 21 Baring Road, Adelaide SA 5095
Ph: 08 8350 0800 E: adelaide@als.com.au
☐ BRISBANE 32-34 Sturt Street, Brisbane QLD 4003
Ph: 07 3843 7222 E: samples.brisbane@als.com.au
☐ GOLD COAST 46 Collier Street, Gold Coast QLD 4280
Ph: 07 4971 5600 E: goldcoast@als.com.au

☐ MACKAY 78 Harding Road, Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@als.com.au
☐ MELBOURNE 24 Vye Street, Melbourne VIC 3171
Ph: 03 8549 9500 E: samples.melbourne@als.com.au
☐ MURDOCH 27 Sturt Street, Murdoch NSW 2850
Ph: 02 6372 6735 E: murdoch@als.com.au

☒ NEWCASTLE 5 Ryequinn Road, Warndrang NSW 2304
Ph: 02 4988 9433 E: samples.newcastle@als.com.au
☐ NOWRA 413 Geary Place, North Nowra NSW 2541
Ph: 02 4223 2063 E: nowra@als.com.au
☐ PERTH 10 Havelock Way, Perth WA 6102
Ph: 08 9209 7655 E: perth@als.com.au

☐ SYDNEY 227 Woodstock Road, Smithfield NSW 2161
Ph: 02 6782 6555 E: samples.sydney@als.com.au
☐ TONBRIDGE 14-15 Deane Court, Tonbridge Kent TN11 9JH
Ph: 01 4736 0600 E: tonbridge@als.com.au
☐ WOLLONGONG 89 Kenny Street, Wollongong NSW 2500
Ph: 02 4223 3125 E: wollongong@als.com.au

CLIENT: SKM

OFFICE: Newcastle

PROJECT: HBC Lee Wharf

PURCHASE ORDER NUMBER: ENV0130

PROJECT MANAGER: B. Ganthier

SAMPLER: C. Molyneux

COC emailed to ALS? (YES/NO) YES 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):

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):

COC SEQUENCE NUMBER (Circle)

COC: 1 2 3 4 5 6 7

OF: 1 2 3 4 5 6 7

RECEIVED BY: SKM

DATE/TIME: 5/12/12 1700

RELINQUISHED BY: SKM

DATE/TIME: 5/12/12 1700

RELINQUISHED BY: SKM

RECEIVED BY: SKM

DATE/TIME: 5/12/12 1920

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes
Fire Ice / Frozen Ice bricks present upon receipt? Yes
Random Sample Temperature on Receipt: 4°C
Other comment: 4°C

ALS USE	SAMPLE DETAILS MATRIX - SOLID (S), WATER (W)	DATE/TIME	MATRIX	CONTAINER INFORMATION TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	ANALYSIS REQUIRED INCLUDING SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	Additional Information
LAB ID	SAMPLE ID	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	ANALYSIS REQUIRED INCLUDING SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	10D-0.5	5/12/12	S	1A, 1Z, 1P, 1L	2	✓	
38	10D-1.0					✓	
39	10D-1.5					✓	
40	10D-2.0					✓	
41	9W1-0.5					✓	
42	9W1-1.0					✓	
43	9W1-1.5					✓	
44	9W1-2.0					✓	
45	18C-0.5					✓	
46	18C-1.0					✓	
47	18C-1.5					✓	
48	18C-2.0					✓	
TOTAL					1A		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; Air-tight Unpreserved Plastic;
V = VOA/Vol HCl Preserved; VB = VOA Vol Sodium Disulphate Preserved; VS = VOA Vol Sulfuric Preserved; AV = Air-tight Unpreserved Vial; SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HB = HCl Preserved Speculation 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 Salt; B = Unpreserved Bag.

159760



CHAIN OF CUSTODY
ALS Laboratory:
Environmental please tick -

☐ ADELAIDE 21 Jarring Road, Poonah, SA 5095
Ph: 08 8359 0800 E: adelaide@alsenviro.com
☐ BRISBANE 32 Stirling Street, Sturtford QLD 4033
Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com
☐ CAULFIELD 46 Coleridge Drive, Croydon QLD 4080
Ph: 07 4971 5000 E: caulfield@alsenviro.com

☐ MACKAY 78 Harbour Road, Mackay QLD 4740
Ph: 07 4644 0177 E: mackay@alsenviro.com
☐ MELBOURNE 2-4 Wessell Road, Springvale VIC 3171
Ph: 03 8549 9800 E: samples.melbourne@alsenviro.com
☐ MURDER 27 Sydney Road, Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee@alsenviro.com

☒ NEWCASTLE 5 Regent Road, Warabook NSW 2304
Ph: 02 4988 9433 E: samples.newcastle@alsenviro.com
☐ NOWRA 4/3 Queen Place, Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsenviro.com
☐ PERTH 10 Red New Malaga WA 6150
Ph: 08 9209 7535 E: samples.perth@alsenviro.com

☐ SYDNEY 277 Woodpark Road, Smithfield NSW 2194
Ph: 02 6784 8555 E: samples.sydney@alsenviro.com
☐ TOWNSVILLE 14-15 Dargie Court, Baulk Hills QLD 4818
Ph: 07 4796 0000 E: townsville@alsenviro.com
☐ WOLLONGONG 98 Kemp Street, Wollongong NSW 2500
Ph: 02 4225 3123 E: wollongong@alsenviro.com

CLIENT: SKM

TURNAROUND REQUIREMENTS:
(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

OFFICE: Newcastle

☐ Standard TAT (List due date):
☐ Non Standard or urgent TAT (List due date):

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? ☒ Yes ☐ No
Freezer/frozen ice bricks present upon receipt? ☒ Yes ☐ No
Random Sample Temperature on Receipt: 4°C
Other comment:

PROJECT: Env03130

ALS QUOTE NO.: 51/701/12

PURCHASE ORDER NUMBER: HDC Lee World

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

PROJECT MANAGER: B Gauthier

CONTACT PH:

SAMPLER: G Moya SAMPLER MOBILE: 0408 728 184

RECEIVED BY: Sms

RELINQUISHED BY: 488

COC emailed to ALS? (YES / NO) ☒ YES ☐ NO EDD FORMAT (or default):

RELINQUISHED BY: [Signature]

RECEIVED BY: [Signature]

Email Reports to (will default to PM if no other addresses are listed):

DATE/TIME: 5/12/12

DATE/TIME: 5/12/12

DATE/TIME: 5/12/12

Email Invoice to (will default to PM if no other addresses are listed):

DATE/TIME: 5/12/12

DATE/TIME: 5/12/12

DATE/TIME: 5/12/12

COMMENTS/ SPECIAL HANDLING/STORAGE OR DISPOSAL:

DATE/TIME: 5/12/12

DATE/TIME: 5/12/12

DATE/TIME: 5/12/12

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					Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
49	19W1-0.5	5/12/12	S	16	1	✓				
50	19W1-1.0					✓				
51	19W1-1.5					✓				
52	19W1-2.0					✓				
53	18B-0.5					✓				
	~~18B-1.0~~					✓				No Sample
	~~18B-1.5~~					✓				No Sample
	~~18B-2.0~~					✓				No Sample
54	18E-0.5					✓				
55	18E-1.0					✓				
56	18E-1.5					✓				
57	18E-2.0					✓				
TOTAL					12					

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Airtight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; NV = Airtight Unpreserved Vial; SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Soluble Solids; B = Unpreserved Bag.

159761



CHAIN OF CUSTODY
AL S Laboratory
please tick -

☐ **ADLAIDE** 21 Birnie Road, Port Adelaide SA 5095
Ph: 08 8359 0800 E: adelaide@alsenviro.com
☐ **BIRKENHEAD** 32 Third Street, Stirling QLD 4058
Ph: 07 3243 7222 E: samples.birkenhead@alsenviro.com
☐ **GLADSTONE** 46 Callamander Drive, Gladstone QLD 4680
Ph: 07 4671 5000 E: gladstone@alsenviro.com

☐ **MCKAY** 78 Highway Road, Mackay QLD 4740
Ph: 07 4344 0777 E: mackay@alsenviro.com
☐ **MELBOURNE** 2-4 Vesey Road, Springvale VIC 3171
Ph: 03 8313 5000 E: samples.melbourne@alsenviro.com
☐ **MURDOCH** 27 Sydney Road, Murdoch NSW 2550
Ph: 02 6572 6735 E: murdoch@alsenviro.com

☒ **NEWCASTLE** 5 Roper Road, Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsenviro.com
☐ **NOVA** 4413 Greys Place, North Nova NSW 2541
Ph: 02 4423 2053 E: nova@alsenviro.com
☐ **PERTH** 10 Hill Way, Mandurah WA 6090
Ph: 08 9209 7655 E: samples.perth@alsenviro.com

☐ **SYDNEY** 277 Woodpark Road, Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsenviro.com
☐ **TOWNSVILLE** 14-15 Desma Court, Baulk QLD 4818
Ph: 07 4796 0600 E: townsville@alsenviro.com
☐ **WOLLONGONG** 89 Kenny Street, Wollongong NSW 2500
Ph: 02 4223 3125 E: wollongong@alsenviro.com

CLIENT: SKM

OFFICE: Newcastle

PROJECT: EWB3130

PURCHASE ORDER NUMBER: HBC Lee White

PROJECT MANAGER: BC

SAMPLER: GM

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):

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):

REINQUISHED BY: [Signature] **DATE/TIME:** 5/12/12

RECEIVED BY: SMC **DATE/TIME:** 5/12/12 1700

REINQUISHED BY: [Signature] **DATE/TIME:**

RECEIVED BY: [Signature] **DATE/TIME:** 5/14/12 1800

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No
Free Ice / Frozen Ice bricks present upon receipt? Yes No
Random Sample Temperature on Receipt: 4.8 °C
Other comment:

SAMPLE DETAILS		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
ALS USE	MATRIX - SOLID (S), WATER (W)								
LAB ID	SAMPLE ID	DATE/TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
58	19W2-0.5	5/12/12	S	1G	1				
59	19W2-1.0								
60	19W2-1.5								
61	19W2-2.0								
62	16B-0.5								
63	16B-1.0								
64	16B-1.5								
65	16B-2.0								
66	16E-0.5								
67	16E-1.0								
68	16E-1.5								
69	16E-2.0								
TOTAL									

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Air-tight Unpreserved Plastic;
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Borate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Air-tight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HB = HCl Preserved Specimen bottle; SP = Sulfuric Preserved Plastic;
F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag

159762



CHAIN OF CUSTODY
ALS Laboratory
please tick →

ADELAIDE 21 Burma Road, Port Arkla SA 5095
Ph: 08 8336 0890 E: adelaide@aisniryo.com

BIRLSANE 32 Shand Street, Stafford U.K. D4 0NS
Ph: 07 3248 7222 E: samples.birlsane@aisniryo.com

GLADSTONE 45 Callernoon Drive, Clinton QLD 4680
Ph: 07 4971 5600 E: g.gladstone@aisniryo.com

MACKEY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackey@alsglobal.com

MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: sam@melbourne@calsonic.com.au

MUDGEES 27 Sydney Road Mudgee NSW 2850
Ph: 02 6312 6735 E: mudgees.mai@alsglobal.com

☒ **NEWCASTLE 5** Rosegum Road Warahook NSW 2304
 PH: 02 4968 9453 E: samples.newcastle@atsnwi.co.com
☐ **NOWRA 4/13** Geary Place North Nowra NSW 2541
 PH: 02 4423 2063 E: nowra@atsnwi.co.com
☐ **PERTH 10** Hod Way Malaga WA 6090
 PH: 08 9209 7555 E: samples.perth@atsnwi.com

☐ SYDNEY 277 Woodpark Road Strathfield NSW 2164
Ph: 02 8784 8555 E: samples_sydney@alsanirio.com

☐ TOWNSVILLE 14-15 Desma Court Baffle QLD 4818
Ph: 07 4798 0600 E: townsville.environments@alsanirio.com

☐ WOLLONGONG 99 Kemp Street Wollongong NSW 2500
Ph: 02 4292 3155 E: wollongong.environments@alsanirio.com

CLIENT: SKV

OFFICE: Waraste

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)
Custody Seal Intact? ☒ Yes ☐ No

Will get what

ALS QUOTE NO.: 29/10/12

ORIGINAL ORDER NUMBER: E1003150

156

CONIACI PH:

SAMPLER MOBILE: **WY**

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):

COMMENTS/ SPECIAL HANDLING/STORAGE OR DISPOSAL

RELINQUISHED BY: 
DATE/TIME: 1/1

RECEIVED BY: *SN*
DATE/TIME:

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY: *See [illegible]*
DATE/TIME: *1/15*

5/12/12 JOC

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							Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
70	13C-0.5	5/12/12	S	1A	1							
71	13C-1.0											
72	13C-1.5											
73	13C-2.0											
74	17B-0.5											
75	17B-1.0											
76	17B-1.5											
77	17B-2.0											
78	14W1-0.5											
79	14W1-1.0											
80	14W1-1.5											
81	14W1-2.0											
TOTAL												

Water Contaminants Codes: P = Unpreserved Plastic; N = Nitrite Preserved Plastic; ORC = Nitrite Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic; V = VOA Vial Glass; VB = VOA Via Sodium Bisulfate Preserved; VS = VOA Via Sulfite Preserved; AV = Airtight Unpreserved Vial SS = Sulfite Preserved Amber Glass; H = HCl preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc/Acidic Preserved Bottle; E = EDTA Preserved Bottles; ST = Stainless Steel; PLS = Plastic Bag for Acid Supplina Solis; B = Unpreserved Bag.

159763



CHAIN OF CUSTODY

ALS Laboratory:
please tick ->

☐ ADELAIDE 27 Rundle Road, Adelaide SA 5005 Ph: 08 8354 0888 E: adelaide@als.com.au	☐ MACKAY 78 Hargrave Road, Mackay QLD 4740 Ph: 07 4644 0777 E: mackay@als.com.au	☒ NEWCASTLE 5 Rosegum Road, Warburton NSW 2304 Ph: 02 4563 3433 E: samples.newcastle@als.com.au	☐ SYDNEY 277 Woodpark Road, Smithfield NSW 2164 Ph: 02 8764 0555 E: samples.sydney@als.com.au
☐ BUNSBURY 23 Strand Street, Seaford QLD 4053 Ph: 07 5255 7222 E: samples.bunbury@als.com.au	☐ MELBOURNE 2-4 Westall Road, Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@als.com.au	☐ NOAHRA 4/13 Greay Place, North Wyalong NSW 2541 Ph: 02 4423 2053 E: noahra@als.com.au	☐ TOWNSVILLE 14-15 Dumas Court, Borne QLD 4818 Ph: 07 4706 0600 E: bornesville@als.com.au
☐ GLADSTONE 46 Callernish Drive, Clinton QLD 4690 Ph: 07 4971 3500 E: gladstone@als.com.au	☐ MUDGEE 27 Sydney Road, Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee@als.com.au	☐ PERTH 10 Lynch Way, Midvale WA 6000 Ph: 08 9209 7855 E: samples.perth@als.com.au	☐ WIDJONG 99 Kenny Street, Wodonga NSW 2530 Ph: 02 4223 3123 E: widge@als.com.au

CLIENT: SKM TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date): ☐ Non Standard or urgent TAT (List due date):

OFFICE: Newcastle (Standard TAT may be longer for some tests e.g. Ultra Trace organics)

PROJECT: HDC - Lee WKA-A ALS QUOTE NO.: 54/2012

PURCHASE ORDER NUMBER: ENV03130 CONTACT PH: 54/2012

PROJECT MANAGER: BC COC: 1 2 3 4 5 6 7 Random Sample Temperature on Receipt: 23

SAMPLER: CM SAMPLER MOBILE: 5/12/12 RECEIVED BY: SM RELINQUISHED BY: 5/12/12

COC emailed to ALS? (YES / NO) YES EDD FORMAT (or default): 5/12/12 DATE/TIME: 5/12/12 1200

Email Reports to (will default to PM if no other addresses are listed): 5/12/12 DATE/TIME: 5/12/12

Email Invoice to (will default to PM if no other addresses are listed): 5/12/12 DATE/TIME: 5/12/12

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: 5/12/12 DATE/TIME: 5/12/12

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								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
82	18W1-0.5	5/12/12	S	14	1	✓							
83	13E-0.5					✓							
84	13E-1.0					✓							
85	13E-1.5					✓							
86	13E-2.0					✓							
87	17A-0.5					✓							
88	17A-1.0					✓							
89	17A-1.5					✓							
90	17A-2.0					✓							
91	9W2-0.5					✓							
92	QC7					✓							
93	QC8					✓							
TOTAL					12								

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airtight Unpreserved Plastic; V = VOA Vial HO Preserved; VB = VOA Vial Sodium Bisphosphate Preserved; VS = VOA Vial Sulphur Preserved; VSG = Sulphur Preserved Amber Glass; H = HO Preserved Plastic; HS = HO Preserved Speciation bottle; SP = Sulphur Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag.

159764

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: ES1228841	Page	: 1 of 53
Client	: SINCLAIR KNIGHT MERZ	Laboratory	: Environmental Division Sydney
Contact	: B GAUTHIER	Contact	: Client Services
Address	: 710 HUNTER STREET NEWCASTLE WEST NSW, AUSTRALIA 2302	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: bgauthier@globalskm.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 02 4979 2600	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 4979 2666	Facsimile	: +61-2-8784 8500
Project	: HDC-LEE WHARF	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: EN03130	Date Samples Received	: 06-DEC-2012
C-O-C number	: 159766-75	Issue Date	: 18-DEC-2012
Sampler	: GM	No. of samples received	: 109
Site	: ----	No. of samples analysed	: 109
Quote number	: EN/003/12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits



General Comments

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

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

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

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

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

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

LOR = Limit of reporting

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

- **EA200 Legend for Asbestos Type:**
- **EA200 'Am'** Amosite (brown asbestos)
- **EA200 'Ch'** Chrysotile (white asbestos)
- **EA200 'Cr'** Crocidolite (blue asbestos)
- **EA200 't'** Trace levels
- **EA200: 'UMF'** Unknown Mineral Fibres - Fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- **EA200:** Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- **EA200:** Negative results for vinyl tiles should be confirmed by an independent analytical technique.
- **EG005T:** Poor precision was obtained for Manganese on sample ES1228841#100 due to sample heterogeneity. Results have been confirmed by re-extraction and reanalysis
- **EPO75(SIM) :** Particular samples required dilution due to samples matrix interferences. LOR values have been adjusted accordingly.
- **EPO75(SIM) :** Poor matrix spike recovery due to sample interferences.



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Evie.Sidarta	Inorganic Chemist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Peter Rennie	Team Leader - Asbestos	Newcastle
Phalak Inthaksone	Laboratory Manager - Organics	Sydney Organics
Raymond Commodor	Instrument Chemist	Sydney Inorganics



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				19W4-0.5	19W4-1.0	19W4-1.5	19W4-2.0	17B-0.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-001	ES1228841-002	ES1228841-003	ES1228841-004	ES1228841-005
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	10.3	6.4	7.9	18.8	12.2
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	----	----	No
Asbestos Type	1332-21-4	0.1	--	----	----	----	----	-
Sample weight (dry)	----	0.01	g	----	----	----	----	474
APPROVED IDENTIFIER:	----	-	--	----	----	----	----	P.RENNIE
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	1670	181	9	6	340
Arsenic	7440-38-2	5	mg/kg	7	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	5	<2	<2	<2	3
Copper	7440-50-8	5	mg/kg	19	6	<5	<5	9
Lead	7439-92-1	5	mg/kg	46	28	<5	<5	17
Nickel	7440-02-0	2	mg/kg	6	3	<2	<2	2
Zinc	7440-66-6	5	mg/kg	161	29	<5	<5	28
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<4.0	<0.5	<0.5	<0.5	1.3
Acenaphthylene	208-96-8	0.5	mg/kg	9.8	1.3	<0.5	<0.5	5.9
Acenaphthene	83-32-9	0.5	mg/kg	<4.0	<0.5	<0.5	<0.5	0.7
Fluorene	86-73-7	0.5	mg/kg	<4.0	0.5	<0.5	<0.5	1.0
Phenanthrene	85-01-8	0.5	mg/kg	80.7	10.6	<0.5	<0.5	28.7
Anthracene	120-12-7	0.5	mg/kg	21.9	2.7	<0.5	<0.5	9.4
Fluoranthene	206-44-0	0.5	mg/kg	254	27.3	<0.5	<0.5	67.9
Pyrene	129-00-0	0.5	mg/kg	258	27.8	<0.5	<0.5	69.7
Benz(a)anthracene	56-55-3	0.5	mg/kg	70.8	7.2	<0.5	<0.5	26.0
Chrysene	218-01-9	0.5	mg/kg	72.0	7.1	<0.5	<0.5	26.0
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	106	10.7	<0.5	<0.5	36.3
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	45.5	3.2	<0.5	<0.5	12.0
Benzo(a)pyrene	50-32-8	0.5	mg/kg	82.8	8.1	<0.5	<0.5	30.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	57.1	5.4	<0.5	<0.5	22.0
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	10.8	1.1	<0.5	<0.5	4.4



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				19W4-0.5	19W4-1.0	19W4-1.5	19W4-2.0	17B-0.5
Client sampling date / time				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-001	ES1228841-002	ES1228841-003	ES1228841-004	ES1228841-005
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	85.4	7.4	<0.5	<0.5	30.2
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	1150	120	<0.5	<0.5	372
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	123	12.0	<0.5	<0.5	44.7
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	1480	140	<100	<100	530
C29 - C36 Fraction	----	100	mg/kg	1280	120	<100	<100	440
^ C10 - C36 Fraction (sum)	----	50	mg/kg	2760	260	<50	<50	970
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	2290	210	<100	<100	810
>C34 - C40 Fraction	----	100	mg/kg	820	<100	<100	<100	300
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	3110	210	<50	<50	1110
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	81.7	98.0	105	98.0	94.5
2-Chlorophenol-D4	93951-73-6	0.1	%	94.0	98.1	109	100	93.7
2,4,6-Tribromophenol	118-79-6	0.1	%	52.8	82.6	93.0	96.2	89.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	86.0	93.7	94.1	94.7	94.4
Anthracene-d10	1719-06-8	0.1	%	84.4	89.7	90.8	91.1	85.4



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				19W4-0.5	19W4-1.0	19W4-1.5	19W4-2.0	17B-0.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-001	ES1228841-002	ES1228841-003	ES1228841-004	ES1228841-005
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	87.9	84.2	85.4	80.2	96.0
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	94.1	104	100	94.9	99.1
Toluene-D8	2037-26-5	0.1	%	87.2	87.6	87.9	92.7	104
4-Bromofluorobenzene	460-00-4	0.1	%	85.8	88.0	93.5	86.4	92.2



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				17B-1.0	17B-1.5	17B-2.0	17C-0.5	17C-1.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-006	ES1228841-007	ES1228841-008	ES1228841-009	ES1228841-010
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	15.3	19.7	8.6	9.6	9.7
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	6	109	5	362	10
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	<2	<2	3	<2
Copper	7440-50-8	5	mg/kg	<5	<5	<5	16	<5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	39	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	2	<2
Zinc	7440-66-6	5	mg/kg	<5	7	<5	60	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	1.1	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.6	<0.5	8.8	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	1.0	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	1.3	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3.6	<0.5	33.0	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	1.0	<0.5	12.3	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	7.4	<0.5	85.9	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	7.7	<0.5	84.2	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	2.4	<0.5	37.6	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	2.4	<0.5	36.3	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	3.5	<0.5	46.8	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.2	<0.5	15.1	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	2.8	<0.5	39.6	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.9	<0.5	30.4	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	5.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	2.6	<0.5	41.2	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	37.1	<0.5	480	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	3.8	<0.5	58.9	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				17B-1.0	17B-1.5	17B-2.0	17C-0.5	17C-1.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-006	ES1228841-007	ES1228841-008	ES1228841-009	ES1228841-010
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	680	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	650	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	1330	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	1080	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	450	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	1530	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	103	113	104	102	103
2-Chlorophenol-D4	93951-73-6	0.1	%	106	108	104	102	107
2,4,6-Tribromophenol	118-79-6	0.1	%	95.0	92.6	95.8	98.4	90.0
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	91.4	81.6	99.8	99.8	90.9
Anthracene-d10	1719-06-8	0.1	%	90.6	99.8	93.3	87.0	89.2
4-Terphenyl-d14	1718-51-0	0.1	%	83.9	96.6	88.1	103	85.8
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	100	97.2	103	99.1	91.6
Toluene-D8	2037-26-5	0.1	%	97.8	84.0	102	105	88.7
4-Bromofluorobenzene	460-00-4	0.1	%	90.9	89.6	93.6	93.5	90.4



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				17C-1.5	17C-2.0	19W3-0.5	19W3-1.0	19W3-1.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-011	ES1228841-012	ES1228841-013	ES1228841-014	ES1228841-015
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	18.2	7.5	10.3	6.9	6.8
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	10	6	1380	388	10
Arsenic	7440-38-2	5	mg/kg	<5	<5	8	6	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	<2	23	5	<2
Copper	7440-50-8	5	mg/kg	<5	<5	20	12	<5
Lead	7439-92-1	5	mg/kg	<5	<5	43	31	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	6	3	<2
Zinc	7440-66-6	5	mg/kg	<5	<5	92	92	7
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	1.9	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.8	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.6	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	22.7	1.3	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	5.4	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	44.4	3.2	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	42.1	3.3	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	14.4	0.9	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	14.2	0.9	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	18.0	1.2	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	5.7	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	14.8	1.0	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	8.8	0.6	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	1.8	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	12.1	0.8	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	208	13.2	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	21.6	1.3	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				17C-1.5	17C-2.0	19W3-0.5	19W3-1.0	19W3-1.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-011	ES1228841-012	ES1228841-013	ES1228841-014	ES1228841-015
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	280	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	200	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	480	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	400	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	120	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	520	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	97.7	106	102	109	106
2-Chlorophenol-D4	93951-73-6	0.1	%	98.2	110	96.2	109	103
2,4,6-Tribromophenol	118-79-6	0.1	%	89.6	91.6	93.2	97.9	97.0
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	91.6	98.9	95.0	104	100
Anthracene-d10	1719-06-8	0.1	%	91.1	93.7	88.8	98.0	95.0
4-Terphenyl-d14	1718-51-0	0.1	%	83.3	90.3	92.8	92.7	90.8
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	99.7	99.9	100	101	103
Toluene-D8	2037-26-5	0.1	%	95.8	101	93.9	91.5	92.8
4-Bromofluorobenzene	460-00-4	0.1	%	84.6	90.7	78.7	90.4	93.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				19W3-2.0	13B-0.5	13B-1.0	13B-1.5	13B-2.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-016	ES1228841-017	ES1228841-018	ES1228841-019	ES1228841-020
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	6.8	12.0	1.2	2.3	3.2
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	20	193	190	12	15
Arsenic	7440-38-2	5	mg/kg	<5	61	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	8	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	45	<2	<2	<2
Copper	7440-50-8	5	mg/kg	<5	275	40	<5	<5
Lead	7439-92-1	5	mg/kg	<5	504	10	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	10	3	<2	2
Zinc	7440-66-6	5	mg/kg	10	607	215	114	119
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.4	0.3	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.8	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	0.9	3.2	<0.5	<0.5	1.4
Anthracene	120-12-7	0.5	mg/kg	<0.5	1.2	<0.5	<0.5	0.7
Fluoranthene	206-44-0	0.5	mg/kg	2.3	11.9	<0.5	<0.5	4.7
Pyrene	129-00-0	0.5	mg/kg	2.3	11.4	<0.5	<0.5	3.8
Benz(a)anthracene	56-55-3	0.5	mg/kg	0.7	3.1	<0.5	<0.5	1.8
Chrysene	218-01-9	0.5	mg/kg	0.7	3.5	<0.5	<0.5	1.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	0.9	4.2	<0.5	<0.5	1.4
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.6	<0.5	<0.5	0.6
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.7	3.9	<0.5	<0.5	1.2
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	2.3	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.6	2.8	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	9.1	49.9	<0.5	<0.5	17.1
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	0.9	5.1	<0.5	<0.5	1.6
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				19W3-2.0	13B-0.5	13B-1.0	13B-1.5	13B-2.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-016	ES1228841-017	ES1228841-018	ES1228841-019	ES1228841-020
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	360	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	420	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	780	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	620	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	320	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	940	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	104	102	102	105	104
2-Chlorophenol-D4	93951-73-6	0.1	%	103	101	102	104	104
2,4,6-Tribromophenol	118-79-6	0.1	%	92.2	114	88.8	92.8	86.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	80.4	97.2	91.0	101	95.2
Anthracene-d10	1719-06-8	0.1	%	93.3	90.9	90.4	92.8	91.9
4-Terphenyl-d14	1718-51-0	0.1	%	89.5	89.4	102	105	84.8
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	101	99.6	94.8	101	97.1
Toluene-D8	2037-26-5	0.1	%	99.0	106	96.6	96.7	92.7
4-Bromofluorobenzene	460-00-4	0.1	%	90.3	88.5	86.7	90.2	100



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				17E-0.5	17E-1.0	17E-1.5	17E-2.0	13D-0.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-021	ES1228841-022	ES1228841-023	ES1228841-024	ES1228841-025
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	6.5	5.7	3.8	3.3	5.7
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	182	36	14	18	107
Arsenic	7440-38-2	5	mg/kg	<5	5	6	<5	7
Cadmium	7440-43-9	1	mg/kg	1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	2	2	<2	<2	5
Copper	7440-50-8	5	mg/kg	19	16	<5	<5	71
Lead	7439-92-1	5	mg/kg	15	<5	<5	<5	116
Nickel	7440-02-0	2	mg/kg	10	<2	3	<2	4
Zinc	7440-66-6	5	mg/kg	288	47	50	<5	162
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.6
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	1.2	<0.5	<0.5	<0.5	0.7
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	4.4	<0.5	<0.5	<0.5	1.8
Pyrene	129-00-0	0.5	mg/kg	4.2	<0.5	<0.5	<0.5	1.8
Benz(a)anthracene	56-55-3	0.5	mg/kg	1.6	<0.5	<0.5	<0.5	0.6
Chrysene	218-01-9	0.5	mg/kg	1.7	<0.5	<0.5	<0.5	0.7
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	2.5	<0.5	<0.5	<0.5	1.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.6	<0.5	<0.5	<0.5	1.0
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.9	<0.5	<0.5	<0.5	0.6
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	2.3	<0.5	<0.5	<0.5	0.8
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	23.3	<0.5	<0.5	<0.5	9.7
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	3.3	<0.5	<0.5	<0.5	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				17E-0.5	17E-1.0	17E-1.5	17E-2.0	13D-0.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-021	ES1228841-022	ES1228841-023	ES1228841-024	ES1228841-025
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	110	<100	<100	<100	120
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	110	<50	<50	<50	120
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	109	112	100	103	102
2-Chlorophenol-D4	93951-73-6	0.1	%	105	113	95.4	101	96.8
2,4,6-Tribromophenol	118-79-6	0.1	%	97.8	101	100	97.2	106
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	98.7	106	92.6	93.1	95.4
Anthracene-d10	1719-06-8	0.1	%	93.9	101	87.7	88.2	90.0
4-Terphenyl-d14	1718-51-0	0.1	%	94.7	100	88.1	88.9	89.9
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	98.2	99.4	102	97.8	99.2
Toluene-D8	2037-26-5	0.1	%	101	97.8	98.6	91.6	95.9
4-Bromofluorobenzene	460-00-4	0.1	%	97.8	96.9	91.5	87.1	88.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				13D-1.0	13D-1.5	13D-2.0	12E-0.5	12E-1.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-026	ES1228841-027	ES1228841-028	ES1228841-029	ES1228841-030
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	1.8	4.0	2.8	2.2	2.7
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	65	5	8	224	118
Arsenic	7440-38-2	5	mg/kg	19	<5	<5	<5	6
Cadmium	7440-43-9	1	mg/kg	2	<1	<1	1	1
Chromium	7440-47-3	2	mg/kg	6	<2	<2	3	6
Copper	7440-50-8	5	mg/kg	256	<5	<5	24	52
Lead	7439-92-1	5	mg/kg	214	<5	<5	34	80
Nickel	7440-02-0	2	mg/kg	3	<2	<2	8	5
Zinc	7440-66-6	5	mg/kg	142	<5	<5	301	210
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	0.6	<0.5	<0.5	0.8	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	1.6	2.5	<0.5	3.4	1.7
Pyrene	129-00-0	0.5	mg/kg	1.6	2.1	<0.5	3.4	1.6
Benz(a)anthracene	56-55-3	0.5	mg/kg	0.6	0.9	<0.5	1.3	0.6
Chrysene	218-01-9	0.5	mg/kg	0.6	0.8	<0.5	1.4	0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	0.9	0.9	<0.5	2.3	0.7
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	0.7	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.9	0.8	<0.5	2.0	0.6
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	0.6	<0.5	<0.5	1.3	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.7	<0.5	<0.5	1.7	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	8.1	8.0	<0.5	18.3	5.7
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	1.1	1.0	<0.5	2.6	0.7
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				13D-1.0	13D-1.5	13D-2.0	12E-0.5	12E-1.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-026	ES1228841-027	ES1228841-028	ES1228841-029	ES1228841-030
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	102	103	98.2	98.2	110
2-Chlorophenol-D4	93951-73-6	0.1	%	101	105	98.0	99.8	107
2,4,6-Tribromophenol	118-79-6	0.1	%	111	102	104	112	98.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	95.8	95.6	95.4	97.1	104
Anthracene-d10	1719-06-8	0.1	%	91.3	91.2	90.6	92.6	99.5
4-Terphenyl-d14	1718-51-0	0.1	%	91.2	92.3	90.7	92.8	98.8
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	102	101	103	102	100
Toluene-D8	2037-26-5	0.1	%	113	95.3	99.5	98.5	94.4
4-Bromofluorobenzene	460-00-4	0.1	%	106	98.9	104	102	96.3



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				12E-1.5	12E-2.0	12B-0.5	12B-1.0	12B-1.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-031	ES1228841-032	ES1228841-033	ES1228841-034	ES1228841-035
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	3.6	9.2	7.6	18.8	9.4
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	8	51	262	32	10
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	3	2	<2	<2
Copper	7440-50-8	5	mg/kg	<5	19	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	27	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	3	3	<2	<2
Zinc	7440-66-6	5	mg/kg	<5	74	38	7	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.7	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.7	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.8	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.7	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.6	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	3.5	<0.5	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	0.8	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				12E-1.5	12E-2.0	12B-0.5	12B-1.0	12B-1.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-031	ES1228841-032	ES1228841-033	ES1228841-034	ES1228841-035
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	105	106	104	101	106
2-Chlorophenol-D4	93951-73-6	0.1	%	98.2	100	108	97.0	101
2,4,6-Tribromophenol	118-79-6	0.1	%	109	106	104	99.5	105
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	99.1	95.6	99.8	91.8	95.5
Anthracene-d10	1719-06-8	0.1	%	93.8	92.6	94.0	89.5	91.6
4-Terphenyl-d14	1718-51-0	0.1	%	94.5	93.2	94.8	89.4	92.3
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	98.3	101	93.8	89.2	97.3
Toluene-D8	2037-26-5	0.1	%	91.2	88.5	87.0	82.9	85.4
4-Bromofluorobenzene	460-00-4	0.1	%	96.7	93.7	90.4	87.2	91.8



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				12B-2.0	13A-0.5	13A-1.0	13A-1.5	13A-2.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-036	ES1228841-037	ES1228841-038	ES1228841-039	ES1228841-040
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	15.4	2.1	2.9	6.5	6.0
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	----	----	----
Asbestos Type	1332-21-4	0.1	--	----	-	----	----	----
Sample weight (dry)	----	0.01	g	----	552	----	----	----
APPROVED IDENTIFIER:	----	-	--	----	P.RENNIE	----	----	----
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	22	51	46	10	10
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	3	3	4	3
Zinc	7440-66-6	5	mg/kg	<5	59	71	18	8
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	0.8	1.0	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	0.8	0.9	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				12B-2.0	13A-0.5	13A-1.0	13A-1.5	13A-2.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-036	ES1228841-037	ES1228841-038	ES1228841-039	ES1228841-040
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	1.6	2.9	<0.5	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	0.6	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	96.5	105	99.0	104	98.5
2-Chlorophenol-D4	93951-73-6	0.1	%	90.7	103	99.9	103	98.8
2,4,6-Tribromophenol	118-79-6	0.1	%	87.1	96.8	92.8	95.2	97.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	88.5	94.8	92.6	92.9	95.3
Anthracene-d10	1719-06-8	0.1	%	86.4	89.6	88.5	88.1	90.0



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				12B-2.0	13A-0.5	13A-1.0	13A-1.5	13A-2.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-036	ES1228841-037	ES1228841-038	ES1228841-039	ES1228841-040
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	87.3	91.1	89.3	88.8	90.9
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	92.8	104	107	96.0	103
Toluene-D8	2037-26-5	0.1	%	80.1	96.4	103	89.8	110
4-Bromofluorobenzene	460-00-4	0.1	%	85.7	100	100	85.9	100



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				12D-0.5	12D-1.0	12D-1.5	12D-2.0	12C-0.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-041	ES1228841-042	ES1228841-043	ES1228841-044	ES1228841-045
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	1.0	2.5	2.7	3.0	4.6
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	245	40	48	23	20
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg	6	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	10	2	2	<2	<2
Zinc	7440-66-6	5	mg/kg	337	86	69	64	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	1.1	<0.5	2.1
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.9	<0.5	2.2
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.8
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.7
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.9
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.6
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	2.0	<0.5	7.3
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.8
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				12D-0.5	12D-1.0	12D-1.5	12D-2.0	12C-0.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-041	ES1228841-042	ES1228841-043	ES1228841-044	ES1228841-045
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	95.7	97.9	95.8	102	97.0
2-Chlorophenol-D4	93951-73-6	0.1	%	93.0	97.8	97.1	102	95.3
2,4,6-Tribromophenol	118-79-6	0.1	%	78.7	81.2	88.3	88.2	89.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	98.2	97.0	97.8	101	96.4
Anthracene-d10	1719-06-8	0.1	%	90.3	89.8	90.7	94.0	89.9
4-Terphenyl-d14	1718-51-0	0.1	%	98.9	99.0	99.1	102	97.9
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	103	105	103	105	108
Toluene-D8	2037-26-5	0.1	%	106	106	98.6	101	104
4-Bromofluorobenzene	460-00-4	0.1	%	96.3	98.6	91.2	93.9	94.6



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				12C-1.0	12C-1.5	12C-2.0	12A-0.5	12A-1.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-046	ES1228841-047	ES1228841-048	ES1228841-049	ES1228841-050
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	5.2	17.5	4.8	3.6	1.9
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	9	17	8	54	8
Arsenic	7440-38-2	5	mg/kg	<5	7	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	<2	<2	2	<2
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	<5	<5	<5	12	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	4.6	1.1
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	1.3	0.8
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	10.7	12.4
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	10.6	10.4
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	3.7	5.2
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	3.2	4.1
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	3.5	5.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	1.5	1.9
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	3.8	3.6
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	2.5	1.6
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	3.4	1.8
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	49.3	48.0
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	<0.5	5.0	5.0
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				12C-1.0	12C-1.5	12C-2.0	12A-0.5	12A-1.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-046	ES1228841-047	ES1228841-048	ES1228841-049	ES1228841-050
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	120
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	170
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	170
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	83.1	83.0	70.5	93.0	72.8
2-Chlorophenol-D4	93951-73-6	0.1	%	79.7	93.9	98.8	99.9	75.1
2,4,6-Tribromophenol	118-79-6	0.1	%	82.4	67.4	59.2	100	86.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	69.4	83.7	96.9	102	96.2
Anthracene-d10	1719-06-8	0.1	%	94.1	88.4	91.9	91.6	89.7
4-Terphenyl-d14	1718-51-0	0.1	%	105	98.6	109	113	95.0
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	104	96.7	100	108	106
Toluene-D8	2037-26-5	0.1	%	100	92.8	83.0	108	104
4-Bromofluorobenzene	460-00-4	0.1	%	95.6	87.3	89.8	100	96.8



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				12A-1.5	12A-2.0	18W5-0.5	18W5-1.0	18W5-1.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-051	ES1228841-052	ES1228841-053	ES1228841-054	ES1228841-055
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	2.4	2.2	3.6	5.9	6.7
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	12	8	456	20	8
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	<2	4	<2	<2
Copper	7440-50-8	5	mg/kg	<5	<5	9	<5	<5
Lead	7439-92-1	5	mg/kg	<5	<5	13	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	2	<2	<2
Zinc	7440-66-6	5	mg/kg	<5	<5	26	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	3.8	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	4.3	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	1.8	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	2.7	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	36.2	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	10.9	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	53.6	1.4	0.7
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	52.9	1.2	0.6
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	19.2	0.6	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	18.9	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	24.0	0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	9.1	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	20.0	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	12.0	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	2.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	16.6	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	288	3.7	1.3
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	29.3	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				12A-1.5	12A-2.0	18W5-0.5	18W5-1.0	18W5-1.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-051	ES1228841-052	ES1228841-053	ES1228841-054	ES1228841-055
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	530	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	340	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	870	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	740	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	210	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	950	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	4	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	101	95.8	73.6	92.2	102
2-Chlorophenol-D4	93951-73-6	0.1	%	99.6	96.8	75.8	79.7	81.4
2,4,6-Tribromophenol	118-79-6	0.1	%	84.1	85.7	18.0	32.1	41.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	98.0	95.9	95.7	91.1	90.3
Anthracene-d10	1719-06-8	0.1	%	91.2	89.0	90.0	88.0	89.1
4-Terphenyl-d14	1718-51-0	0.1	%	98.3	101	95.8	95.6	95.1
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	107	109	103	98.3	106
Toluene-D8	2037-26-5	0.1	%	104	105	102	94.6	101
4-Bromofluorobenzene	460-00-4	0.1	%	95.5	98.9	94.1	90.9	97.0



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				18W5-2.0	16C-0.5	16C-1.0	16C-1.5	16C-2.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-056	ES1228841-057	ES1228841-058	ES1228841-059	ES1228841-060
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	6.9	5.9	3.0	19.4	5.7
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	9	2200	8	<5	5
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	21	<2	<2	<2
Copper	7440-50-8	5	mg/kg	<5	11	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	27	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	2	10	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	21	118	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<4.0	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	12.1	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<4.0	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<4.0	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	0.6	116	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	27.3	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	1.0	272	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	0.9	264	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	78.6	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	74.8	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	107	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	49.6	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	87.9	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	61.1	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	9.0	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	84.8	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	2.5	1240	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	128	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				18W5-2.0	16C-0.5	16C-1.0	16C-1.5	16C-2.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-056	ES1228841-057	ES1228841-058	ES1228841-059	ES1228841-060
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	1620	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	1190	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	2810	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	2350	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	780	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	3130	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	73.5	82.3	97.8	93.9	92.8
2-Chlorophenol-D4	93951-73-6	0.1	%	79.1	79.8	94.8	88.4	89.9
2,4,6-Tribromophenol	118-79-6	0.1	%	59.7	62.9	73.3	71.4	71.9
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	112	78.5	97.4	90.4	93.6
Anthracene-d10	1719-06-8	0.1	%	82.7	76.4	91.0	87.6	88.6
4-Terphenyl-d14	1718-51-0	0.1	%	92.9	83.0	96.3	91.2	94.0
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	107	105	102	94.3	103
Toluene-D8	2037-26-5	0.1	%	105	102	98.7	93.4	98.1
4-Bromofluorobenzene	460-00-4	0.1	%	97.2	94.9	94.2	88.7	92.0



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				18W4-0.5	18W4-1.0	18W4-1.5	18W4-2.0	18W3-0.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-061	ES1228841-062	ES1228841-063	ES1228841-064	ES1228841-065
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	3.9	2.1	2.2	2.4	7.1
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	405	284	7	10	153
Arsenic	7440-38-2	5	mg/kg	6	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	3	2	<2	<2	2
Copper	7440-50-8	5	mg/kg	5	<5	<5	<5	7
Lead	7439-92-1	5	mg/kg	10	<5	<5	<5	9
Nickel	7440-02-0	2	mg/kg	3	<2	<2	<2	3
Zinc	7440-66-6	5	mg/kg	14	12	<5	<5	44
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	34.0	21.8	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	7.9	3.9	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	6.9	4.1	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	11.0	7.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	67.8	38.0	<0.5	<0.5	1.1
Anthracene	120-12-7	0.5	mg/kg	17.9	9.4	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	73.0	33.3	<0.5	1.0	5.3
Pyrene	129-00-0	0.5	mg/kg	70.5	31.4	<0.5	0.8	5.2
Benz(a)anthracene	56-55-3	0.5	mg/kg	20.5	9.7	<0.5	<0.5	1.9
Chrysene	218-01-9	0.5	mg/kg	19.6	9.7	<0.5	<0.5	1.8
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	25.5	11.8	<0.5	<0.5	2.3
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	9.5	4.6	<0.5	<0.5	1.0
Benzo(a)pyrene	50-32-8	0.5	mg/kg	21.7	11.3	<0.5	<0.5	1.9
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	13.4	6.1	<0.5	<0.5	1.2
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	3.1	1.3	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	17.5	8.4	<0.5	<0.5	1.6
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	420	212	<0.5	1.8	23.3
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	32.1	16.0	<0.5	<0.5	2.6
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				18W4-0.5	18W4-1.0	18W4-1.5	18W4-2.0	18W3-0.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-061	ES1228841-062	ES1228841-063	ES1228841-064	ES1228841-065
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	650	360	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	370	180	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	1020	540	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	90	70	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	860	440	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	250	130	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	1200	640	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	91	13	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	106	110	104	106	95.1
2-Chlorophenol-D4	93951-73-6	0.1	%	108	110	102	105	95.9
2,4,6-Tribromophenol	118-79-6	0.1	%	103	111	104	101	84.1
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	100	107	106	103	100
Anthracene-d10	1719-06-8	0.1	%	84.3	93.6	96.6	93.2	90.3
4-Terphenyl-d14	1718-51-0	0.1	%	91.8	97.4	91.6	90.6	86.9
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	106	111	115	103	95.0
Toluene-D8	2037-26-5	0.1	%	106	102	113	104	92.9
4-Bromofluorobenzene	460-00-4	0.1	%	93.8	97.2	107	99.0	90.2



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				18W3-1.0	18W3-1.5	18W3-2.0	16D-0.5	16D-1.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-066	ES1228841-067	ES1228841-068	ES1228841-069	ES1228841-070
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	7.4	7.1	10.2	7.0	8.8
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	19	45	13	384	122
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	<2	<2	7	2
Copper	7440-50-8	5	mg/kg	<5	<5	<5	40	5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	20	7
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	6	<2
Zinc	7440-66-6	5	mg/kg	<5	6	5	403	20
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	3.3	1.9
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	0.6
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	20.0	16.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	5.6	3.9
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	1.3	1.9	50.0	34.9
Pyrene	129-00-0	0.5	mg/kg	<0.5	1.4	1.7	50.1	34.2
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.8	15.8	10.1
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.6	16.4	10.2
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	0.6	0.7	21.8	13.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	9.0	5.2
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.5	17.9	11.6
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	11.7	6.7
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	2.3	1.4
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	15.8	9.3
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	3.3	6.2	240	160
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	0.6	26.4	16.7
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				18W3-1.0	18W3-1.5	18W3-2.0	16D-0.5	16D-1.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-066	ES1228841-067	ES1228841-068	ES1228841-069	ES1228841-070
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	360	200
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	270	150
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	630	350
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	520	290
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	180	100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	700	390
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	102	100	112	94.5	101
2-Chlorophenol-D4	93951-73-6	0.1	%	108	106	105	99.0	105
2,4,6-Tribromophenol	118-79-6	0.1	%	95.8	88.3	97.5	95.3	78.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	104	102	108	102	101
Anthracene-d10	1719-06-8	0.1	%	95.0	93.5	98.6	90.0	91.2
4-Terphenyl-d14	1718-51-0	0.1	%	91.9	88.9	96.0	96.3	92.8
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	90.9	95.9	91.0	90.6	91.6
Toluene-D8	2037-26-5	0.1	%	86.8	92.0	88.4	88.1	88.8
4-Bromofluorobenzene	460-00-4	0.1	%	89.0	88.9	85.0	86.4	88.7



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				16D-1.5	16D-2.0	18W2-0.5	18W2-1.0	18W2-1.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-071	ES1228841-072	ES1228841-073	ES1228841-074	ES1228841-075
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	17.9	10.7	4.7	4.8	4.0
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	28	24	2460	321	27
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	2	<2	9	4	<2
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	5	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	2	3	<2
Zinc	7440-66-6	5	mg/kg	9	6	16	22	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	2.9	2.8	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	0.7	<0.5	4.3	6.0	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	1.8	2.4	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	3.8	5.7	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	2.6	1.5	32.9	55.6	1.0
Anthracene	120-12-7	0.5	mg/kg	1.0	<0.5	9.1	14.8	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	9.8	5.4	58.1	84.2	2.9
Pyrene	129-00-0	0.5	mg/kg	9.7	5.3	57.2	83.5	3.0
Benz(a)anthracene	56-55-3	0.5	mg/kg	3.2	1.6	17.2	28.2	0.7
Chrysene	218-01-9	0.5	mg/kg	3.2	1.7	17.4	28.1	0.8
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	4.2	2.3	23.6	35.7	1.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.7	0.8	9.3	12.2	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.6	1.6	21.2	32.0	1.0
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.0	0.9	14.1	19.4	0.6
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	2.5	3.6	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	2.5	1.3	19.4	26.8	0.8
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	44.2	22.4	295	441	11.9
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	4.8	2.2	30.5	45.7	1.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				16D-1.5	16D-2.0	18W2-0.5	18W2-1.0	18W2-1.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-071	ES1228841-072	ES1228841-073	ES1228841-074	ES1228841-075
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	370	630	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	300	400	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	670	1030	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	540	840	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	260	260	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	800	1100	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	1	2	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	97.9	102	103	106	93.5
2-Chlorophenol-D4	93951-73-6	0.1	%	99.2	109	109	107	100
2,4,6-Tribromophenol	118-79-6	0.1	%	92.1	90.2	103	104	91.4
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	99.1	109	108	111	103
Anthracene-d10	1719-06-8	0.1	%	91.5	95.7	95.7	89.9	93.8
4-Terphenyl-d14	1718-51-0	0.1	%	88.8	98.1	104	107	89.4
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	90.7	92.3	101	104	96.8
Toluene-D8	2037-26-5	0.1	%	84.9	91.2	94.0	95.2	89.4
4-Bromofluorobenzene	460-00-4	0.1	%	79.5	83.7	85.6	87.5	80.9



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				18W2-2.0	16A-0.5	16A-1.0	16A-1.5	16A-2.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-076	ES1228841-077	ES1228841-078	ES1228841-079	ES1228841-080
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	4.4	10.2	6.6	19.7	19.5
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	----	----	----
Asbestos Type	1332-21-4	0.1	--	----	-	----	----	----
Sample weight (dry)	----	0.01	g	----	380	----	----	----
APPROVED IDENTIFIER:	----	-	--	----	P.RENNIE	----	----	----
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	6	13900	18	20	29
Arsenic	7440-38-2	5	mg/kg	<5	6	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	182	<2	<2	<2
Copper	7440-50-8	5	mg/kg	<5	21	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	20	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	12	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	<5	142	<5	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	10.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	14.3	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	5.1	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	11.4	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	169	<0.5	1.0	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	36.1	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	344	<0.5	1.3	1.0
Pyrene	129-00-0	0.5	mg/kg	<0.5	348	<0.5	1.3	1.0
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	86.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	88.8	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	126	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	53.2	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	99.9	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	62.8	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	11.6	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				18W2-2.0	16A-0.5	16A-1.0	16A-1.5	16A-2.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-076	ES1228841-077	ES1228841-078	ES1228841-079	ES1228841-080
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	90.1	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	1560	<0.5	3.6	2.0
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	146	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	2000	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	1450	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	3450	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	120	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	2850	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	950	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	3920	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	6	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	110	112	103	97.6	109
2-Chlorophenol-D4	93951-73-6	0.1	%	111	78.9	103	104	109
2,4,6-Tribromophenol	118-79-6	0.1	%	104	59.2	105	101	99.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	110	78.0	108	103	107
Anthracene-d10	1719-06-8	0.1	%	100	84.3	98.2	93.5	96.4



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				18W2-2.0	16A-0.5	16A-1.0	16A-1.5	16A-2.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-076	ES1228841-077	ES1228841-078	ES1228841-079	ES1228841-080
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	95.4	79.0	91.9	89.0	91.7
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	94.1	96.0	111	81.5	92.1
Toluene-D8	2037-26-5	0.1	%	89.1	91.5	110	82.0	85.3
4-Bromofluorobenzene	460-00-4	0.1	%	81.6	81.8	105	78.8	91.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14W3-0.5	14W3-1.0	14W3-1.5	14W3-2.0	14E-0.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-081	ES1228841-082	ES1228841-083	ES1228841-084	ES1228841-085
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	3.5	9.4	8.8	4.9	5.0
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	570	1740	12	82	1350
Arsenic	7440-38-2	5	mg/kg	6	8	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	7	20	<2	2	10
Copper	7440-50-8	5	mg/kg	25	32	<5	<5	7
Lead	7439-92-1	5	mg/kg	36	46	<5	<5	11
Nickel	7440-02-0	2	mg/kg	8	8	<2	<2	3
Zinc	7440-66-6	5	mg/kg	246	348	<5	20	74
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	2.0
Acenaphthylene	208-96-8	0.5	mg/kg	0.6	1.1	<0.5	<0.5	6.0
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	3.7
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	1.6
Phenanthrene	85-01-8	0.5	mg/kg	1.5	3.0	<0.5	0.8	65.4
Anthracene	120-12-7	0.5	mg/kg	0.8	1.4	<0.5	<0.5	17.0
Fluoranthene	206-44-0	0.5	mg/kg	5.0	8.2	1.2	1.9	121
Pyrene	129-00-0	0.5	mg/kg	4.8	8.4	1.0	1.8	114
Benz(a)anthracene	56-55-3	0.5	mg/kg	2.7	4.0	<0.5	0.6	40.8
Chrysene	218-01-9	0.5	mg/kg	2.6	4.2	<0.5	0.6	37.1
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	3.8	6.0	<0.5	0.8	49.6
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.2	2.2	<0.5	<0.5	18.1
Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.8	4.4	<0.5	0.6	39.6
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.7	3.0	<0.5	<0.5	24.8
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.5	<0.5	<0.5	5.1
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	2.3	4.0	<0.5	0.5	36.3
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	29.8	50.4	2.2	7.6	582
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	3.8	6.5	<0.5	0.8	58.8
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14W3-0.5	14W3-1.0	14W3-1.5	14W3-2.0	14E-0.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-081	ES1228841-082	ES1228841-083	ES1228841-084	ES1228841-085
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	140	<100	<100	820
C29 - C36 Fraction	----	100	mg/kg	<100	100	<100	<100	570
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	240	<50	<50	1390
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	140	210	<100	<100	1160
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	380
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	140	210	<50	<50	1540
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	94.6	71.3	76.2	85.9	87.1
2-Chlorophenol-D4	93951-73-6	0.1	%	87.6	95.4	93.9	95.8	93.9
2,4,6-Tribromophenol	118-79-6	0.1	%	64.5	66.3	82.2	71.5	68.2
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	102	86.0	99.4	94.8	95.0
Anthracene-d10	1719-06-8	0.1	%	89.6	91.7	87.0	91.3	89.6
4-Terphenyl-d14	1718-51-0	0.1	%	95.0	98.4	103	95.7	94.7
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	98.2	89.4	95.9	103	105
Toluene-D8	2037-26-5	0.1	%	105	100	101	104	111
4-Bromofluorobenzene	460-00-4	0.1	%	100	99.2	98.9	110	110



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14E-1.0	14E-1.5	14E-2.0	10E-0.5	10E-1.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-086	ES1228841-087	ES1228841-088	ES1228841-089	ES1228841-090
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	3.7	4.2	4.0	8.7	6.9
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	25	18	20	7640	29
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	6	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	1	<1
Chromium	7440-47-3	2	mg/kg	<2	<2	<2	33	2
Copper	7440-50-8	5	mg/kg	<5	<5	<5	28	<5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	33	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	12	<2
Zinc	7440-66-6	5	mg/kg	<5	7	9	363	6
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	5.6	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	0.6	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	4.6	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	3.2	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	0.5	<0.5	<0.5	17.3	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	6.1	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	1.4	1.3	3.7	25.4	<0.5
Pyrene	129-00-0	0.5	mg/kg	1.4	1.2	3.6	23.2	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	0.6	1.4	9.3	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	1.2	8.4	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	0.6	0.6	1.5	11.0	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.6	4.2	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	1.2	9.3	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.6	5.0	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	0.9	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.6	6.0	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	3.9	3.7	14.4	140	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	1.6	13.3	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14E-1.0	14E-1.5	14E-2.0	10E-0.5	10E-1.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-086	ES1228841-087	ES1228841-088	ES1228841-089	ES1228841-090
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	250	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	200	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	450	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	360	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	180	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	540	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	5	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	110	109	102	78.7	98.6
2-Chlorophenol-D4	93951-73-6	0.1	%	103	103	106	91.1	96.8
2,4,6-Tribromophenol	118-79-6	0.1	%	70.2	66.4	75.5	71.2	72.0
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	101	99.4	107	94.6	94.5
Anthracene-d10	1719-06-8	0.1	%	96.0	91.0	99.8	92.3	89.1
4-Terphenyl-d14	1718-51-0	0.1	%	105	97.6	117	97.7	95.6
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	95.4	96.9	108	104	103
Toluene-D8	2037-26-5	0.1	%	104	99.5	113	109	99.3
4-Bromofluorobenzene	460-00-4	0.1	%	96.0	98.2	105	106	108



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				10E-1.5	10E-2.0	14W4-0.5	14W4-1.0	14W4-1.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-091	ES1228841-092	ES1228841-093	ES1228841-094	ES1228841-095
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	4.7	10.1	3.2	4.6	4.1
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	80	10	24	8	18
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	<2	<2	<2	<2
Copper	7440-50-8	5	mg/kg	<5	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	<5	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	<2	6	<2	<2
Zinc	7440-66-6	5	mg/kg	<5	<5	247	<5	15
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	2.2	<0.5	2.1
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	1.6	<0.5	2.0
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	1.1	<0.5	0.7
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.9	<0.5	0.6
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	1.2	<0.5	1.0
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	1.0	<0.5	0.8
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.5	<0.5	0.6
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.6	<0.5	0.8
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	9.1	<0.5	8.6
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	1.3	<0.5	1.0
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				10E-1.5	10E-2.0	14W4-0.5	14W4-1.0	14W4-1.5
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-091	ES1228841-092	ES1228841-093	ES1228841-094	ES1228841-095
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	103	101	104	100	101
2-Chlorophenol-D4	93951-73-6	0.1	%	101	97.6	99.3	96.7	96.4
2,4,6-Tribromophenol	118-79-6	0.1	%	81.6	78.8	75.7	63.0	76.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	100	95.2	87.5	95.5	94.5
Anthracene-d10	1719-06-8	0.1	%	92.8	90.6	95.8	92.1	88.5
4-Terphenyl-d14	1718-51-0	0.1	%	96.6	96.9	101	97.1	95.2
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	96.4	99.6	104	107	101
Toluene-D8	2037-26-5	0.1	%	103	99.3	93.2	91.1	89.4
4-Bromofluorobenzene	460-00-4	0.1	%	101	100	106	94.8	80.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14W4-2.0	10C-0.5	10C-1.0	10C-1.5	10C-2.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-096	ES1228841-097	ES1228841-098	ES1228841-099	ES1228841-100
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	4.0	7.9	9.7	8.0	6.4
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	7	15000	40	11	73
Arsenic	7440-38-2	5	mg/kg	<5	11	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	<2	80	<2	<2	<2
Copper	7440-50-8	5	mg/kg	<5	35	<5	<5	<5
Lead	7439-92-1	5	mg/kg	<5	44	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	<2	19	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	<5	351	<5	<5	10
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.7	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	0.7	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	5.8	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	2.1	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	19.5	<0.5	<0.5	0.6
Pyrene	129-00-0	0.5	mg/kg	<0.5	19.4	<0.5	<0.5	0.6
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	7.9	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	7.6	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	10.9	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4.2	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	8.6	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4.1	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.7	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	5.6	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	97.8	<0.5	<0.5	1.2
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	12.1	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				14W4-2.0	10C-0.5	10C-1.0	10C-1.5	10C-2.0
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-096	ES1228841-097	ES1228841-098	ES1228841-099	ES1228841-100
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	190	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	140	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	330	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	280	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	280	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	101	77.5	79.6	82.8	77.0
2-Chlorophenol-D4	93951-73-6	0.1	%	95.1	76.0	81.3	96.9	86.0
2,4,6-Tribromophenol	118-79-6	0.1	%	77.6	55.5	73.8	86.4	84.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	98.0	103	104	98.8	92.4
Anthracene-d10	1719-06-8	0.1	%	93.5	94.5	88.5	90.0	87.6
4-Terphenyl-d14	1718-51-0	0.1	%	109	70.0	98.4	95.2	80.8
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	106	103	93.9	98.3	106
Toluene-D8	2037-26-5	0.1	%	86.8	91.8	75.4	98.3	89.5
4-Bromofluorobenzene	460-00-4	0.1	%	75.8	92.0	82.2	97.0	85.5



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				10B-0.5	10B-1.0	10B-1.5	10B-2.0	QC10
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-101	ES1228841-102	ES1228841-103	ES1228841-104	ES1228841-105
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	9.0	8.8	9.1	8.9	9.7
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	11800	1650	15	14	8
Arsenic	7440-38-2	5	mg/kg	6	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	53	6	<2	<2	<2
Copper	7440-50-8	5	mg/kg	20	<5	<5	<5	<5
Lead	7439-92-1	5	mg/kg	26	7	<5	<5	<5
Nickel	7440-02-0	2	mg/kg	10	4	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	126	54	5	<5	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	1.4	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	1.1	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	4.1	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	2.4	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	26.4	1.0	0.6	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	9.4	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	56.7	2.6	3.8	3.2	<0.5
Pyrene	129-00-0	0.5	mg/kg	50.4	2.3	3.4	3.0	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	21.9	0.9	1.4	1.3	<0.5
Chrysene	218-01-9	0.5	mg/kg	20.3	0.8	1.2	1.0	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	24.5	1.0	1.4	1.0	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	10.2	<0.5	0.7	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	20.0	0.7	1.1	0.8	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	11.0	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	2.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	12.8	<0.5	0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	275	9.3	14.1	10.3	<0.5
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	29.6	0.9	1.5	1.0	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				10B-0.5	10B-1.0	10B-1.5	10B-2.0	QC10
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]
Compound	CAS Number	LOR	Unit	ES1228841-101	ES1228841-102	ES1228841-103	ES1228841-104	ES1228841-105
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	490	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	320	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	810	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	680	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	240	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	920	<50	<50	<50	<50
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	98.7	98.5	99.6	79.5	85.7
2-Chlorophenol-D4	93951-73-6	0.1	%	95.0	97.8	101	77.4	78.5
2,4,6-Tribromophenol	118-79-6	0.1	%	90.2	98.5	81.6	52.0	55.7
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	94.9	94.3	97.1	93.7	97.5
Anthracene-d10	1719-06-8	0.1	%	86.7	89.4	103	90.4	92.4
4-Terphenyl-d14	1718-51-0	0.1	%	118	88.0	97.1	84.9	91.3
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	94.8	103	102	99.8	98.9
Toluene-D8	2037-26-5	0.1	%	100	88.3	87.0	87.6	84.9
4-Bromofluorobenzene	460-00-4	0.1	%	95.4	81.1	100	88.2	95.9



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				QC11	QC12	QC13	----	----
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	----	----
Compound	CAS Number	LOR	Unit	ES1228841-106	ES1228841-107	ES1228841-108	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	19.9	12.2	15.2	----	----
EG005T: Total Metals by ICP-AES								
Manganese	7439-96-5	5	mg/kg	<5	18	8	----	----
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg	<2	<2	<2	----	----
Copper	7440-50-8	5	mg/kg	<5	<5	<5	----	----
Lead	7439-92-1	5	mg/kg	<5	<5	<5	----	----
Nickel	7440-02-0	2	mg/kg	<2	<2	<2	----	----
Zinc	7440-66-6	5	mg/kg	<5	<5	<5	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	----	----



Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Client sample ID

Client sampling date / time

				QC11	QC12	QC13	----	----
				[06-DEC-2012]	[06-DEC-2012]	[06-DEC-2012]	----	----
Compound	CAS Number	LOR	Unit	ES1228841-106	ES1228841-107	ES1228841-108	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued								
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	10	mg/kg	<10	<10	<10	----	----
^ C6 - C10 Fraction minus BTEX (F1)	----	10	mg/kg	<10	<10	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	----	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
EP080: BTEXN								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	81.9	95.4	98.0	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	81.4	88.9	99.4	----	----
2,4,6-Tribromophenol	118-79-6	0.1	%	65.0	53.9	89.0	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	97.0	100	93.3	----	----
Anthracene-d10	1719-06-8	0.1	%	92.2	96.5	93.6	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	90.7	96.5	87.6	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	100	107	104	----	----
Toluene-D8	2037-26-5	0.1	%	104	90.8	95.4	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	99.6	92.2	85.2	----	----



Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Client sample ID

Client sampling date / time

				QCE	----	----	----	----
				[06-DEC-2012]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1228841-109	----	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L	0.002	----	----	----	----
Lead	7439-92-1	0.001	mg/L	0.002	----	----	----	----
Manganese	7439-96-5	0.001	mg/L	0.002	----	----	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L	0.010	----	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (WHO)	----	0.5	µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----



Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Client sample ID

Client sampling date / time

				QCE	----	----	----	----
				[06-DEC-2012]	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1228841-109	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued								
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
C6 - C10 Fraction	----	20	µg/L	<20	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	----	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ Total Xylenes	1330-20-7	2	µg/L	<2	----	----	----	----
^ Sum of BTEX	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	19.2	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	53.0	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.1	%	59.5	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	59.0	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	80.4	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	85.6	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	120	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	120	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	108	----	----	----	----



Analytical Results

Descriptive Results

Sub-Matrix: SOIL		
Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	17B-0.5 - [06-DEC-2012]	Mid brown sandy soil with some small grey rocks plus a trace of vegetation
EA200: Description	13A-0.5 - [06-DEC-2012]	Pale brown sandy soil with plenty of shell debris plus some vegetation
EA200: Description	16A-0.5 - [06-DEC-2012]	Mid brown soil with plenty of small grey rocks plus some quartz and slag grains and a trace of vegetation



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	127
2-Chlorophenol-D4	93951-73-6	64	126
2,4,6-Tribromophenol	118-79-6	36	136
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	64	130
Anthracene-d10	1719-06-8	69	135
4-Terphenyl-d14	1718-51-0	64	136
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	72.8	133.2
Toluene-D8	2037-26-5	73.9	132.1
4-Bromofluorobenzene	460-00-4	71.6	130.0

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	15.9	102
2,4,6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20.4	112
Anthracene-d10	1719-06-8	29.6	118
4-Terphenyl-d14	1718-51-0	21.5	126
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

Environmental Division

QUALITY CONTROL REPORT

Work Order	: ES1228841	Page	: 1 of 41
Client	: SINCLAIR KNIGHT MERZ	Laboratory	: Environmental Division Sydney
Contact	: B GAUTHIER	Contact	: Client Services
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Project	: HDC-LEE WHARF	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: 159766-75	Date Samples Received	: 06-DEC-2012
Sampler	: GM	Issue Date	: 18-DEC-2012
Order number	: EN03130		
Quote number	: EN/003/12	No. of samples received	: 109
		No. of samples analysed	: 109

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

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



General Comments

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

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

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

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

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



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 ISO/IEC 17025.

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Evie.Sidarta	Inorganic Chemist	Sydney Inorganics
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Raymond Commodor	Instrument Chemist	Sydney Inorganics



Laboratory Duplicate (DUP) Report

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

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA055: Moisture Content (QC Lot: 2639926)									
ES1228841-002	19W4-1.0	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	6.4	6.0	5.0	No Limit
ES1228841-013	19W3-0.5	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	10.3	10.7	3.8	0% - 50%
EA055: Moisture Content (QC Lot: 2639927)									
ES1228841-022	17E-1.0	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	5.7	6.3	9.6	No Limit
ES1228841-033	12B-0.5	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	7.6	8.0	4.2	No Limit
EA055: Moisture Content (QC Lot: 2639928)									
ES1228841-040	13A-2.0	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	6.0	6.0	0.0	No Limit
EA055: Moisture Content (QC Lot: 2639994)									
ES1228841-042	12D-1.0	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	2.5	1.8	31.4	No Limit
ES1228841-053	18W5-0.5	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	3.6	4.2	14.7	No Limit
EA055: Moisture Content (QC Lot: 2639995)									
ES1228994-002	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	53.6	53.1	0.8	0% - 20%
ES1228994-047	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	63.5	63.8	0.4	0% - 20%
EA055: Moisture Content (QC Lot: 2641550)									
ES1228665-013	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	9.4	7.4	23.7	No Limit
ES1228841-063	18W4-1.5	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	2.2	2.1	0.0	No Limit
EA055: Moisture Content (QC Lot: 2641551)									
ES1228841-072	16D-2.0	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	10.7	10.7	0.0	0% - 50%
ES1228841-083	14W3-1.5	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	8.8	8.8	0.0	No Limit
EA055: Moisture Content (QC Lot: 2641552)									
ES1228867-003	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	9.9	9.4	5.6	No Limit
ES1228934-010	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	2.6	2.4	8.7	No Limit
EA055: Moisture Content (QC Lot: 2642135)									
ES1228841-093	14W4-0.5	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	3.2	2.6	23.0	No Limit
ES1228841-104	10B-2.0	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	8.9	8.5	5.1	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 2643488)									
ES1228841-001	19W4-0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	5	6	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	6	6	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	6	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	19	18	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	46	54	15.5	0% - 50%
		EG005T: Manganese	7439-96-5	5	mg/kg	1670	1570	6.0	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	161	156	3.4	0% - 20%



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005T: Total Metals by ICP-AES (QC Lot: 2643488) - continued									
ES1228841-011	17C-1.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	10	6	44.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 2643490)									
ES1228841-021	17E-0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	1	1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	2	2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	10	10	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	19	19	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	15	13	13.9	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	182	180	1.0	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	288	304	5.4	0% - 20%
ES1228841-031	12E-1.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	8	8	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 2643497)									
ES1228841-041	12D-0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	1	1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	10	9	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	6	6	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	245	239	2.4	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	337	332	1.7	0% - 20%
ES1228841-051	12A-1.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit

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 Work Order : ES1228841
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005T: Total Metals by ICP-AES (QC Lot: 2643497) - continued									
ES1228841-051	12A-1.5	EG005T: Manganese	7439-96-5	5	mg/kg	12	12	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 2643499)									
ES1228841-061	18W4-0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	3	3	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	3	2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	10	<5	63.9	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	405	441	8.5	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	14	15	0.0	No Limit
ES1228841-071	16D-1.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	28	47	50.9	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	9	7	26.4	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 2643609)									
ES1228841-081	14W3-0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	7	10	36.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	8	7	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	25	33	29.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	36	34	4.5	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	570	684	18.2	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	246	270	9.4	0% - 20%
ES1228841-090	10E-1.0	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	29	31	6.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	6	7	0.0	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 2643611)									
ES1228841-100	10C-2.0	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005T: Total Metals by ICP-AES (QC Lot: 2643611) - continued									
ES1228841-100	10C-2.0	EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	73	2430	# 188	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	10	<5	69.1	No Limit
ES1229047-003	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	18	19	6.5	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	8	8	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	29	28	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	18	20	11.6	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	150	131	13.7	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	32	30	3.9	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2643489)									
ES1228841-001	19W4-0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	0.3	76.5	No Limit
ES1228841-011	17C-1.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2643491)									
ES1228841-021	17E-0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1228841-031	12E-1.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2643498)									
ES1228841-041	12D-0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1228841-051	12A-1.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2643500)									
ES1228841-061	18W4-0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1228841-071	16D-1.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2643610)									
ES1228841-081	14W3-0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	<0.1	0.0	No Limit
ES1228841-090	10E-1.0	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2643612)									
ES1228841-100	10C-2.0	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1229047-003	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2638639)									
ES1228841-001	19W4-0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	9.8	10.6	7.7	0% - 20%
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<4.0	<4.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	80.7	82.0	1.7	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	21.9	21.4	2.5	0% - 20%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	254	260	2.1	0% - 20%



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2638639) - continued										
ES1228841-001	19W4-0.5	EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	258	263	1.9	0% - 20%	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	70.8	73.2	3.4	0% - 20%	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	72.0	73.2	1.6	0% - 20%	
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	106	104	2.7	0% - 20%	
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	45.5	44.8	1.5	0% - 20%	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	82.8	82.5	0.4	0% - 20%	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	57.1	55.7	2.5	0% - 20%	
		EP075(SIM): Dibenzo(a,h)anthracene	53-70-3	0.5	mg/kg	10.8	10.3	4.7	0% - 20%	
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	85.4	85.0	0.5	0% - 20%	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	1150	1160	0.9	0% - 20%	
	EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	123	122	0.8	0% - 20%		
ES1228841-011	17C-1.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Dibenzo(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2638659)								
ES1228841-021	17E-0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.2	1.4	11.7	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	4.4	4.8	8.7	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	4.2	4.4	3.9	No Limit	



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2638659) - continued										
ES1228841-021	17E-0.5	EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.6	1.5	0.0	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.7	1.7	0.0	No Limit	
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	2.5	2.5	0.0	No Limit	
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	0.9	0.9	0.0	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.6	2.9	11.4	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.9	1.8	0.0	No Limit	
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	2.3	2.6	10.1	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	23.3	24.5	5.0	0% - 20%	
	EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	3.3	3.6	8.2	No Limit		
ES1228841-031	12E-1.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
			EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2638671)								
ES1228841-041	12D-0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
	EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2638671) - continued									
ES1228841-041	12D-0.5	EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1228841-051	12A-1.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2638673)							
ES1228841-061	18W4-0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	34.0	32.2	5.5	0% - 20%
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	7.9	7.1	10.3	0% - 50%
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	6.9	6.3	9.0	0% - 50%
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	11.0	10.2	8.0	0% - 20%
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	67.8	65.0	4.3	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	17.9	17.2	4.1	0% - 20%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	73.0	71.4	2.2	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	70.5	68.0	3.7	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	20.5	20.4	0.0	0% - 20%
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	19.6	20.0	2.0	0% - 20%		



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2638673) - continued									
ES1228841-061	18W4-0.5	EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	25.5	25.0	2.0	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	9.5	9.4	0.0	0% - 50%
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	21.7	22.6	4.0	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	13.4	12.8	4.3	0% - 20%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	3.1	2.8	11.5	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	17.5	17.4	0.0	0% - 20%
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	420	408	2.9	0% - 20%
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	32.1	32.5	1.5	0% - 20%
ES1228841-071	16D-1.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.7	<0.5	30.6	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	2.6	1.4	58.9	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	1.0	0.5	63.1	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	9.8	6.6	38.9	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	9.7	6.5	39.2	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	3.2	2.1	39.8	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	3.2	2.0	44.5	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	4.2	2.7	42.6	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.7	1.0	50.4	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	3.6	2.3	43.8	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.0	1.3	43.3	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.5	1.7	37.2	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	44.2	28.1	# 44.5	0% - 20%
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	4.8	3.0	44.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2638678)									
ES1228841-081	14W3-0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	0.6	0.6	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.5	1.4	7.2	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	0.8	0.7	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	5.0	6.3	23.0	0% - 50%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	4.8	6.3	27.2	0% - 50%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	2.7	2.7	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	2.6	2.6	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	3.8	3.2	16.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2638678) - continued									
ES1228841-081	14W3-0.5	EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.2	1.2	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	2.8	2.9	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.7	2.2	23.3	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	2.3	2.8	21.9	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	29.8	32.9	9.9	0% - 20%
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	3.8	3.9	0.0	No Limit
ES1228841-091	10E-1.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2643251)							
ES1228841-101	10B-0.5	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	1.4	1.1	21.5	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	1.1	1.0	12.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	4.1	3.7	9.9	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	2.4	1.9	21.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	26.4	24.3	8.0	0% - 20%
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	9.4	8.9	5.3	0% - 50%
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	56.7	54.8	3.4	0% - 20%
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	50.4	49.3	2.3	0% - 20%
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	21.9	19.3	12.5	0% - 20%
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	20.3	18.5	9.2	0% - 20%
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	24.5	22.2	9.9	0% - 20%
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	10.2	10.0	2.0	0% - 20%



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2643251) - continued									
ES1228841-101	10B-0.5	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	20.0	18.4	8.6	0% - 20%
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	11.0	10.6	4.5	0% - 20%
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	2.5	2.7	6.6	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	12.8	12.7	0.9	0% - 20%
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	275	259	5.9	0% - 20%
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	29.6	27.6	6.9	0% - 20%
ES1228841-108	QC13	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (WHO)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2638408)									
ES1228841-001	19W4-0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228841-011	17C-1.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2638638)									
ES1228841-001	19W4-0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	1480	1680	12.4	0% - 50%
		EP071: C29 - C36 Fraction	----	100	mg/kg	1280	1450	12.0	0% - 50%
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228841-011	17C-1.5	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2638658)									
ES1228841-021	17E-0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit

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 Work Order : ES1228841
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2638658) - continued									
ES1228841-031	12E-1.5	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2638670)									
ES1228841-041	12D-0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228841-051	12A-1.5	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2638672)									
ES1228841-061	18W4-0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	650	720	9.9	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	370	400	7.1	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228841-071	16D-1.5	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2638677)									
ES1228841-081	14W3-0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228841-091	10E-1.5	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2639451)									
ES1228841-021	17E-0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228841-031	12E-1.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2639455)									
ES1228841-041	12D-0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228841-051	12A-1.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2640100)									
ES1228841-061	18W4-0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228841-071	16D-1.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2640545)									
ES1228841-081	14W3-0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228952-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	1470	1690	14.1	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2641980)									
ES1228841-091	10E-1.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228841-101	10B-0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2643250)									
ES1228841-101	10B-0.5	EP071: C15 - C28 Fraction	----	100	mg/kg	490	560	13.9	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	320	370	12.8	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228841-108	QC13	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2638408)									
ES1228841-001	19W4-0.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228841-011	17C-1.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2638638)									
ES1228841-001	19W4-0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	2290	2530	10.2	0% - 20%
		EP071: >C34 - C40 Fraction	----	100	mg/kg	820	920	11.3	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228841-011	17C-1.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2638658)									
ES1228841-021	17E-0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	110	110	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228841-031	12E-1.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2638670)									
ES1228841-041	12D-0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228841-051	12A-1.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2638672)									
ES1228841-061	18W4-0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	860	940	8.1	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	250	280	10.6	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	90	110	21.4	No Limit
ES1228841-071	16D-1.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2638677)									
ES1228841-081	14W3-0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	140	120	12.4	No Limit

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 Work Order : ES1228841
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2638677) - continued									
ES1228841-081	14W3-0.5	EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228841-091	10E-1.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2639451)									
ES1228841-021	17E-0.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228841-031	12E-1.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2639455)									
ES1228841-041	12D-0.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228841-051	12A-1.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2640100)									
ES1228841-061	18W4-0.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228841-071	16D-1.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2640545)									
ES1228841-081	14W3-0.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228952-001	Anonymous	EP080: C6 - C10 Fraction	----	10	mg/kg	1950	2180	11.1	0% - 20%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2641980)									
ES1228841-091	10E-1.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES1228841-101	10B-0.5	EP080: C6 - C10 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2643250)									
ES1228841-101	10B-0.5	EP071: >C16 - C34 Fraction	----	100	mg/kg	680	750	9.9	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	240	280	14.9	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES1228841-108	QC13	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 2638408)									
ES1228841-001	19W4-0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES1228841-011	17C-1.5	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)		
EP080: BTEXN (QC Lot: 2638408) - continued											
ES1228841-011	17C-1.5	EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
			106-42-3								
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit		
EP080: BTEXN (QC Lot: 2639451)											
ES1228841-021	17E-0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
			106-42-3								
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
ES1228841-031	12E-1.5	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit		
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
			106-42-3								
ES1228841-031	12E-1.5	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit		
		EP080: BTEXN (QC Lot: 2639455)									
		ES1228841-041	12D-0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
				EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
				EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080: meta- & para-Xylene	108-38-3			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
	106-42-3										
EP080: ortho-Xylene	95-47-6			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
ES1228841-051	12A-1.5	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit		
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
			106-42-3								
ES1228841-051	12A-1.5	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit		
		EP080: BTEXN (QC Lot: 2640100)									
		ES1228841-061	18W4-0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
				EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
				EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080: meta- & para-Xylene	108-38-3			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
	106-42-3										



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)		
EP080: BTEXN (QC Lot: 2640100) - continued											
ES1228841-061	18W4-0.5	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: Naphthalene	91-20-3	1	mg/kg	91	98	7.2	0% - 20%		
ES1228841-071	16D-1.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
			106-42-3								
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit		
EP080: BTEXN (QC Lot: 2640545)											
ES1228841-081	14W3-0.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
			106-42-3								
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
ES1228952-001	Anonymous	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit		
		EP080: Benzene	71-43-2	0.2	mg/kg	19.3	22.4	14.8	0% - 20%		
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	0.6	21.8	No Limit		
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	57.8	66.2	13.5	0% - 20%		
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	79.5	85.0	6.7	0% - 20%		
			106-42-3								
ES1228841-091	10E-1.5	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	2.3	2.8	18.9	No Limit		
		EP080: Naphthalene	91-20-3	1	mg/kg	21	25	17.0	0% - 20%		
		EP080: BTEXN (QC Lot: 2641980)									
		ES1228841-091	10E-1.5	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
				EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
				EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080: meta- & para-Xylene	108-38-3			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
	106-42-3										
EP080: ortho-Xylene	95-47-6			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
ES1228841-101	10B-0.5	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit		
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit		
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
			106-42-3								
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	2	0.0	No Limit		



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 2640473)									
ES1228709-003	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	0.422	0.420	0.4	0% - 20%
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.064	0.066	3.8	0% - 20%
		EG020A-F: Lead	7439-92-1	0.001	mg/L	0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.041	0.041	0.0	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.015	0.016	0.0	0% - 50%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	3.66	3.71	1.4	0% - 20%
ES1228712-007	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	0.0020	0.0020	0.0	0% - 20%
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.010	0.009	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	0.006	0.006	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	1.37	1.36	0.8	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.039	0.038	3.1	0% - 20%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	2.54	2.31	9.4	0% - 20%
EG035F: Dissolved Mercury by FIMS (QC Lot: 2640472)									
ES1228709-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1228712-006	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	0.0055	0.0053	3.1	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2640765)									
ES1228847-018	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1228914-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	40	40	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QC Lot: 2640765)									
ES1228847-018	Anonymous	EP080: C6 - C10 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1228914-002	Anonymous	EP080: C6 - C10 Fraction	----	20	µg/L	60	50	0.0	No Limit
EP080: BTEXN (QC Lot: 2640765)									
ES1228847-018	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	<2	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1228914-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	<2	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit



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

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 2643488)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	111	84	128
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	95.3	79	119
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	95.7	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	104	83	127
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	93.4	81	117
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	94.6	83	121
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	99.7	79	127
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	99.3	78	130
EG005T: Total Metals by ICP-AES (QCLot: 2643490)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	103	84	128
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	97.0	79	119
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	101	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	99.5	83	127
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	95.0	81	117
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	98.1	83	121
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	103	79	127
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	102	78	130
EG005T: Total Metals by ICP-AES (QCLot: 2643497)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	103	84	128
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	95.4	79	119
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	106	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	105	83	127
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	93.5	81	117
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	102	83	121
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	105	79	127
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	100	78	130
EG005T: Total Metals by ICP-AES (QCLot: 2643499)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	106	84	128
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	99.8	79	119
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	111	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	104	83	127
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	97.9	81	117
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	101	83	121
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	108	79	127



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005T: Total Metals by ICP-AES (QCLot: 2643499) - continued								
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	111	78	130
EG005T: Total Metals by ICP-AES (QCLot: 2643609)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	104	84	128
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	98.7	79	119
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	106	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	105	83	127
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	98.6	81	117
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	98.6	83	121
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	108	79	127
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	103	78	130
EG005T: Total Metals by ICP-AES (QCLot: 2643611)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	104	84	128
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	97.1	79	119
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	106	70	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	32.0 mg/kg	106	83	127
EG005T: Lead	7439-92-1	5	mg/kg	<5	40.0 mg/kg	96.9	81	117
EG005T: Manganese	7439-96-5	5	mg/kg	<5	130 mg/kg	99.8	83	121
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55.0 mg/kg	108	79	127
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	108	78	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643489)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	91.8	72	114
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643491)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	85.1	72	114
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643498)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	88.4	72	114
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643500)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	83.7	72	114
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643610)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	83.7	72	114
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643612)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	92.2	72	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638639)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	95.4	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	99.4	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	105	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	99.6	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	102	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	106	81.1	112



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638639) - continued								
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	104	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	106	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	90.8	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	97.5	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	94.7	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	104	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	94.6	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	82.6	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	85.9	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	83.5	72.4	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638659)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	99.2	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	94.4	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	99.0	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	93.8	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	99.4	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	103	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	100	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	101	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	88.8	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	95.8	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	91.9	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	99.5	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	100	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	103	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	104	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	97.9	72.4	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638671)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	101	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	98.1	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	99.8	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	99.8	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	103	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	104	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	104	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	105	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	98.8	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	103	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	98.8	71.8	118



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit		Spike	Spike Recovery (%)	Recovery Limits (%)	
					Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638671) - continued								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	99.7	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	95.2	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	95.1	71	113
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	94.5	71.7	113
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	94.2	72.4	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638673)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	104	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	110	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	106	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	101	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	105	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	103	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	102	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	104	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	97.1	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	106	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	97.3	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	108	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	102	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	87.4	71	113
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	91.2	71.7	113
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	85.6	72.4	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638678)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	97.4	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	97.9	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	96.2	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	85.6	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	98.9	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	100	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	101	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	102	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	94.9	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	98.5	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	95.8	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	96.8	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	90.7	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	88.4	71	113
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	86.9	71.7	113
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	86.6	72.4	114



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
Method: Compound	CAS Number	LOR	Unit		Result	Spike	Spike Recovery (%)	Recovery Limits (%)	
						Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2643251)									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	101	81.9	113	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	105	79.6	113	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	106	81.5	112	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	99.8	79.9	112	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	104	79.4	114	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	108	81.1	112	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	103	78.8	113	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	103	78.9	113	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	102	77.2	112	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	100	79.8	114	
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	97.8	71.8	118	
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	99.8	74.2	117	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	106	76.4	113	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	86.9	71	113	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	91.0	71.7	113	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	84.6	72.4	114	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638408)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	113	68.4	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638638)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	113	59	131	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	128	74	138	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	98.0	63	131	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638658)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	111	59	131	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	122	74	138	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	113	63	131	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638670)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	96.5	59	131	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	108	74	138	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	96.6	63	131	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638672)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	98.0	59	131	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	97.2	74	138	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	90.6	63	131	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638677)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	99.9	59	131	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	120	74	138	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	100	63	131	



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit		Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
						LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2639451)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	113	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2639455)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	100	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2640100)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	93.6	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2640545)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	84.5	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2641980)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	104	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2643250)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	107	59	131
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	300 mg/kg	103	74	138
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	95.9	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638408)								
EP080: C6 - C10 Fraction	----	10	mg/kg	<10	31 mg/kg	110	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638638)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	118	59	131
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	122	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
		50	mg/kg	----	150 mg/kg	73.3	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638658)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	111	59	131
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	119	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
		50	mg/kg	----	150 mg/kg	87.4	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638670)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	94.0	59	131
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	108	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
		50	mg/kg	----	150 mg/kg	87.9	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638672)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	99.0	59	131
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	94.3	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
		50	mg/kg	----	150 mg/kg	81.3	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638677)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	96.5	59	131



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit		Spike	Spike Recovery (%)	Recovery Limits (%)	
					Concentration	LCS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638677) - continued								
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	120	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
		50	mg/kg	----	150 mg/kg	81.9	63	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2639451)								
EP080: C6 - C10 Fraction	----	10	mg/kg	<10	31 mg/kg	114	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2639455)								
EP080: C6 - C10 Fraction	----	10	mg/kg	<10	31 mg/kg	98.8	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2640100)								
EP080: C6 - C10 Fraction	----	10	mg/kg	<10	31 mg/kg	91.2	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2640545)								
EP080: C6 - C10 Fraction	----	10	mg/kg	<10	31 mg/kg	81.4	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2641980)								
EP080: C6 - C10 Fraction	----	10	mg/kg	<10	31 mg/kg	107	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2643250)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	250 mg/kg	108	59	131
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	350 mg/kg	99.4	74	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	----	----	----	----
		50	mg/kg	----	150 mg/kg	84.2	63	131
EP080: BTEXN (QCLot: 2638408)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	103	62	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	101	62	128
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	88.2	58	118
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	85.1	60	120
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	84.4	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	71.3	62	138
EP080: BTEXN (QCLot: 2639451)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	101	62	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	98.2	62	128
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	85.7	58	118
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	85.7	60	120
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	85.0	60	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	71.1	62	138
EP080: BTEXN (QCLot: 2639455)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	92.4	62	120
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	91.4	62	128
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	91.8	58	118



Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
Method: Compound	CAS Number	LOR	Unit		Result	Spike	Spike Recovery (%)	Recovery Limits (%)	
						Concentration	LCS	Low	High
EP080: BTEXN (QCLot: 2639455) - continued									
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	93.2	60	120	
	106-42-3								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	97.1	60	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	70.6	62	138	
EP080: BTEXN (QCLot: 2640100)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	84.3	62	120	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	86.5	62	128	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	82.5	58	118	
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	84.3	60	120	
	106-42-3								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	91.8	60	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	70.0	62	138	
EP080: BTEXN (QCLot: 2640545)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	96.0	62	120	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	91.8	62	128	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	94.0	58	118	
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	93.0	60	120	
	106-42-3								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	97.1	60	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	93.0	62	138	
EP080: BTEXN (QCLot: 2641980)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	95.8	62	120	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	99.9	62	128	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	96.7	58	118	
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	96.5	60	120	
	106-42-3								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	101	60	120	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	82.4	62	138	

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report					
Method: Compound	CAS Number	LOR	Unit		Result	Spike	Spike Recovery (%)		Recovery Limits (%)	
						Concentration	LCS		Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 2640473)										
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	96.0	80	118		
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	98.2	82	114		
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	94.6	80	114		
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	98.1	79	115		
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	94.2	81	113		
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	94.6	80	114		



Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG020F: Dissolved Metals by ICP-MS (QCLot: 2640473) - continued								
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	98.6	80	116
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	101	75	121
EG035F: Dissolved Mercury by FIMS (QCLot: 2640472)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	97.0	72	120
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2639409)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	5 µg/L	65.4	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	5 µg/L	65.7	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	5 µg/L	66.8	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	5 µg/L	70.3	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	5 µg/L	73.3	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	5 µg/L	74.4	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	5 µg/L	85.4	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	5 µg/L	76.0	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	5 µg/L	76.3	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	5 µg/L	86.2	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	5 µg/L	73.1	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	5 µg/L	100	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	5 µg/L	70.3	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	5 µg/L	69.2	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.2	µg/L	----	5 µg/L	68.4	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.2	µg/L	----	5 µg/L	72.8	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	1	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2639408)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	98.3	58.9	131



Sub-Matrix: **WATER**

Method: Compound				Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
						LCS	Low	High
CAS Number	LOR	Unit						
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2639408) - continued								
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	96.7	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	110	62.7	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2640765)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	87.9	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2639408)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	2500 µg/L	80.5	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	85.1	73.9	138
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	-----	-----	-----	-----
		50	µg/L	----	1500 µg/L	107	62.7	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2640765)								
EP080: C6 - C10 Fraction	----	20	µg/L	<20	310 µg/L	85.4	75	127
EP080: BTEXN (QCLot: 2640765)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	106	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	89.6	66	132
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	90.0	70	120
EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	10 µg/L	84.0	69	121
	106-42-3							
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	87.5	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	88.7	70	124

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 2643488)							
ES1228841-001	19W4-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	97.0	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	89.0	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	95.1	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	99.8	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	92.8	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	108	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	78.1	70	130
EG005T: Total Metals by ICP-AES (QCLot: 2643490)							
ES1228841-021	17E-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	98.6	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	93.3	70	130

Matrix Spike (MS) Report

	<i>SpikeRecovery</i> (%)
1	100.0
2	100.0
3	100.0
4	100.0
5	100.0
6	100.0
7	100.0
8	100.0
9	100.0
10	100.0
11	100.0
12	100.0
13	100.0
14	100.0
15	100.0
16	100.0
17	100.0
18	100.0
19	100.0
20	100.0
21	100.0
22	100.0
23	100.0
24	100.0
25	100.0
26	100.0
27	100.0
28	100.0
29	100.0
30	100.0
31	100.0
32	100.0
33	100.0
34	100.0
35	100.0
36	100.0
37	100.0
38	100.0
39	100.0
40	100.0
41	100.0
42	100.0
43	100.0
44	100.0
45	100.0
46	100.0
47	100.0
48	100.0
49	100.0
50	100.0
51	100.0
52	100.0
53	100.0
54	100.0
55	100.0
56	100.0
57	100.0
58	100.0
59	100.0
60	100.0
61	100.0
62	100.0
63	100.0
64	100.0
65	100.0
66	100.0
67	100.0
68	100.0
69	100.0
70	100.0
71	100.0
72	100.0
73	100.0
74	100.0
75	100.0
76	100.0
77	100.0
78	100.0
79	100.0
80	100.0
81	100.0
82	100.0
83	100.0
84	100.0
85	100.0
86	100.0
87	100.0
88	100.0
89	100.0
90	100.0
91	100.0
92	100.0
93	100.0
94	100.0
95	100.0
96	100.0
97	100.0
98	100.0
99	100.0
100	100.0

Recovery Limits (%)

Client sample ID

Method: Compound

CAS Number

Concentration

MS

Low

High

ES1228841-021	17E-0.5	EG005T: Chromium	7440-47-3	50 mg/kg	97.6	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	100	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	93.3	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	100	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	110	70	130

ES1228841-041	12D-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	106	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	98.3	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	103	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	105	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	99.9	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	103	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	93.7	70	130

ES1228841-061	18W4-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	104	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	98.6	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	102	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	105	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	98.7	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	102	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	101	70	130

ES1228841-081	14W3-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	102	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.8	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	102	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	104	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	97.7	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	92.9	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	92.7	70	130

ES1228841-100	10C-2.0	EG005T: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.8	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	100	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	102	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	97.4	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	100	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	98.4	70	130

EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643489)

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643489) - continued							
ES1228841-001	19W4-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	109	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643491)							
ES1228841-021	17E-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	97.5	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643498)							
ES1228841-041	12D-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	100	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643500)							
ES1228841-061	18W4-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	101	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643610)							
ES1228841-081	14W3-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	113	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643612)							
ES1228841-100	10C-2.0	EG035T: Mercury	7439-97-6	5 mg/kg	107	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638639)							
ES1228841-001	19W4-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	114	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	# Not Determined	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638659)							
ES1228841-021	17E-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	97.7	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	101	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638671)							
ES1228841-041	12D-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	105	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	112	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638673)							
ES1228841-061	18W4-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	101	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	# Not Determined	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638678)							
ES1228841-081	14W3-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	97.0	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	116	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2643251)							
ES1228841-101	10B-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	83.5	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	# Not Determined	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638408)							
ES1228841-001	19W4-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	128	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638638)							



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638638) - continued							
ES1228841-001	19W4-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	93.7	73	137
		EP071: C15 - C28 Fraction	----	3140 mg/kg	107	53	131
		EP071: C29 - C36 Fraction	----	2860 mg/kg	83.9	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638658)							
ES1228841-021	17E-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	84.6	73	137
		EP071: C15 - C28 Fraction	----	3140 mg/kg	98.9	53	131
		EP071: C29 - C36 Fraction	----	2860 mg/kg	82.7	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638670)							
ES1228841-041	12D-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	93.7	73	137
		EP071: C15 - C28 Fraction	----	3140 mg/kg	103	53	131
		EP071: C29 - C36 Fraction	----	2860 mg/kg	79.6	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638672)							
ES1228841-061	18W4-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	102	73	137
		EP071: C15 - C28 Fraction	----	3140 mg/kg	117	53	131
		EP071: C29 - C36 Fraction	----	2860 mg/kg	87.3	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638677)							
ES1228841-081	14W3-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	91.5	73	137
		EP071: C15 - C28 Fraction	----	3140 mg/kg	102	53	131
		EP071: C29 - C36 Fraction	----	2860 mg/kg	79.0	52	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2639451)							
ES1228841-021	17E-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	115	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2639455)							
ES1228841-041	12D-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	99.2	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2640100)							
ES1228841-061	18W4-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	87.6	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2640545)							
ES1228841-081	14W3-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	92.8	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2641980)							
ES1228841-091	10E-1.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	93.6	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2643250)							
ES1228841-101	10B-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	92.8	73	137
		EP071: C15 - C28 Fraction	----	3140 mg/kg	97.3	53	131
		EP071: C29 - C36 Fraction	----	2860 mg/kg	73.8	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638408)							
ES1228841-001	19W4-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	121	70	130

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 Work Order : ES1228841
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638638)							
ES1228841-001	19W4-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	116	73	137
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	97.6	53	131
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	62.4	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638658)							
ES1228841-021	17E-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	105	73	137
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	92.9	53	131
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	53.0	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638670)							
ES1228841-041	12D-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	116	73	137
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	92.8	53	131
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	53.7	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638672)							
ES1228841-061	18W4-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	130	73	137
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	104	53	131
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	57.4	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638677)							
ES1228841-081	14W3-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	115	73	137
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	91.9	53	131
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	54.7	52	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2639451)							
ES1228841-021	17E-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	113	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2639455)							
ES1228841-041	12D-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	97.8	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2640100)							
ES1228841-061	18W4-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	79.2	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2640545)							
ES1228841-081	14W3-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	87.1	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2641980)							
ES1228841-091	10E-1.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	94.7	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2643250)							
ES1228841-101	10B-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	112	73	137
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	87.1	53	131
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	58.7	52	132
EP080: BTEXN (QCLot: 2638408)							
ES1228841-001	19W4-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	94.7	70	130



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	Spike Recovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 2638408) - continued							
ES1228841-001	19W4-0.5	EP080: Toluene	108-88-3	2.5 mg/kg	91.8	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	90.0	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	87.8	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	86.2	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	77.7	70	130
EP080: BTEXN (QCLot: 2639451)							
ES1228841-021	17E-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	89.0	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	91.7	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	83.2	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	82.9	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	82.5	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	74.4	70	130
EP080: BTEXN (QCLot: 2639455)							
ES1228841-041	12D-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	84.8	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	92.1	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	91.1	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	91.3	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	97.7	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	71.6	70	130
EP080: BTEXN (QCLot: 2640100)							
ES1228841-061	18W4-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	79.8	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	91.4	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	90.4	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	90.4	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	94.7	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	# Not Determined	70	130
EP080: BTEXN (QCLot: 2640545)							
ES1228841-081	14W3-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	94.2	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	90.0	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	90.0	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	88.4	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	94.0	70	130



Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 2640545) - continued							
ES1228841-081	14W3-0.5	EP080: Naphthalene	91-20-3	2.5 mg/kg	70.3	70	130
EP080: BTEXN (QCLot: 2641980)							
ES1228841-091	10E-1.5	EP080: Benzene	71-43-2	2.5 mg/kg	77.8	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	83.3	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	83.6	70	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	85.4	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	89.1	70	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	72.8	70	130
Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 2640473)							
ES1228709-004	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	110	70	130
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	98.0	70	130
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	93.9	70	130
		EG020A-F: Copper	7440-50-8	0.2 mg/L	101	70	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	95.7	70	130
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	# Not Determined	70	130
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	92.5	70	130
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	107	70	130
EG035F: Dissolved Mercury by FIMS (QCLot: 2640472)							
ES1228709-002	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	79.2	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2640765)							
ES1228847-018	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	111	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2640765)							
ES1228847-018	Anonymous	EP080: C6 - C10 Fraction	----	375 µg/L	117	70	130
EP080: BTEXN (QCLot: 2640765)							
ES1228847-018	Anonymous	EP080: Benzene	71-43-2	25 µg/L	119	70	130
		EP080: Toluene	108-88-3	25 µg/L	115	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	104	70	130
		EP080: meta- & para-Xylene	108-38-3	25 µg/L	102	70	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	25 µg/L	104	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	78.9	70	130



Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					MS	MSD	Low	High	Value	Control Limit
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number							
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638408)										
ES1228841-001	19W4-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	128	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638408)										
ES1228841-001	19W4-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	121	----	70	130	----	----
EP080: BTEXN (QCLot: 2638408)										
ES1228841-001	19W4-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	94.7	----	70	130	----	----
		EP080: Toluene	108-88-3	2.5 mg/kg	91.8	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	90.0	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	87.8	----	70	130	----	----
			106-42-3							
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	86.2	----	70	130	----	----
		EP080: Naphthalene	91-20-3	2.5 mg/kg	77.7	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638638)										
ES1228841-001	19W4-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	93.7	----	73	137	----	----
		EP071: C15 - C28 Fraction	----	3140 mg/kg	107	----	53	131	----	----
		EP071: C29 - C36 Fraction	----	2860 mg/kg	83.9	----	52	132	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638638)										
ES1228841-001	19W4-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	116	----	73	137	----	----
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	97.6	----	53	131	----	----
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	62.4	----	52	132	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638639)										
ES1228841-001	19W4-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	114	----	70	130	----	----
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	# Not Determined	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638658)										
ES1228841-021	17E-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	84.6	----	73	137	----	----
		EP071: C15 - C28 Fraction	----	3140 mg/kg	98.9	----	53	131	----	----
		EP071: C29 - C36 Fraction	----	2860 mg/kg	82.7	----	52	132	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638658)										
ES1228841-021	17E-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	105	----	73	137	----	----
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	92.9	----	53	131	----	----
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	53.0	----	52	132	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638659)										
ES1228841-021	17E-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	97.7	----	70	130	----	----



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638659) - continued										
ES1228841-021	17E-0.5	EP075(SIM): Pyrene	129-00-0	10 mg/kg	101	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638670)										
ES1228841-041	12D-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	93.7	----	73	137	----	----
		EP071: C15 - C28 Fraction	----	3140 mg/kg	103	----	53	131	----	----
		EP071: C29 - C36 Fraction	----	2860 mg/kg	79.6	----	52	132	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638670)										
ES1228841-041	12D-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	116	----	73	137	----	----
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	92.8	----	53	131	----	----
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	53.7	----	52	132	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638671)										
ES1228841-041	12D-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	105	----	70	130	----	----
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	112	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638672)										
ES1228841-061	18W4-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	102	----	73	137	----	----
		EP071: C15 - C28 Fraction	----	3140 mg/kg	117	----	53	131	----	----
		EP071: C29 - C36 Fraction	----	2860 mg/kg	87.3	----	52	132	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638672)										
ES1228841-061	18W4-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	130	----	73	137	----	----
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	104	----	53	131	----	----
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	57.4	----	52	132	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638673)										
ES1228841-061	18W4-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	101	----	70	130	----	----
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	# Not Determined	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2638677)										
ES1228841-081	14W3-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	91.5	----	73	137	----	----
		EP071: C15 - C28 Fraction	----	3140 mg/kg	102	----	53	131	----	----
		EP071: C29 - C36 Fraction	----	2860 mg/kg	79.0	----	52	132	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2638677)										
ES1228841-081	14W3-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	115	----	73	137	----	----
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	91.9	----	53	131	----	----
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	54.7	----	52	132	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2638678)										
ES1228841-081	14W3-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	97.0	----	70	130	----	----
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	116	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2639451)										
ES1228841-021	17E-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	115	----	70	130	----	----

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 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					MS	MSD	Low	High	Value	Control Limit
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number							
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2639451)										
ES1228841-021	17E-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	113	----	70	130	----	----
EP080: BTEXN (QCLot: 2639451)										
ES1228841-021	17E-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	89.0	----	70	130	----	----
		EP080: Toluene	108-88-3	2.5 mg/kg	91.7	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	83.2	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	82.9	----	70	130	----	----
			106-42-3							
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	82.5	----	70	130	----	----
		EP080: Naphthalene	91-20-3	2.5 mg/kg	74.4	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2639455)										
ES1228841-041	12D-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	99.2	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2639455)										
ES1228841-041	12D-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	97.8	----	70	130	----	----
EP080: BTEXN (QCLot: 2639455)										
ES1228841-041	12D-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	84.8	----	70	130	----	----
		EP080: Toluene	108-88-3	2.5 mg/kg	92.1	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	91.1	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	91.3	----	70	130	----	----
			106-42-3							
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	97.7	----	70	130	----	----
		EP080: Naphthalene	91-20-3	2.5 mg/kg	71.6	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2640100)										
ES1228841-061	18W4-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	87.6	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2640100)										
ES1228841-061	18W4-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	79.2	----	70	130	----	----
EP080: BTEXN (QCLot: 2640100)										
ES1228841-061	18W4-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	79.8	----	70	130	----	----
		EP080: Toluene	108-88-3	2.5 mg/kg	91.4	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	90.4	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	90.4	----	70	130	----	----
			106-42-3							
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	94.7	----	70	130	----	----
		EP080: Naphthalene	91-20-3	2.5 mg/kg	# Not Determined	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2640545)										
ES1228841-081	14W3-0.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	92.8	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2640545)										
ES1228841-081	14W3-0.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	87.1	----	70	130	----	----



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					MS	MSD	Low	High	Value	Control Limit
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number							
EP080: BTEXN (QCLot: 2640545)										
ES1228841-081	14W3-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	94.2	----	70	130	----	----
		EP080: Toluene	108-88-3	2.5 mg/kg	90.0	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	90.0	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	88.4	----	70	130	----	----
			106-42-3							
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	94.0	----	70	130	----	----
		EP080: Naphthalene	91-20-3	2.5 mg/kg	70.3	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2641980)										
ES1228841-091	10E-1.5	EP080: C6 - C9 Fraction	----	32.5 mg/kg	93.6	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2641980)										
ES1228841-091	10E-1.5	EP080: C6 - C10 Fraction	----	37.5 mg/kg	94.7	----	70	130	----	----
EP080: BTEXN (QCLot: 2641980)										
ES1228841-091	10E-1.5	EP080: Benzene	71-43-2	2.5 mg/kg	77.8	----	70	130	----	----
		EP080: Toluene	108-88-3	2.5 mg/kg	83.3	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	83.6	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	85.4	----	70	130	----	----
			106-42-3							
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	89.1	----	70	130	----	----
		EP080: Naphthalene	91-20-3	2.5 mg/kg	72.8	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2643250)										
ES1228841-101	10B-0.5	EP071: C10 - C14 Fraction	----	640 mg/kg	92.8	----	73	137	----	----
		EP071: C15 - C28 Fraction	----	3140 mg/kg	97.3	----	53	131	----	----
		EP071: C29 - C36 Fraction	----	2860 mg/kg	73.8	----	52	132	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2643250)										
ES1228841-101	10B-0.5	EP071: >C10 - C16 Fraction	----	850 mg/kg	112	----	73	137	----	----
		EP071: >C16 - C34 Fraction	----	4800 mg/kg	87.1	----	53	131	----	----
		EP071: >C34 - C40 Fraction	----	2400 mg/kg	58.7	----	52	132	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2643251)										
ES1228841-101	10B-0.5	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	83.5	----	70	130	----	----
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	# Not Determined	----	70	130	----	----
EG005T: Total Metals by ICP-AES (QCLot: 2643488)										
ES1228841-001	19W4-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	97.0	----	70	130	----	----
		EG005T: Cadmium	7440-43-9	50 mg/kg	89.0	----	70	130	----	----
		EG005T: Chromium	7440-47-3	50 mg/kg	95.1	----	70	130	----	----
		EG005T: Copper	7440-50-8	250 mg/kg	99.8	----	70	130	----	----
		EG005T: Lead	7439-92-1	250 mg/kg	92.8	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	108	----	70	130	----	----

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 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG005T: Total Metals by ICP-AES (QCLot: 2643488) - continued										
ES1228841-001	19W4-0.5	EG005T: Zinc	7440-66-6	250 mg/kg	78.1	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643489)										
ES1228841-001	19W4-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	109	----	70	130	----	----
EG005T: Total Metals by ICP-AES (QCLot: 2643490)										
ES1228841-021	17E-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	98.6	----	70	130	----	----
		EG005T: Cadmium	7440-43-9	50 mg/kg	93.3	----	70	130	----	----
		EG005T: Chromium	7440-47-3	50 mg/kg	97.6	----	70	130	----	----
		EG005T: Copper	7440-50-8	250 mg/kg	100	----	70	130	----	----
		EG005T: Lead	7439-92-1	250 mg/kg	93.3	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	100	----	70	130	----	----
		EG005T: Zinc	7440-66-6	250 mg/kg	110	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643491)										
ES1228841-021	17E-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	97.5	----	70	130	----	----
EG005T: Total Metals by ICP-AES (QCLot: 2643497)										
ES1228841-041	12D-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	106	----	70	130	----	----
		EG005T: Cadmium	7440-43-9	50 mg/kg	98.3	----	70	130	----	----
		EG005T: Chromium	7440-47-3	50 mg/kg	103	----	70	130	----	----
		EG005T: Copper	7440-50-8	250 mg/kg	105	----	70	130	----	----
		EG005T: Lead	7439-92-1	250 mg/kg	99.9	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	103	----	70	130	----	----
		EG005T: Zinc	7440-66-6	250 mg/kg	93.7	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643498)										
ES1228841-041	12D-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	100	----	70	130	----	----
EG005T: Total Metals by ICP-AES (QCLot: 2643499)										
ES1228841-061	18W4-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	104	----	70	130	----	----
		EG005T: Cadmium	7440-43-9	50 mg/kg	98.6	----	70	130	----	----
		EG005T: Chromium	7440-47-3	50 mg/kg	102	----	70	130	----	----
		EG005T: Copper	7440-50-8	250 mg/kg	105	----	70	130	----	----
		EG005T: Lead	7439-92-1	250 mg/kg	98.7	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	102	----	70	130	----	----
		EG005T: Zinc	7440-66-6	250 mg/kg	101	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643500)										
ES1228841-061	18W4-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	101	----	70	130	----	----
EG005T: Total Metals by ICP-AES (QCLot: 2643609)										
ES1228841-081	14W3-0.5	EG005T: Arsenic	7440-38-2	50 mg/kg	102	----	70	130	----	----
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.8	----	70	130	----	----
		EG005T: Chromium	7440-47-3	50 mg/kg	102	----	70	130	----	----
		EG005T: Copper	7440-50-8	250 mg/kg	104	----	70	130	----	----

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 Work Order : ES1228841
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					MS	MSD	Low	High	Value	Control Limit
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number							
EG005T: Total Metals by ICP-AES (QCLot: 2643609) - continued										
ES1228841-081	14W3-0.5	EG005T: Lead	7439-92-1	250 mg/kg	97.7	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	92.9	----	70	130	----	----
		EG005T: Zinc	7440-66-6	250 mg/kg	92.7	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643610)										
ES1228841-081	14W3-0.5	EG035T: Mercury	7439-97-6	5 mg/kg	113	----	70	130	----	----
EG005T: Total Metals by ICP-AES (QCLot: 2643611)										
ES1228841-100	10C-2.0	EG005T: Arsenic	7440-38-2	50 mg/kg	101	----	70	130	----	----
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.8	----	70	130	----	----
		EG005T: Chromium	7440-47-3	50 mg/kg	100	----	70	130	----	----
		EG005T: Copper	7440-50-8	250 mg/kg	102	----	70	130	----	----
		EG005T: Lead	7439-92-1	250 mg/kg	97.4	----	70	130	----	----
		EG005T: Nickel	7440-02-0	50 mg/kg	100	----	70	130	----	----
		EG005T: Zinc	7440-66-6	250 mg/kg	98.4	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2643612)										
ES1228841-100	10C-2.0	EG035T: Mercury	7439-97-6	5 mg/kg	107	----	70	130	----	----

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					MS	MSD	Low	High	Value	Control Limit
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number							
EG035F: Dissolved Mercury by FIMS (QCLot: 2640472)										
ES1228709-002	Anonymous	EG035F: Mercury	7439-97-6	0.0100 mg/L	79.2	----	70	130	----	----
EG020F: Dissolved Metals by ICP-MS (QCLot: 2640473)										
ES1228709-004	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	110	----	70	130	----	----
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	98.0	----	70	130	----	----
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	93.9	----	70	130	----	----
		EG020A-F: Copper	7440-50-8	0.2 mg/L	101	----	70	130	----	----
		EG020A-F: Lead	7439-92-1	0.2 mg/L	95.7	----	70	130	----	----
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	# Not Determined	----	70	130	----	----
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	92.5	----	70	130	----	----
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	107	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2640765)										
ES1228847-018	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	111	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft (QCLot: 2640765)										
ES1228847-018	Anonymous	EP080: C6 - C10 Fraction	----	375 µg/L	117	----	70	130	----	----
EP080: BTEXN (QCLot: 2640765)										
ES1228847-018	Anonymous	EP080: Benzene	71-43-2	25 µg/L	119	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	115	----	70	130	----	----



Sub-Matrix: WATER

Laboratory sample IDClient sample IDMethod: CompoundCAS Number				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)
				Concentration	MS	MSD	Low	High	ValueControl Limit
EP080: BTEXN (QCLot: 2640765) - continued									
ES1228847-018	Anonymous	EP080: Ethylbenzene	100-41-4	25 µg/L	104	----	70	130	----
		EP080: meta- & para-Xylene	108-38-3	25 µg/L	102	----	70	130	----
		106-42-3							
		EP080: ortho-Xylene	95-47-6	25 µg/L	104	----	70	130	----
		EP080: Naphthalene	91-20-3	25 µg/L	78.9	----	70	130	----

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: ES1228841	Page	: 1 of 24
Client	: SINCLAIR KNIGHT MERZ	Laboratory	: Environmental Division Sydney
Contact	: B GAUTHIER	Contact	: Client Services
Address	: 710 HUNTER STREET NEWCASTLE WEST NSW, AUSTRALIA 2302	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: bgauthier@globalskm.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 02 4979 2600	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 4979 2666	Facsimile	: +61-2-8784 8500
Project	: HDC-LEE WHARF	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----	Date Samples Received	: 06-DEC-2012
C-O-C number	: 159766-75	Issue Date	: 18-DEC-2012
Sampler	: GM	No. of samples received	: 109
Order number	: EN03130	No. of samples analysed	: 109
Quote number	: EN/003/12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL** Evaluation: **✖** = Holding time breach ; **✔** = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content								
Soil Glass Jar - Unpreserved (EA055-103)	06-DEC-2012	----	----	----	10-DEC-2012	20-DEC-2012	✓	
19W4-0.5,								19W4-1.0,
19W4-1.5,								19W4-2.0,
17B-0.5,								17B-1.0,
17B-1.5,								17B-2.0,
17C-0.5,								17C-1.0,
17C-1.5,								17C-2.0,
19W3-0.5,								19W3-1.0,
19W3-1.5,								19W3-2.0,
13B-0.5,								13B-1.0,
13B-1.5,								13B-2.0,
17E-0.5,								17E-1.0,
17E-1.5,								17E-2.0,
13D-0.5,								13D-1.0,
13D-1.5,								13D-2.0,
12E-0.5,								12E-1.0,
12E-1.5,								12E-2.0,
12B-0.5,								12B-1.0,
12B-1.5,								12B-2.0,
13A-0.5,								13A-1.0,
13A-1.5,								13A-2.0,
12D-0.5,								12D-1.0,
12D-1.5,								12D-2.0,
12C-0.5,								12C-1.0,
12C-1.5,								12C-2.0,
12A-0.5,								12A-1.0,
12A-1.5,								12A-2.0,
18W5-0.5,								18W5-1.0,
18W5-1.5,								18W5-2.0,
16C-0.5,								16C-1.0,
16C-1.5,	16C-2.0,							



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)		06-DEC-2012	12-DEC-2012	04-JUN-2013	✓	12-DEC-2012	04-JUN-2013	✓
14W3-0.5,	14W3-1.0,							
14W3-1.5,	14W3-2.0,							
14E-0.5,	14E-1.0,							
14E-1.5,	14E-2.0,							
10E-0.5,	10E-1.0,							
10E-1.5,	10E-2.0,							
14W4-0.5,	14W4-1.0,							
14W4-1.5,	14W4-2.0,							
10C-0.5,	10C-1.0,							
10C-1.5,	10C-2.0,							
10B-0.5,	10B-1.0,							
10B-1.5,	10B-2.0,							
QC10,	QC11,							
QC12,	QC13							
Soil Glass Jar - Unpreserved (EG005T)								

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005T: Total Metals by ICP-AES - Continued								
19W4-0.5, 19W4-1.5, 17B-0.5, 17B-1.5, 17C-0.5, 17C-1.5, 19W3-0.5, 19W3-1.5, 13B-0.5, 13B-1.5, 17E-0.5, 17E-1.5, 13D-0.5, 13D-1.5, 12E-0.5, 12E-1.5, 12B-0.5, 12B-1.5, 13A-0.5, 13A-1.5, 12D-0.5, 12D-1.5, 12C-0.5, 12C-1.5, 12A-0.5, 12A-1.5, 18W5-0.5, 18W5-1.5, 16C-0.5, 16C-1.5, 18W4-0.5, 18W4-1.5, 18W3-0.5, 18W3-1.5, 16D-0.5, 16D-1.5, 18W2-0.5, 18W2-1.5, 16A-0.5, 16A-1.5,	19W4-1.0, 19W4-2.0, 17B-1.0, 17B-2.0, 17C-1.0, 17C-2.0, 19W3-1.0, 19W3-2.0, 13B-1.0, 13B-2.0, 17E-1.0, 17E-2.0, 13D-1.0, 13D-2.0, 12E-1.0, 12E-2.0, 12B-1.0, 12B-2.0, 13A-1.0, 13A-2.0, 12D-1.0, 12D-2.0, 12C-1.0, 12C-2.0, 12A-1.0, 12A-2.0, 18W5-1.0, 18W5-2.0, 16C-1.0, 16C-2.0, 18W4-1.0, 18W4-2.0, 18W3-1.0, 18W3-2.0, 16D-1.0, 16D-2.0, 18W2-1.0, 18W2-2.0, 16A-1.0, 16A-2.0	06-DEC-2012	12-DEC-2012	04-JUN-2013	✓	13-DEC-2012	04-JUN-2013	✓



Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EG035T: Total Recoverable Mercury by FIMS - Continued									
19W4-0.5, 19W4-1.5, 17B-0.5, 17B-1.5, 17C-0.5, 17C-1.5, 19W3-0.5, 19W3-1.5, 13B-0.5, 13B-1.5, 17E-0.5, 17E-1.5, 13D-0.5, 13D-1.5, 12E-0.5, 12E-1.5, 12B-0.5, 12B-1.5, 13A-0.5, 13A-1.5, 12D-0.5, 12D-1.5, 12C-0.5, 12C-1.5, 12A-0.5, 12A-1.5, 18W5-0.5, QC10, 16C-0.5, 16C-1.5, 18W4-0.5, 18W4-1.5, 18W3-0.5, 18W3-1.5, 16D-0.5, 16D-1.5, 18W2-0.5, 18W2-1.5, 16A-0.5, 16A-1.5, 14W3-0.5, 14W3-1.5,	19W4-1.0, 19W4-2.0, 17B-1.0, 17B-2.0, 17C-1.0, 17C-2.0, 19W3-1.0, 19W3-2.0, 13B-1.0, 13B-2.0, 17E-1.0, 17E-2.0, 13D-1.0, 13D-2.0, 12E-1.0, 12E-2.0, 12B-1.0, 12B-2.0, 13A-1.0, 13A-2.0, 12D-1.0, 12D-2.0, 12C-1.0, 12C-2.0, 12A-1.0, 12A-2.0, 18W5-1.0, 18W5-1.5, 16C-1.0, 16C-2.0, 18W4-1.0, 18W4-2.0, 18W3-1.0, 18W3-2.0, 16D-1.0, 16D-2.0, 18W2-1.0, 18W2-2.0, 16A-1.0, 16A-2.0, 14W3-1.0, 14W3-2.0,	18W5-2.0,	06-DEC-2012	12-DEC-2012	03-JAN-2013	✓	13-DEC-2012	03-JAN-2013	✓



Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS - Continued								
14E-0.5,	14E-1.0,							
14E-1.5,	14E-2.0,							
10E-0.5,	10E-1.0,							
10E-1.5,	10E-2.0,							
14W4-0.5,	14W4-1.0,							
14W4-1.5,	14W4-2.0,							
10C-0.5,	10C-1.0,							
10C-1.5,	10C-2.0,							
10B-0.5,	10B-1.0,							
10B-1.5,	10B-2.0,							
QC11,								
QC12,	QC13							



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
Soil Glass Jar - Unpreserved (EP071)		06-DEC-2012	10-DEC-2012	20-DEC-2012	✓	11-DEC-2012	19-JAN-2013	✓
19W4-0.5,	19W4-1.0,							
19W4-1.5,	19W4-2.0,							
17B-0.5,	17B-1.0,							
17B-1.5,	17B-2.0,							
17C-0.5,	17C-1.0,							
17C-1.5,	17C-2.0,							
19W3-0.5,	19W3-1.0,							
19W3-1.5,	19W3-2.0,							
13B-0.5,	13B-1.0,							
13B-1.5,	13B-2.0,							
17E-0.5,	17E-1.0,							
17E-1.5,	17E-2.0,							
13D-0.5,	13D-1.0,							
13D-1.5,	13D-2.0,							
12E-0.5,	12E-1.0,							
12E-1.5,	12E-2.0,							
12B-0.5,	12B-1.0,							
12B-1.5,	12B-2.0,							
13A-0.5,	13A-1.0,							
13A-1.5,	13A-2.0							
Soil Glass Jar - Unpreserved (EP071)		06-DEC-2012	11-DEC-2012	20-DEC-2012	✓	12-DEC-2012	20-JAN-2013	✓
18W4-0.5,	18W4-1.0,							
18W4-1.5,	18W4-2.0,							
18W3-0.5,	18W3-1.0,							
18W3-1.5,	18W3-2.0,							
16D-0.5,	16D-1.0,							
16D-1.5,	16D-2.0,							
18W2-0.5,	18W2-1.0,							
18W2-1.5,	18W2-2.0,							
16A-0.5,	16A-1.0,							
16A-1.5,	16A-2.0							
Soil Glass Jar - Unpreserved (EP071)								

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 Work Order : ES1228841
 Client : SINCLAIR KNIGHT MERZ
 Project : HDC-LEE WHARF



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft - Continued								
14W3-0.5, 14W3-1.5, 14E-0.5, 14E-1.5, 10E-0.5, 10E-1.5, 14W4-0.5, 14W4-1.5, 10C-0.5, 10C-1.5, 10B-0.5, 10B-1.5, QC10, QC12,	14W3-1.0, 14W3-2.0, 14E-1.0, 14E-2.0, 10E-1.0, 10E-2.0, 14W4-1.0, 14W4-2.0, 10C-1.0, 10C-2.0, 10B-1.0, 10B-2.0, QC11, QC13	06-DEC-2012	12-DEC-2012	20-DEC-2012	✓	13-DEC-2012	21-JAN-2013	✓
Soil Glass Jar - Unpreserved (EP071)								
12D-0.5, 12D-1.5, 12C-0.5, 12C-1.5, 12A-0.5, 12A-1.5, 18W5-0.5, 18W5-1.5, 16C-0.5, 16C-1.5,	12D-1.0, 12D-2.0, 12C-1.0, 12C-2.0, 12A-1.0, 12A-2.0, 18W5-1.0, 18W5-2.0, 16C-1.0, 16C-2.0	06-DEC-2012	14-DEC-2012	20-DEC-2012	✓	14-DEC-2012	23-JAN-2013	✓



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
19W4-0.5, 19W4-1.5, 17B-0.5, 17B-1.5, 17C-0.5, 17C-1.5, 19W3-0.5, 19W3-1.5, 13B-0.5, 13B-1.5,	19W4-1.0, 19W4-2.0, 17B-1.0, 17B-2.0, 17C-1.0, 17C-2.0, 19W3-1.0, 19W3-2.0, 13B-1.0, 13B-2.0	06-DEC-2012	10-DEC-2012	20-DEC-2012	✓	10-DEC-2012	19-JAN-2013	✓
Soil Glass Jar - Unpreserved (EP075(SIM))								
17E-0.5, 17E-1.5, 13D-0.5, 13D-1.5, 12E-0.5, 12E-1.5, 12B-0.5, 12B-1.5, 13A-0.5, 13A-1.5,	17E-1.0, 17E-2.0, 13D-1.0, 13D-2.0, 12E-1.0, 12E-2.0, 12B-1.0, 12B-2.0, 13A-1.0, 13A-2.0	06-DEC-2012	10-DEC-2012	20-DEC-2012	✓	12-DEC-2012	19-JAN-2013	✓
Soil Glass Jar - Unpreserved (EP075(SIM))								
18W4-0.5, 18W4-1.5, 18W3-0.5, 18W3-1.5, 16D-0.5, 16D-1.5, 18W2-0.5, 18W2-1.5, 16A-0.5, 16A-1.5,	18W4-1.0, 18W4-2.0, 18W3-1.0, 18W3-2.0, 16D-1.0, 16D-2.0, 18W2-1.0, 18W2-2.0, 16A-1.0, 16A-2.0	06-DEC-2012	11-DEC-2012	20-DEC-2012	✓	11-DEC-2012	20-JAN-2013	✓
Soil Glass Jar - Unpreserved (EP075(SIM))								
10B-0.5, 10B-1.5, QC10, QC12,	10B-1.0, 10B-2.0, QC11, QC13	06-DEC-2012	12-DEC-2012	20-DEC-2012	✓	12-DEC-2012	21-JAN-2013	✓
Soil Glass Jar - Unpreserved (EP075(SIM))								

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
14W3-0.5,	14W3-1.0,	06-DEC-2012	12-DEC-2012	20-DEC-2012	✓	13-DEC-2012	21-JAN-2013	✓
14W3-1.5,	14W3-2.0,							
14E-0.5,	14E-1.0,							
14E-1.5,	14E-2.0,							
10E-0.5,	10E-1.0,							
10E-1.5,	10E-2.0,							
14W4-0.5,	14W4-1.0,							
14W4-1.5,	14W4-2.0,							
10C-0.5,	10C-1.0,							
10C-1.5,	10C-2.0							
Soil Glass Jar - Unpreserved (EP075(SIM))		06-DEC-2012	14-DEC-2012	20-DEC-2012	✓	14-DEC-2012	23-JAN-2013	✓
12D-0.5,	12D-1.0,							
12D-1.5,	12D-2.0,							
12C-0.5,	12C-1.0,							
12C-1.5,	12C-2.0,							
12A-0.5,	12A-1.0,							
12A-1.5,	12A-2.0,							
18W5-0.5,	18W5-1.0,							
18W5-1.5,	18W5-2.0,							
16C-0.5,	16C-1.0,							
16C-1.5,	16C-2.0							



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEX								
Soil Glass Jar - Unpreserved (EP080)		06-DEC-2012	10-DEC-2012	20-DEC-2012	✓	15-DEC-2012	20-DEC-2012	✓
19W4-0.5, 19W4-1.5, 17B-0.5, 17B-1.5, 17C-0.5, 17C-1.5, 19W3-0.5, 19W3-1.5, 13B-0.5, 13B-1.5, 17E-0.5, 17E-1.5, 13D-0.5, 13D-1.5, 12E-0.5, 12E-1.5, 12B-0.5, 12B-1.5, 13A-0.5, 13A-1.5,	19W4-1.0, 19W4-2.0, 17B-1.0, 17B-2.0, 17C-1.0, 17C-2.0, 19W3-1.0, 19W3-2.0, 13B-1.0, 13B-2.0, 17E-1.0, 17E-2.0, 13D-1.0, 13D-2.0, 12E-1.0, 12E-2.0, 12B-1.0, 12B-2.0, 13A-1.0, 13A-2.0							
Soil Glass Jar - Unpreserved (EP080)		06-DEC-2012	10-DEC-2012	20-DEC-2012	✓	17-DEC-2012	20-DEC-2012	✓
12D-0.5, 12D-1.5, 12C-0.5, 12C-1.5, 12A-0.5, 12A-1.5, 18W5-0.5, 18W5-1.5, 16C-0.5, 16C-1.5, 18W4-0.5, 18W4-1.5, 18W3-0.5, 16D-0.5, 16D-1.0, 16D-1.5, 18W2-0.5, 18W2-1.5, 16A-0.5, 16A-1.5,	12D-1.0, 12D-2.0, 12C-1.0, 12C-2.0, 12A-1.0, 12A-2.0, 18W5-1.0, 18W5-2.0, 16C-1.0, 16C-2.0, 18W4-1.0, 18W4-2.0, 18W3-1.0, 18W3-1.5, 18W3-2.0, 16D-2.0, 18W2-1.0, 18W2-2.0, 16A-1.0, 16A-2.0							

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEX - Continued								
Soil Glass Jar - Unpreserved (EP080)		06-DEC-2012	11-DEC-2012	20-DEC-2012	✓	12-DEC-2012	20-DEC-2012	✓
10E-1.5,	10E-2.0,							
14W4-0.5,	14W4-1.0,							
14W4-1.5,	14W4-2.0,							
10C-0.5,	10C-1.0,							
10C-1.5,	10C-2.0,							
10B-0.5,	10B-1.0,							
10B-1.5,	10B-2.0,							
QC10,	QC11,							
QC12,	QC13							
Soil Glass Jar - Unpreserved (EP080)		06-DEC-2012	11-DEC-2012	20-DEC-2012	✓	17-DEC-2012	20-DEC-2012	✓
14W3-0.5,	14W3-1.0,							
14W3-1.5,	14W3-2.0,							
14E-0.5,	14E-1.0,							
14E-1.5,	14E-2.0,							
10E-0.5,	10E-1.0							



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080)		06-DEC-2012	10-DEC-2012	20-DEC-2012	✓	15-DEC-2012	20-DEC-2012	✓
19W4-0.5, 19W4-1.5, 17B-0.5, 17B-1.5, 17C-0.5, 17C-1.5, 19W3-0.5, 19W3-1.5, 13B-0.5, 13B-1.5, 17E-0.5, 17E-1.5, 13D-0.5, 13D-1.5, 12E-0.5, 12E-1.5, 12B-0.5, 12B-1.5, 13A-0.5, 13A-1.5,	19W4-1.0, 19W4-2.0, 17B-1.0, 17B-2.0, 17C-1.0, 17C-2.0, 19W3-1.0, 19W3-2.0, 13B-1.0, 13B-2.0, 17E-1.0, 17E-2.0, 13D-1.0, 13D-2.0, 12E-1.0, 12E-2.0, 12B-1.0, 12B-2.0, 13A-1.0, 13A-2.0							
Soil Glass Jar - Unpreserved (EP080)		06-DEC-2012	10-DEC-2012	20-DEC-2012	✓	17-DEC-2012	20-DEC-2012	✓
12D-0.5, 12D-1.5, 12C-0.5, 12C-1.5, 12A-0.5, 12A-1.5, 18W5-0.5, 18W5-1.5, 16C-0.5, 16C-1.5, 18W4-0.5, 18W4-1.5, 18W3-0.5, 16D-0.5, 16D-1.0, 16D-1.5, 18W2-0.5, 18W2-1.5, 16A-0.5, 16A-1.5,	12D-1.0, 12D-2.0, 12C-1.0, 12C-2.0, 12A-1.0, 12A-2.0, 18W5-1.0, 18W5-2.0, 16C-1.0, 16C-2.0, 18W4-1.0, 18W4-2.0, 18W3-1.0, 18W3-1.5, 18W3-2.0, 16D-2.0, 18W2-1.0, 18W2-2.0, 16A-1.0, 16A-2.0							

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Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN - Continued								
Soil Glass Jar - Unpreserved (EP080)		06-DEC-2012	11-DEC-2012	20-DEC-2012	✓	12-DEC-2012	20-DEC-2012	✓
10E-1.5,	10E-2.0,							
14W4-0.5,	14W4-1.0,							
14W4-1.5,	14W4-2.0,							
10C-0.5,	10C-1.0,							
10C-1.5,	10C-2.0,							
10B-0.5,	10B-1.0,							
10B-1.5,	10B-2.0,							
QC10,	QC11,							
QC12,	QC13							
Soil Glass Jar - Unpreserved (EP080)		06-DEC-2012	11-DEC-2012	20-DEC-2012	✓	17-DEC-2012	20-DEC-2012	✓
14W3-0.5,	14W3-1.0,							
14W3-1.5,	14W3-2.0,							
14E-0.5,	14E-1.0,							
14E-1.5,	14E-2.0,							
10E-0.5,	10E-1.0							



Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2010 Draft								
Soil Glass Jar - Unpreserved (EP080)		06-DEC-2012	10-DEC-2012	20-DEC-2012	✓	15-DEC-2012	20-DEC-2012	✓
19W4-0.5, 19W4-1.5, 17B-0.5, 17B-1.5, 17C-0.5, 17C-1.5, 19W3-0.5, 19W3-1.5, 13B-0.5, 13B-1.5, 17E-0.5, 17E-1.5, 13D-0.5, 13D-1.5, 12E-0.5, 12E-1.5, 12B-0.5, 12B-1.5, 13A-0.5, 13A-1.5,	19W4-1.0, 19W4-2.0, 17B-1.0, 17B-2.0, 17C-1.0, 17C-2.0, 19W3-1.0, 19W3-2.0, 13B-1.0, 13B-2.0, 17E-1.0, 17E-2.0, 13D-1.0, 13D-2.0, 12E-1.0, 12E-2.0, 12B-1.0, 12B-2.0, 13A-1.0, 13A-2.0							
Soil Glass Jar - Unpreserved (EP080)		06-DEC-2012	10-DEC-2012	20-DEC-2012	✓	17-DEC-2012	20-DEC-2012	✓
12D-0.5, 12D-1.5, 12C-0.5, 12C-1.5, 12A-0.5, 12A-1.5, 18W5-0.5, 18W5-1.5, 16C-0.5, 16C-1.5, 18W4-0.5, 18W4-1.5, 18W3-0.5, 16D-0.5, 16D-1.0, 16D-1.5, 18W2-0.5, 18W2-1.5, 16A-0.5, 16A-1.5,	12D-1.0, 12D-2.0, 12C-1.0, 12C-2.0, 12A-1.0, 12A-2.0, 18W5-1.0, 18W5-2.0, 16C-1.0, 16C-2.0, 18W4-1.0, 18W4-2.0, 18W3-1.0, 18W3-1.5, 18W3-2.0, 16D-2.0, 18W2-1.0, 18W2-2.0, 16A-1.0, 16A-2.0							

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Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons - Continued								
Soil Glass Jar - Unpreserved (EP080)		06-DEC-2012	11-DEC-2012	20-DEC-2012	✓	12-DEC-2012	20-DEC-2012	✓
10E-1.5,	10E-2.0,							
14W4-0.5,	14W4-1.0,							
14W4-1.5,	14W4-2.0,							
10C-0.5,	10C-1.0,							
10C-1.5,	10C-2.0,							
10B-0.5,	10B-1.0,							
10B-1.5,	10B-2.0,							
QC10,	QC11,							
QC12,	QC13							
Soil Glass Jar - Unpreserved (EP080)		06-DEC-2012	11-DEC-2012	20-DEC-2012	✓	17-DEC-2012	20-DEC-2012	✓
14W3-0.5,	14W3-1.0,							
14W3-1.5,	14W3-2.0,							
14E-0.5,	14E-1.0,							
14E-1.5,	14E-2.0,							
10E-0.5,	10E-1.0							

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F) QCE	06-DEC-2012	---	04-JUN-2013	----	11-DEC-2012	04-JUN-2013	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F) QCE	06-DEC-2012	---	03-JAN-2013	----	12-DEC-2012	03-JAN-2013	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) QCE	06-DEC-2012	12-DEC-2012	13-DEC-2012	✓	14-DEC-2012	21-JAN-2013	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) QCE	06-DEC-2012	12-DEC-2012	13-DEC-2012	✓	14-DEC-2012	21-JAN-2013	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) QCE	06-DEC-2012	12-DEC-2012	20-DEC-2012	✓	12-DEC-2012	20-DEC-2012	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP080) QCE	06-DEC-2012	12-DEC-2012	20-DEC-2012	✓	12-DEC-2012	20-DEC-2012	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	17	160	10.6	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	12	114	10.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	12	120	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	12	120	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	12	117	10.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	12	120	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	6	114	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	6	120	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	6	120	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	6	117	5.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	6	120	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	6	114	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	6	120	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	6	120	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	6	117	5.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	6	120	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	6	114	5.3	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	6	120	5.0	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	6	120	5.0	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	6	117	5.1	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	6	120	5.0	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	19	10.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	19	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	25.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

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Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Control Samples (LCS) - Continued							
TPH - Semivolatile Fraction	EP071	1	19	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	19	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	4	25.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	19	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	20	5.0	5.0	✓	ALS QCS3 requirement
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	19	5.3	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	ALS QCS3 requirement



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2010 Draft) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Asbestos Identification in bulk solids	EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): Samples are 0.45 um filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) Samples are 0.45 um filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)



<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.



Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005T: Total Metals by ICP-AES	ES1228841-100	10C-2.0	Manganese	7439-96-5	188 %	0-20%	RPD exceeds LOR based limits
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1228841-071	16D-1.5	Sum of polycyclic aromatic hydrocarbons	----	44.5 %	0-20%	RPD exceeds LOR based limits
Matrix Spike (MS) Recoveries							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1228841-061	18W4-0.5	Pyrene	129-00-0	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1228841-001	19W4-0.5	Pyrene	129-00-0	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES1228841-101	10B-0.5	Pyrene	129-00-0	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP080: BTEXN	ES1228841-061	18W4-0.5	Naphthalene	91-20-3	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EG020F: Dissolved Metals by ICP-MS	ES1228709-004	Anonymous	Manganese	7439-96-5	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

- For all matrices, no Method Blank value outliers occur.
- For all matrices, no Laboratory Control outliers occur.

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP075(SIM)S: Phenolic Compound Surrogates	ES1228841-053	18W5-0.5	2,4,6-Tribromophenol	118-79-6	18.0 %	36-136 %	Recovery less than lower data quality objective
EP075(SIM)S: Phenolic Compound Surrogates	ES1228841-054	18W5-1.0	2,4,6-Tribromophenol	118-79-6	32.1 %	36-136 %	Recovery less than lower data quality objective



Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**
-



CHAIN OF CUSTODY

ALS Laboratory: please tick -->

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Ph: 02 4228 3125 E: wollongong@alsenviro.com

CLIENT: SKM

OFFICE: Newcastle

PROJECT: HDC - Lee Wlat

PURCHASE ORDER NUMBER: EN03130

PROJECT MANAGER: B Gauthier

SAMPLER: C Mowla

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):

COMMENTS/ SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:

(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: 547701/12

CONTACT PH:

RECEIVED BY: [Signature]

DATE/TIME: 6/12/12

RELINQUISHED BY: [Signature]

DATE/TIME: 6/12/12

RECEIVED BY: [Signature]

DATE/TIME: 6/12/12

RELINQUISHED BY: [Signature]

DATE/TIME: 6/12/12

RECEIVED BY: [Signature]

DATE/TIME: 6/12/12

RELINQUISHED BY: [Signature]

DATE/TIME: 6/12/12

RECEIVED BY: [Signature]

DATE/TIME: 6/12/12

RELINQUISHED BY: [Signature]

DATE/TIME: 6/12/12

RECEIVED BY: [Signature]

DATE/TIME: 6/12/12

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No

Free ice / frozen ice bricks present upon receipt? Yes No

Random Sample Temperature on Receipt: °C

Other comment: 3.8

RECEIVED BY: [Signature]

DATE/TIME: 6/12/12

RELINQUISHED BY: [Signature]

DATE/TIME: 6/12/12

RECEIVED BY: [Signature]

DATE/TIME: 6/12/12

RELINQUISHED BY: [Signature]

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RECEIVED BY: [Signature]

DATE/TIME: 6/12/12

RELINQUISHED BY: [Signature]

DATE/TIME: 6/12/12

RECEIVED BY: [Signature]

DATE/TIME: 6/12/12

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).

TYPE & PRESERVATIVE (refer to codes below)

MATRIX

DATE/ TIME

SAMPLE ID

SAMPLE - SOLID (S), WATER (W)

LAB ID

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Environmental Division Sydney Work Order

ES1228841

Barcode

Telephone : +61-2-8784 8555

159766

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide/Cd Preserved; AG = Amber Glass Unpreserved Plastic; AP = Airfreight Unpreserved Plastic; V = VOA Val HCl Preserved; VB = VOA Val Sodium Bisulfate Preserved; VS = VOA Val 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.



CHAIN OF CUSTODY

ALS Environmental
Laboratory: please tick →

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Ph: 07 4795 0600 E: townsville@alsenviro.com
- ☐ WOLLONGONG 90 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: perth@alsenviro.com

CLIENT: SKM
OFFICE: Newcastle
PROJECT: HDC - Lee Wharf
PURCHASE ORDER NUMBER: EN03130
PROJECT MANAGER: BG
CONTACT PH: 0408 728 184
SAMPLER: GM
SAMPLER MOBILE: 0408 728 184
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):

TURNAROUND REQUIREMENTS:
(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)
ALS QUOTE NO.: 54704/12
COC SEQUENCE NUMBER (Circle):
COC: 1 2 3 4 5 6 7
OF: 1 2 3 4 5 6 7
Other comment: 38

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No
Free ice / frozen ice bricks present upon receipt? Yes No
Random Sample Temperature on Receipt: °C
Other comment: 38

RECEIVED BY: [Signature]
DATE/TIME: 6/12/12
RELINQUISHED BY: [Signature]
DATE/TIME: 6/12/12

SAMPLE DETAILS			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	
ALS USE	MATRIX - SOLID (S), WATER (W)	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS			
13	19W3-0.5	6/12/12	S	1G	✓	Soil Suite	Asbestos	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	19W3-1.0				✓			
15	19W3-1.5				✓			
16	19W3-2.0				✓			
17	13B-0.5				✓			
18	13B-1.0				✓			
19	13B-1.5				✓			
20	13B-2.0				✓			
21	17E-0.5				✓			
22	17E-1.0				✓			
23	17E-1.5				✓			
24	17E-2.0				✓			
TOTAL					12			

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

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3



CHAIN OF CUSTODY

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CLIENT: SKM

OFFICE: Newcastle

PROJECT: HDC - Lee Wharf

PURCHASE ORDER NUMBER: ENO3130

PROJECT MANAGER: BG

CONTACT PH: 0408 728 184

SAMPLER: UM

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):

TURNAROUND REQUIREMENTS:
(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: 54/701/12

RECEIVED BY: [Signature]
DATE/TIME: 6/12/12

RELINQUISHED BY: [Signature]
DATE/TIME: 6/12/12

RECEIVED BY: [Signature]
DATE/TIME: 6/12/12

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No
Free ice/frozen ice bricks present upon receipt? Yes No
Random Sample Temperature on Receipt: °C
Other comment: 3.8

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	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
25	13D-0.5	6/12/12	S	1G	1	Soil suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
26	13D-1.0						
27	13D-1.5						
28	13D-2.0						
29	12E-0.5						
30	12E-1.0						
31	12E-1.5						
32	12E-2.0						
33	12B-0.5						
34	12B-1.0						
35	12B-1.5						
36	12B-2.0						
TOTAL					12		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide/Cd Preserved; AP = Air/light Unpreserved Plastic; V = VOA Vial/HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Air/light Unpreserved Vial SG = Sulfuric Preserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speculation 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 Solids; B = Unpreserved Bag.

159768



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WOLLONGONG 59 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsenviro.com

CLIENT: SKM

OFFICE: Newcastle

PROJECT: HDC Lee Wharf

PURCHASE ORDER NUMBER: EN03130

PROJECT MANAGER: BG

SAMPLER: CM

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):

COMMENTS/ SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:

(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: 54/701/12

CONTACT PH:

COC:

OF:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

FOR LABORATORY USE ONLY (Circle)

Customer Seal Intact? Yes No

Free Ice / frozen ice bricks present upon receipt? Yes No

Random Sample Temperature on Receipt: °C

Other comment: 3.8

RELINQUISHED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

RECEIVED BY:

DATE/TIME:

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).

CONTAINER INFORMATION

TYPE & PRESERVATIVE (refer to codes below)

MATRIX

DATE/ TIME

SAMPLE ID

SAMPLE - SOLID (S), WATER (W)

LAB ID

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CHAIN OF CUSTODY

ALS Environmental please tick →

☐ ADELAIDE 21 Burma Road, Port Adelaide SA 5015
Ph: 08 8358 0880 E: adelaide@alsenviro.com

☐ BRISBANE 32 Shand Street, Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com

☐ GLADSTONE 46 Callaghan Drive, Clifton QLD 4680
Ph: 07 4971 5500 E: gladstone@alsenviro.com

☐ MACKAY 78 Harbour Road, Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsenviro.com

☐ MELBOURNE 2-4 Wharf Road, Springvale VIC 3171
Ph: 03 8549 0600 E: samples.melbourne@alsenviro.com

☐ MURDOCH 27 Spring Road, Murdoch NSW 2850
Ph: 02 8572 0737 E: murdoch@alsenviro.com

☐ NEWCASTLE 5 Reservoir Road, Warialla NSW 2504
Ph: 02 4958 3433 E: samples.newcastle@alsenviro.com

☐ NOURBA 4719 Geary Place, North Nwara NSW 2541
Ph: 02 423 2063 E: nouriba@alsenviro.com

☐ PERTH 10 Hot Way, Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsenviro.com

☐ SYDNEY 277 Macleay Road, Smithfield NSW 2154
Ph: 02 9764 6585 E: samples.sydney@alsenviro.com

☐ TOWNSVILLE 14-15 Desma Court, Bohle QLD 4818
Ph: 07 4796 0600 E: townsville@alsenviro.com

☐ WOLLONGONG 99 Kenny Street, Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsenviro.com

CLIENT: SKM

OFFICE: Newcastle

PROJECT: HDC-Lee Wharf

PURCHASE ORDER NUMBER: EN03130

PROJECT MANAGER: BG

SAMPLER: CM

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):

COMMENTS/ SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:

(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: 54701/12

CONTACT PH:

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact? Yes No N/A

Freezer frozen ice bricks present upon receipt? Yes No N/A

Random Sample Temperature on Receipt: °C

Other comment: 3.8

RECEIVED BY:

DATE/TIME: 6/12/12

RELINQUISHED BY:

DATE/TIME: 6/12/12

RECEIVED BY:

DATE/TIME: 6/12/12

DATE/TIME: 6/12/12

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CHAIN OF CUSTODY

ALS Laboratory:
please tick →

- ☐ ADELAIDE 21 Burma Road Port Adelaide SA 5095
Ph: 08 8359 0880 E: adelaide@alsenviro.com
- ☐ BRISBANE 32 Sharn Street Shefford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsenviro.com
- ☐ GLADSTONE 46 Callenderah Drive Clinton QLD 4800
Ph: 07 4971 5800 E: gladstone@alsenviro.com

- ☐ MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4844 0177 E: mackay@alsenviro.com
- ☐ MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsenviro.com
- ☐ MURDOCH 27 Sydney Road Murdoch NSW 2350
Ph: 02 5572 6135 E: murdoch@alsenviro.com

- ☒ NEWCASTLE 5 Roseburn Road Warabrook NSW 2204
Ph: 02 4938 9433 E: samples.newcastle@alsenviro.com
- ☐ NOYORA 4119 Geary Place North Yolla NSW 2541
Ph: 02 4223 2063 E: noyora@alsenviro.com
- ☐ PERTH 10 Hot Way, Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsenviro.com

- ☐ SYDNEY 277 Macquarie Road Smithfield NSW 21164
Ph: 02 8764 8555 E: samples.sydney@alsenviro.com
- ☐ TOWNSVILLE 14-15 Deema Court Baffle QLD 4818
Ph: 07 4796 0600 E: townsville@alsenviro.com
- ☐ WOLLONGONG 59 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsenviro.com

CLIENT: **SKM**

OFFICE: **Newcastle**

PROJECT: **HDC - Lee Walef**

PURCHASE ORDER NUMBER: **Env03130**

PROJECT MANAGER: **BG**

SAMPLER: **GM**

COC emailed to ALS? (YES / NO) **YES** 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):

COMMENTS/ SPECIAL HANDLING/STORAGE OR DISPOSAL:

TURNAROUND REQUIREMENTS:
(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)

ALS QUOTE NO.: **54/701/12**

CONTACT PH:

SAMPLER MOBILE: **0408 728 184**

RECEIVED BY: **[Signature]** DATE/TIME: **6/12/12**

RELINQUISHED BY: **[Signature]** DATE/TIME: **6/12/12**

FOR LABORATORY USE ONLY (Circle)

Customer Seal Intact? ☒ Yes ☐ No

Free ice / frozen ice bricks present upon receipt? ☒ Yes ☐ No

Random Sample Temperature on Receipt: **2.8** °C

Other comment: **3.8**

ALS USE	SAMPLE DETAILS		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	
	MATRIX - SOLID (S), WATER (W)	DATE/ TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS		
97	10C-0.5	6/12/12	S	1G	1		
98	10C-1.0						
99	10C-1.5						
100	10C-2.0						
101	10B-0.5						
102	10B-1.0						
103	10B-1.5						
104	10B-2.0						
105	0C10						
106	0C11						
107	0C12						
108	0C13						
TOTAL					12		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved Plastic; AP = Airfreight Unpreserved Plastic; V = VOA HCl Preserved; VB = VOA Via Sodium Bisulfate Preserved; VS = VOA Via Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Plastic; 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 Solids; B = Unpreserved Bag.

159774

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: ES1230120	Page	: 1 of 15
Client	: SINCLAIR KNIGHT MERZ	Laboratory	: Environmental Division Sydney
Contact	: MR ROBERT GAUTHIER	Contact	: Client Services
Address	: 710 HUNTER STREET NEWCASTLE WEST NSW, AUSTRALIA 2302	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: rgauthier@globalskm.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 02 4979 2600	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 4979 2666	Facsimile	: +61-2-8784 8500
Project	: HDC-LEE WHARF	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: Rebatch of ES1228523/8841/8708	Date Samples Received	: 19-DEC-2012
C-O-C number	: ----	Issue Date	: 02-JAN-2013
Sampler	: GM	No. of samples received	: 26
Site	: ----	No. of samples analysed	: 26
Quote number	: SY/701/12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics



General Comments

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

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

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

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

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

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

LOR = Limit of reporting

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



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				1B-0.5	1B-1.5	2E-1.0	2E-0.5	3A-2.0
Client sampling date / time				04-DEC-2012 15:00	04-DEC-2012 15:00	04-DEC-2012 15:00	04-DEC-2012 15:00	04-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1230120-001	ES1230120-002	ES1230120-003	ES1230120-004	ES1230120-005
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	9.5	9.6	9.6	9.6	9.5
After HCl pH	----	0.1	pH Unit	1.8	1.6	1.6	2.0	1.7
Extraction Fluid Number	----	1	-	1	1	1	1	1
Final pH	----	0.1	pH Unit	5.7	5.5	5.9	5.8	5.7



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				3E-1.5	4B-0.5	4B-1.5	5E-0.5	5E-1.0
Client sampling date / time				04-DEC-2012 15:00	04-DEC-2012 15:00	04-DEC-2012 15:00	04-DEC-2012 15:00	04-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1230120-006	ES1230120-007	ES1230120-008	ES1230120-009	ES1230120-010
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	9.5	9.7	9.5	9.6	9.3
After HCl pH	----	0.1	pH Unit	1.6	1.9	1.7	1.8	1.6
Extraction Fluid Number	----	1	-	1	1	1	1	1
Final pH	----	0.1	pH Unit	5.7	6.0	6.1	5.9	5.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				6B-0.5	6C-1.0	10C-0.5	10C-2.0	12E-0.5
Client sampling date / time				04-DEC-2012 15:00	04-DEC-2012 15:00	06-DEC-2012 15:00	06-DEC-2012 15:00	06-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1230120-011	ES1230120-012	ES1230120-013	ES1230120-014	ES1230120-015
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	9.5	9.2	9.4	9.8	9.1
After HCl pH	----	0.1	pH Unit	2.0	1.6	1.7	1.7	1.6
Extraction Fluid Number	----	1	-	1	1	1	1	1
Final pH	----	0.1	pH Unit	5.7	5.5	5.7	5.5	5.1



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				12E-1.0	13B-0.5	13B-1.0	14B-0.5	14B-2.0
Client sampling date / time				06-DEC-2012 15:00	06-DEC-2012 15:00	06-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1230120-016	ES1230120-017	ES1230120-018	ES1230120-019	ES1230120-020
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	9.2	7.8	8.2	7.8	9.0
After HCl pH	----	0.1	pH Unit	1.6	1.9	1.5	1.7	1.6
Extraction Fluid Number	----	1	-	1	1	1	1	1
Final pH	----	0.1	pH Unit	5.5	5.1	4.9	5.0	4.9



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

				16A-0.5	16A-1.5	17A-0.5	17A-1.5	18B-0.5
Client sampling date / time				06-DEC-2012 15:00	06-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00	05-DEC-2012 15:00
Compound	CAS Number	LOR	Unit	ES1230120-021	ES1230120-022	ES1230120-023	ES1230120-024	ES1230120-025
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	9.7	7.7	9.5	9.7	7.6
After HCl pH	----	0.1	pH Unit	1.7	1.5	1.5	1.6	1.6
Extraction Fluid Number	----	1	-	1	1	1	1	1
Final pH	----	0.1	pH Unit	5.4	4.8	5.6	6.1	5.0



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Client sample ID

Client sampling date / time

				18D-2.0	----	----	----	----
				05-DEC-2012 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1230120-026	----	----	----	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	8.5	----	----	----	----
After HCl pH	----	0.1	pH Unit	1.5	----	----	----	----
Extraction Fluid Number	----	1	-	1	----	----	----	----
Final pH	----	0.1	pH Unit	4.9	----	----	----	----



Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)

Client sample ID

Client sampling date / time

				1B-0.5	1B-1.5	2E-1.0	2E-0.5	3A-2.0
				22-DEC-2012 12:00	22-DEC-2012 12:00	22-DEC-2012 12:00	22-DEC-2012 12:00	22-DEC-2012 12:00
Compound	CAS Number	LOR	Unit	ES1230120-001	ES1230120-002	ES1230120-003	ES1230120-004	ES1230120-005
EG005C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese	7439-96-5	0.1	mg/L	21.8	0.6	0.2	37.7	2.1
Zinc	7440-66-6	0.1	mg/L	0.9	1.1	1.0	0.2	0.3
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	0.5	µg/L	----	<0.5	<0.5	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	17.4	20.4	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	52.1	54.9	----	----
2,4,6-Tribromophenol	118-79-6	0.1	%	----	49.4	52.1	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	66.1	62.2	----	----
Anthracene-d10	1719-06-8	0.1	%	----	57.8	59.3	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	56.7	56.8	----	----



Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)

Client sample ID

Client sampling date / time

				3E-1.5	4B-0.5	4B-1.5	5E-0.5	5E-1.0
				22-DEC-2012 12:00	22-DEC-2012 12:00	22-DEC-2012 12:00	22-DEC-2012 12:00	22-DEC-2012 12:00
Compound	CAS Number	LOR	Unit	ES1230120-006	ES1230120-007	ES1230120-008	ES1230120-009	ES1230120-010
EG005C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese	7439-96-5	0.1	mg/L	0.6	1.6	0.6	4.7	0.7
Zinc	7440-66-6	0.1	mg/L	0.8	0.1	0.4	1.1	0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	<0.5	----	<0.5
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	17.4	----	17.9	----	19.9
2-Chlorophenol-D4	93951-73-6	0.1	%	46.3	----	44.7	----	51.7
2,4,6-Tribromophenol	118-79-6	0.1	%	45.0	----	66.0	----	49.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	62.0	----	72.1	----	66.5
Anthracene-d10	1719-06-8	0.1	%	53.0	----	70.7	----	61.0
4-Terphenyl-d14	1718-51-0	0.1	%	53.8	----	74.3	----	58.4



Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)

Client sample ID

Client sampling date / time

				6B-0.5	6C-1.0	10C-0.5	10C-2.0	12E-0.5
				22-DEC-2012 12:00	22-DEC-2012 12:00	22-DEC-2012 12:00	22-DEC-2012 12:00	22-DEC-2012 12:00
Compound	CAS Number	LOR	Unit	ES1230120-011	ES1230120-012	ES1230120-013	ES1230120-014	ES1230120-015
EG005C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese	7439-96-5	0.1	mg/L	10.3	0.2	4.0	0.2	0.5
Zinc	7440-66-6	0.1	mg/L	0.3	5.7	1.2	0.4	2.4
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	0.5	µg/L	----	<0.5	----	<0.5	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	14.5	----	16.5	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	33.2	----	47.5	----
2,4,6-Tribromophenol	118-79-6	0.1	%	----	48.0	----	56.9	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	48.7	----	59.6	----
Anthracene-d10	1719-06-8	0.1	%	----	51.8	----	58.4	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	53.2	----	56.2	----



Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)

Client sample ID

Client sampling date / time

				12E-1.0	13B-0.5	13B-1.0	14B-0.5	14B-2.0
				22-DEC-2012 12:00	22-DEC-2012 12:00	22-DEC-2012 12:00	22-DEC-2012 12:00	22-DEC-2012 12:00
Compound	CAS Number	LOR	Unit	ES1230120-016	ES1230120-017	ES1230120-018	ES1230120-019	ES1230120-020
EG005C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese	7439-96-5	0.1	mg/L	0.7	0.2	0.2	2.1	1.5
Zinc	7440-66-6	0.1	mg/L	2.8	3.0	5.0	43.2	8.3
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	<0.5	----	<0.5
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	21.7	----	17.2	----	17.2
2-Chlorophenol-D4	93951-73-6	0.1	%	53.1	----	45.1	----	50.0
2,4,6-Tribromophenol	118-79-6	0.1	%	82.2	----	59.6	----	56.7
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	74.2	----	57.9	----	63.0
Anthracene-d10	1719-06-8	0.1	%	77.3	----	56.9	----	58.0
4-Terphenyl-d14	1718-51-0	0.1	%	88.1	----	55.4	----	66.1



Analytical Results

Sub-Matrix: TCLP LEACHATE (Matrix: WATER)

Client sample ID

Client sampling date / time

				16A-0.5	16A-1.5	17A-0.5	17A-1.5	18B-0.5
				22-DEC-2012 12:00	22-DEC-2012 12:00	22-DEC-2012 12:00	22-DEC-2012 12:00	22-DEC-2012 12:00
Compound	CAS Number	LOR	Unit	ES1230120-021	ES1230120-022	ES1230120-023	ES1230120-024	ES1230120-025
EG005C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese	7439-96-5	0.1	mg/L	8.4	<0.1	0.2	<0.1	3.9
Zinc	7440-66-6	0.1	mg/L	0.1	1.1	0.2	0.7	7.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	0.5	µg/L	----	<0.5	----	<0.5	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	20.6	----	19.3	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	54.5	----	49.9	----
2,4,6-Tribromophenol	118-79-6	0.1	%	----	60.0	----	57.9	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	61.6	----	66.0	----
Anthracene-d10	1719-06-8	0.1	%	----	60.5	----	60.6	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	56.3	----	57.4	----



Analytical Results

Sub-Matrix: **TCLP LEACHATE (Matrix: WATER)**

Client sample ID

18D-2.0

Client sampling date / time

22-DEC-2012 12:00

Compound	CAS Number	LOR	Unit	ES1230120-026	----	----	----	----
EG005C: Leachable Metals by ICPAES								
Lead	7439-92-1	0.1	mg/L	<0.1	----	----	----	----
Manganese	7439-96-5	0.1	mg/L	0.4	----	----	----	----
Zinc	7440-66-6	0.1	mg/L	0.6	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	19.0	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	49.8	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.1	%	58.8	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	64.2	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	59.0	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	55.2	----	----	----	----



Surrogate Control Limits

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	15.9	102
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20.4	112
Anthracene-d10	1719-06-8	29.6	118
4-Terphenyl-d14	1718-51-0	21.5	126

Environmental Division

QUALITY CONTROL REPORT

Work Order	: ES1230120	Page	: 1 of 5
Client	: SINCLAIR KNIGHT MERZ	Laboratory	: Environmental Division Sydney
Contact	: MR ROBERT GAUTHIER	Contact	: Client Services
Address	: 710 HUNTER STREET NEWCASTLE WEST NSW, AUSTRALIA 2302	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: rgauthier@globalskm.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 02 4979 2600	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 4979 2666	Facsimile	: +61-2-8784 8500
Project	: HDC-LEE WHARF	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----	Date Samples Received	: 19-DEC-2012
C-O-C number	: ----	Issue Date	: 02-JAN-2013
Sampler	: GM	No. of samples received	: 26
Order number	: Rebatch of ES1228523/8841/8708	No. of samples analysed	: 26
Quote number	: SY/701/12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

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



NATA Accredited Laboratory 825

Accredited for compliance with
ISO/IEC 17025.

Signatories

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

Signatories	Position	Accreditation Category
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics



General Comments

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

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

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

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

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



Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005C: Leachable Metals by ICPAES (QC Lot: 2665250)									
ES1230120-001	1B-0.5	EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Manganese	7439-96-5	0.1	mg/L	21.8	22.2	1.7	0% - 20%
		EG005C: Zinc	7440-66-6	0.1	mg/L	0.9	0.9	0.0	No Limit
ES1230120-010	5E-1.0	EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Manganese	7439-96-5	0.1	mg/L	0.7	0.7	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	0.5	0.5	0.0	No Limit
EG005C: Leachable Metals by ICPAES (QC Lot: 2665251)									
ES1230120-021	16A-0.5	EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Manganese	7439-96-5	0.1	mg/L	8.4	8.7	3.8	0% - 20%
		EG005C: Zinc	7440-66-6	0.1	mg/L	0.1	0.1	0.0	No Limit



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

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

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit			Result	LCS	Low
EG005C: Leachable Metals by ICPAES (QCLot: 2665250)								
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	0.1 mg/L	107	81	113
EG005C: Manganese	7439-96-5	0.1	mg/L	<0.1	0.1 mg/L	103	80	114
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	0.1 mg/L	103	69	125
EG005C: Leachable Metals by ICPAES (QCLot: 2665251)								
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	0.1 mg/L	105	81	113
EG005C: Manganese	7439-96-5	0.1	mg/L	<0.1	0.1 mg/L	99.6	80	114
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	0.1 mg/L	102	69	125
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2663630)								
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	5 µg/L	70.6	63.3	117
		0.5	µg/L	<0.5	----	----	----	----

Matrix Spike (MS) Report

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

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005C: Leachable Metals by ICPAES (QCLot: 2665250)							
ES1230120-002	1B-1.5	EG005C: Lead	7439-92-1	1 mg/L	101	70	130
		EG005C: Manganese	7439-96-5	1 mg/L	104	70	130
		EG005C: Zinc	7440-66-6	1 mg/L	99.7	70	130
EG005C: Leachable Metals by ICPAES (QCLot: 2665251)							
ES1230120-022	16A-1.5	EG005C: Lead	7439-92-1	1 mg/L	104	70	130
		EG005C: Manganese	7439-96-5	1 mg/L	111	70	130
		EG005C: Zinc	7440-66-6	1 mg/L	107	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

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

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number		MS	MSD	Low	High	Value Control Limit



Sub-Matrix: WATER

Sub-Matrix: WATER				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
					MS	MSD	Low	High	Value	Control Limit
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number							
EG005C: Leachable Metals by ICPAES (QCLot: 2665250)										
ES1230120-002	1B-1.5	EG005C: Lead	7439-92-1	1 mg/L	101	----	70	130	----	----
		EG005C: Manganese	7439-96-5	1 mg/L	104	----	70	130	----	----
		EG005C: Zinc	7440-66-6	1 mg/L	99.7	----	70	130	----	----
EG005C: Leachable Metals by ICPAES (QCLot: 2665251)										
ES1230120-022	16A-1.5	EG005C: Lead	7439-92-1	1 mg/L	104	----	70	130	----	----
		EG005C: Manganese	7439-96-5	1 mg/L	111	----	70	130	----	----
		EG005C: Zinc	7440-66-6	1 mg/L	107	----	70	130	----	----

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: ES1230120	Page	: 1 of 6
Client	: SINCLAIR KNIGHT MERZ	Laboratory	: Environmental Division Sydney
Contact	: MR ROBERT GAUTHIER	Contact	: Client Services
Address	: 710 HUNTER STREET NEWCASTLE WEST NSW, AUSTRALIA 2302	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: rgauthier@globalskm.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 02 4979 2600	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 4979 2666	Facsimile	: +61-2-8784 8500
Project	: HDC-LEE WHARF	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----	Date Samples Received	: 19-DEC-2012
C-O-C number	: ----	Issue Date	: 02-JAN-2013
Sampler	: GM	No. of samples received	: 26
Order number	: Rebatch of ES1228523/8841/8708	No. of samples analysed	: 26
Quote number	: SY/701/12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

The following report summarises extraction / preparation and analysis times and compares with recommended holding times. Dates reported represent first date of extraction or analysis and precludes subsequent dilutions and reruns. Information is also provided re the sample container (preservative) from which the analysis aliquot was taken. Elapsed period to analysis represents number of days from sampling where no extraction / digestion is involved or period from extraction / digestion where this is present. For composite samples, sampling date is assumed to be that of the oldest sample contributing to the composite. Sample date for laboratory produced leachates is assumed as the completion date of the leaching process. Outliers for holding time are based on USEPA SW 846, APHA, AS and NEPM (1999). A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL** Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EG005C: Leachable Metals by ICPAES								
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG005C)								
1B-0.5, 2E-1.0, 3A-2.0, 4B-0.5, 5E-0.5, 6B-0.5, 10C-0.5, 12E-0.5, 13B-0.5, 14B-0.5, 16A-0.5, 17A-0.5, 18B-0.5,	1B-1.5, 2E-0.5, 3E-1.5, 4B-1.5, 5E-1.0, 6C-1.0, 10C-2.0, 12E-1.0, 13B-1.0, 14B-2.0, 16A-1.5, 17A-1.5, 18D-2.0	22-DEC-2012	27-DEC-2012	20-JUN-2013	✓	31-DEC-2012	20-JUN-2013	✓
EN33: TCLP Leach								
LabSplit: Leach for organics and other tests (EN33a)								
1B-0.5, 2E-1.0, 3A-2.0, 4B-0.5, 5E-0.5, 6B-0.5,	1B-1.5, 2E-0.5, 3E-1.5, 4B-1.5, 5E-1.0, 6C-1.0	04-DEC-2012	---	18-DEC-2012	----	22-DEC-2012	18-DEC-2012	✗
LabSplit: Leach for organics and other tests (EN33a)								
14B-0.5, 17A-0.5, 18B-0.5,	14B-2.0, 17A-1.5, 18D-2.0	05-DEC-2012	---	19-DEC-2012	----	22-DEC-2012	19-DEC-2012	✗
LabSplit: Leach for organics and other tests (EN33a)								
10C-0.5, 12E-0.5, 13B-0.5, 16A-0.5,	10C-2.0, 12E-1.0, 13B-1.0, 16A-1.5	06-DEC-2012	---	20-DEC-2012	----	22-DEC-2012	20-DEC-2012	✗



Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved (EP075(SIM))		22-DEC-2012	28-DEC-2012	29-DEC-2012	✔	01-JAN-2013	09-FEB-2013	✔
1B-1.5,	2E-1.0,							
3E-1.5,	4B-1.5,							
5E-1.0,	6C-1.0,							
10C-2.0,	12E-1.0,							
13B-1.0,	14B-2.0,							
16A-1.5,	17A-1.5,							
18D-2.0								



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(where) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER** Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Leachable Metals by ICPAES	EG005C	3	26	11.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Leachable Metals by ICPAES	EG005C	2	26	7.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	13	7.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Leachable Metals by ICPAES	EG005C	2	26	7.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	13	7.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Leachable Metals by ICPAES	EG005C	2	26	7.7	5.0	✓	ALS QCS3 requirement



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Leachable Metals by ICPAES	EG005C	SOIL	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	SOIL	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TCLP for Non & Semivolatile Analytes	EN33a	SOIL	(USEPA SW846-1311, ALS QWI-EN/33) The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.



Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

- For all matrices, no Method Blank value outliers occur.
- For all matrices, no Duplicate outliers occur.
- For all matrices, no Laboratory Control outliers occur.
- For all matrices, no Matrix Spike outliers occur.

Regular Sample Surrogates

- For all regular sample matrices, no surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **SOIL**

Method		Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EN33: TCLP Leach							
LabSplit: Leach for organics and other tests							
1B-0.5,	1B-1.5,	----	----	----	22-DEC-2012	18-DEC-2012	4
2E-1.0,	2E-0.5,						
3A-2.0,	3E-1.5,						
4B-0.5,	4B-1.5,						
5E-0.5,	5E-1.0,						
6B-0.5,	6C-1.0						
LabSplit: Leach for organics and other tests							
14B-0.5,	14B-2.0,	----	----	----	22-DEC-2012	19-DEC-2012	3
17A-0.5,	17A-1.5,						
18B-0.5,	18D-2.0						
LabSplit: Leach for organics and other tests							
10C-0.5,	10C-2.0,	----	----	----	22-DEC-2012	20-DEC-2012	2
12E-0.5,	12E-1.0,						
13B-0.5,	13B-1.0,						
16A-0.5,	16A-1.5						

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- No Quality Control Sample Frequency Outliers exist.

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : **ES1230120**

Client : **SINCLAIR KNIGHT MERZ**
 Contact : **MR ROBERT GAUTHIER**
 Address : **710 HUNTER STREET
 NEWCASTLE WEST NSW, AUSTRALIA
 2302**

Laboratory : Environmental Division Sydney
 Contact : Client Services
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 Telephone : **+61-2-8784 8555**
 Facsimile : **+61-2-8784 8500**

Project : **HDC-LEE WHARF**
 Order number : **Rebatch of ES1228523/8841/8708**
 C-O-C number : **----**
 Site : **----**
 Sampler : **GM**

Page : **1 of 3**
 Quote number : **ES2012SINKNI0391 (SY/701/12)**
 QC Level : **NEPM 1999 Schedule B(3) and ALS
 QCS3 requirement**

Dates

Date Samples Received : **19-DEC-2012**
 Client Requested Due Date : **02-JAN-2013**

Issue Date : **23-DEC-2012 10:27**
 Scheduled Reporting Date : **02-JAN-2013**

Delivery Details

Mode of Delivery : **Carrier**
 No. of coolers/boxes : **REBATCH**
 Security Seal : **Not intact.**

Temperature : **4.1°C**
 No. of samples received : **26**
 No. of samples analysed : **26**

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Breaches in recommended extraction / analysis holding times may occur. Please refer to the 'Proactive Holding Time Report' below for further details. Please contact ALS if further information is required.**
- **This is a rebatch of ES1228523,ES1228841,ES1228708.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (60 days) from date of completion of work order.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exist.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default to 15:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory for processing purposes and will be shown bracketed without a time component.

Matrix: SOIL

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - EG005C Leachable Metals by ICPAES	SOIL - EP075 SIM PAH only SIM - PAH only	SOIL - TCLP TCLP Leach
ES1230120-001	04-DEC-2012 15:00	1B-0.5			✓
	22-DEC-2012 12:00	1B-0.5	✓		
ES1230120-002	04-DEC-2012 15:00	1B-1.5			✓
	22-DEC-2012 12:00	1B-1.5	✓	✓	
ES1230120-003	04-DEC-2012 15:00	2E-1.0			✓
	22-DEC-2012 12:00	2E-1.0	✓	✓	
ES1230120-004	04-DEC-2012 15:00	2E-0.5			✓
	22-DEC-2012 12:00	2E-0.5	✓		
ES1230120-005	04-DEC-2012 15:00	3A-2.0			✓
	22-DEC-2012 12:00	3A-2.0	✓		
ES1230120-006	04-DEC-2012 15:00	3E-1.5			✓
	22-DEC-2012 12:00	3E-1.5	✓	✓	
ES1230120-007	04-DEC-2012 15:00	4B-0.5			✓
	22-DEC-2012 12:00	4B-0.5	✓		
ES1230120-008	04-DEC-2012 15:00	4B-1.5			✓
	22-DEC-2012 12:00	4B-1.5	✓	✓	
ES1230120-009	04-DEC-2012 15:00	5E-0.5			✓
	22-DEC-2012 12:00	5E-0.5	✓		
ES1230120-010	04-DEC-2012 15:00	5E-1.0			✓
	22-DEC-2012 12:00	5E-1.0	✓	✓	
ES1230120-011	04-DEC-2012 15:00	6B-0.5			✓
	22-DEC-2012 12:00	6B-0.5	✓		
ES1230120-012	04-DEC-2012 15:00	6C-1.0			✓
	22-DEC-2012 12:00	6C-1.0	✓	✓	
ES1230120-013	06-DEC-2012 15:00	10C-0.5			✓
	22-DEC-2012 12:00	10C-0.5	✓		
ES1230120-014	06-DEC-2012 15:00	10C-2.0			✓
	22-DEC-2012 12:00	10C-2.0	✓	✓	
ES1230120-015	06-DEC-2012 15:00	12E-0.5			✓
	22-DEC-2012 12:00	12E-0.5	✓		
ES1230120-016	06-DEC-2012 15:00	12E-1.0			✓
	22-DEC-2012 12:00	12E-1.0	✓	✓	
ES1230120-017	06-DEC-2012 15:00	13B-0.5			✓
	22-DEC-2012 12:00	13B-0.5	✓		
ES1230120-018	06-DEC-2012 15:00	13B-1.0			✓

Proactive Holding Time Report

Requested Deliverables

Print

[illegible][illegible]

Fadi Soro

From: Saman Taeidi
Sent: Wednesday, 19 December 2012 3:38 PM
To: Fadi Soro
Subject: Re-batch SKM

Hi Fadi,

Could you please do this re-batch as per the table below for TCLP's:

SKM Sample Ref	ALS batch number	TCLP analysis
1B-0.5	1 ES1228523	Pb, Mn, Zn and b(a)p
1B-1.5	2 ES1228523	Pb, Mn, Zn and b(a)p
2E-1.0	3 ES1228523	Pb, Mn, Zn and b(a)p
2E-0.5	4 ES1228523	Pb, Mn, Zn and b(a)p
3A-2.0	5 ES1228523	Pb, Mn, Zn and b(a)p
3E-1.5	6 ES1228523	Pb, Mn, Zn and b(a)p
4B-0.5	7 ES1228523	Pb, Mn, Zn and b(a)p
4B-1.5	8 ES1228523	Pb, Mn, Zn and b(a)p
5E-0.5	9 ES1228523	Pb, Mn, Zn and b(a)p
5E-1.0	10 ES1228523	Pb, Mn, Zn and b(a)p
6B-0.5	11 ES1228523	Pb, Mn, Zn and b(a)p
6C-1.0	12 ES1228523	Pb, Mn, Zn and b(a)p
10C-0.5	13 ES1228841	Pb, Mn, Zn and b(a)p
10C-2.0	14 ES1228841	Pb, Mn, Zn and b(a)p
12E-0.5	15 ES1228841	Pb, Mn, Zn and b(a)p
12E-1.0	16 ES1228841	Pb, Mn, Zn and b(a)p
13B-0.5	17 ES1228841	Pb, Mn, Zn and b(a)p
13B-1.0	18 ES1228841	Pb, Mn, Zn and b(a)p
14B-0.5	19 ES1228708	Pb, Mn, Zn and b(a)p
14B-2.0	20 ES1228708	Pb, Mn, Zn and b(a)p
16A-0.5	21 ES1228841	Pb, Mn, Zn and b(a)p
16A-1.5	22 ES1228841	Pb, Mn, Zn and b(a)p
17A-0.5	23 ES1228708	Pb, Mn, Zn and b(a)p

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Sydney
Work Order

ES1230120



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17A-1.5	24	ES1228708	Pb, Mn, Zn and b(a)p
18B-0.5	25	ES1228708	Pb, Mn, Zn and b(a)p
18D-2.0	26	ES1228708	Pb, Mn, Zn and b(a)p

Kind Regards

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Saman Taeidi

CLIENT SERVICES OFFICER

ALS | Environmental Division

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From: Moylan, Grant (SKM) [mailto:GMoylan@globalskm.com]
Sent: Wednesday, 19 December 2012 3:07 PM
To: Saman Taeidi

Cc: Gauthier, Robert L (SKM)
Subject: FW: Your Reference : HDC-LEE WHARF. Deliverables for ALSE Workorder : ES1228841

Hi Saman,

Could I please request the following SKM samples for the SKM Project: EN03130 – HDC Lee Wharf 4 and 5, to be analysed for TCLP's. The project was completed over three batches, I have the added the ALS batch numbers below, I think they are correct:

SKM Sample Ref	ALS batch number	TCLP analysis
1B-0.5	ES1228523	Pb, Mn, Zn and b(a)p
1B-1.5	ES1228523	Pb, Mn, Zn and b(a)p
2E-1.0	ES1228523	Pb, Mn, Zn and b(a)p
2E-0.5	ES1228523	Pb, Mn, Zn and b(a)p
3A-2.0	ES1228523	Pb, Mn, Zn and b(a)p
3E-1.5	ES1228523	Pb, Mn, Zn and b(a)p
4B-0.5	ES1228523	Pb, Mn, Zn and b(a)p
4B-1.5	ES1228523	Pb, Mn, Zn and b(a)p
5E-0.5	ES1228523	Pb, Mn, Zn and b(a)p
5E-1.0	ES1228523	Pb, Mn, Zn and b(a)p
6B-0.5	ES1228523	Pb, Mn, Zn and b(a)p
6C-1.0	ES1228523	Pb, Mn, Zn and b(a)p
10C-0.5	ES1228841	Pb, Mn, Zn and b(a)p
10C-2.0	ES1228841	Pb, Mn, Zn and b(a)p
12E-0.5	ES1228841	Pb, Mn, Zn and b(a)p
12E-1.0	ES1228841	Pb, Mn, Zn and b(a)p
13B-0.5	ES1228841	Pb, Mn, Zn and b(a)p
13B-1.0	ES1228841	Pb, Mn, Zn and b(a)p
14B-0.5	ES1228708	Pb, Mn, Zn and b(a)p
14B-2.0	ES1228708	Pb, Mn, Zn and b(a)p
16A-0.5	ES1228841	Pb, Mn, Zn and b(a)p
16A-1.5	ES1228841	Pb, Mn, Zn and b(a)p
17A-0.5	ES1228708	Pb, Mn, Zn and b(a)p
17A-1.5	ES1228708	Pb, Mn, Zn and b(a)p
18B-0.5	ES1228708	Pb, Mn, Zn and b(a)p
18D-2.0	ES1228708	Pb, Mn, Zn and b(a)p

Many thanks,

Grant Moylan

Environmental Scientist

Sinclair Knight Merz

Level 2, 710 Hunter St, Newcastle NSW 2032

T +61 2 4979 2600 E gmoylan@globalskm.com

www.globalskm.com

----- Original Message -----

From: alse.sydney.als@alsglobal.com [mailto:alse.sydney.als@alsglobal.com]

Sent: Tuesday, 18 December 2012 6:27 PM

To: Moylan, Grant (SKM)

Subject: Your Reference : HDC-LEE WHARF. Deliverables for ALSE Workorder : ES1228841

This e-mail has been automatically generated.

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