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 insuffient 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 date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

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

- **EG020T: Poor precision was obtained for some elements on sample ES0909954-021due to sample heterogeneity.**
- **EP075(SIM): LOR for particular sample(s) raised due to high moisture content.**
- **EP131A+B: Matrix spike and surrogate recoveries could not be determined due to sample matrix interference and dilution.**
- **EP131A+B: Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly.**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC22_0.0-0.2	PC22_0.3-0.5	PC33_0.0-0.2	PC33_0.3-0.5	DUP 04
				Client sampling date / time: 06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
				ES0909955-001	ES0909955-002	ES0909955-003	ES0909955-004	ES0909955-005
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	46.3	40.4	53.4	51.8	47.5
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	2.04	47.4	1.23	5.74	2.06
Arsenic	7440-38-2	1.00	mg/kg	48.2	201	81.0	252	42.1
Cadmium	7440-43-9	0.1	mg/kg	7.4	23.3	2.0	8.8	5.2
Chromium	7440-47-3	1.0	mg/kg	103	103	140	142	94.0
Copper	7440-50-8	1.0	mg/kg	921	1890	1500	2380	852
Cobalt	7440-48-4	0.5	mg/kg	12.3	15.8	16.5	26.0	10.8
Lead	7439-92-1	1.0	mg/kg	1010	8700	917	4240	874
Nickel	7440-02-0	1.0	mg/kg	23.1	46.0	36.2	55.2	20.4
Selenium	7782-49-2	0.1	mg/kg	5.6	10.2	9.6	25.4	4.7
Silver	7440-22-4	0.1	mg/kg	3.5	12.6	4.8	6.6	2.8
Vanadium	7440-62-2	2.0	mg/kg	96.4	71.6	130	146	89.6
Zinc	7440-66-6	1.0	mg/kg	1490	3890	1670	4380	1190
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	1.2	2.2	2.1	4.5	1.8
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	<1	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	<0.8	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<0.8	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	<0.8	----	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	----	<1.6	----	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<0.8	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	<0.8	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<0.8	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	<0.8	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	<0.8	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	<0.8	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	<0.8	----	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	----	<2.0	----	<2.0
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg	----	290	380	----	----
C29 - C36 Fraction	----	100	mg/kg	----	300	340	----	----
EP080: BTEX								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC22_0.0-0.2	PC22_0.3-0.5	PC33_0.0-0.2	PC33_0.3-0.5	DUP 04
				Client sampling date / time: 06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
				ES0909955-001	ES0909955-002	ES0909955-003	ES0909955-004	ES0909955-005
EP080: BTEX - Continued								
Benzene	71-43-2	0.2	mg/kg	---	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg	---	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	---	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	---	<0.5	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	---	<0.5	<0.5	----	----
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
alpha-BHC	319-84-6	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
beta-BHC	319-85-7	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
delta-BHC	319-86-8	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
4.4`-DDD	72-54-8	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
4.4`-DDE	72-55-9	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
4.4`-DDT	50-29-3	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
^ DDT (total)	----	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
Dieldrin	60-57-1	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
alpha-Endosulfan	959-98-8	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
beta-Endosulfan	33213-65-9	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
Endosulfan sulfate	1031-07-8	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
Endrin	72-20-8	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
Endrin aldehyde	7421-93-4	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
Endrin ketone	53494-70-5	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
Heptachlor	76-44-8	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
Heptachlor epoxide	1024-57-3	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
gamma-BHC	58-89-9	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
Methoxychlor	72-43-5	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
cis-Chlordane	5103-71-9	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
trans-Chlordane	5103-74-2	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
^ Total Chlordane (sum)	----	0.50	µg/kg	<5.00	----	<5.00	----	<5.00
EP131B: Polychlorinated Biphenyls (as Aroclors)								
^ Total Polychlorinated biphenyls	----	5.0	µg/kg	<50.0	----	<50.0	----	<50.0
Aroclor 1016	12974-11-2	5.0	µg/kg	<50.0	----	<100	----	<50.0
Aroclor 1221	11104-28-2	5.0	µg/kg	<50.0	----	<100	----	<50.0
Aroclor 1232	11141-16-5	5.0	µg/kg	<50.0	----	<100	----	<50.0
Aroclor 1242	53469-21-9	5.0	µg/kg	<50.0	----	<100	----	<50.0
Aroclor 1248	12672-29-6	5.0	µg/kg	<50.0	----	<100	----	<50.0
Aroclor 1254	11097-69-1	5.0	µg/kg	<50.0	----	<100	----	<50.0

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC22_0.0-0.2	PC22_0.3-0.5	PC33_0.0-0.2	PC33_0.3-0.5	DUP 04
				Client sampling date / time: 06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
				ES0909955-001	ES0909955-002	ES0909955-003	ES0909955-004	ES0909955-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued								
Aroclor 1260	11096-82-5	5.0	µg/kg	<50.0	----	<100	----	<50.0
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	----	<10	<10	----	----
2-Methylnaphthalene	91-57-6	10	µg/kg	----	260	580	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	----	<10	<10	----	----
Acenaphthene	83-32-9	10	µg/kg	----	90	150	----	----
Acenaphthylene	208-96-8	10	µg/kg	----	420	570	----	----
Anthracene	120-12-7	10	µg/kg	----	600	580	----	----
Benz(a)anthracene	56-55-3	10	µg/kg	----	1250	1000	----	----
Benzo(a)pyrene	50-32-8	10	µg/kg	----	1150	1210	----	----
Benzo(b)fluoranthene	205-99-2	10	µg/kg	----	1250	1570	----	----
Benzo(e)pyrene	192-97-2	10	µg/kg	----	600	750	----	----
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	----	610	860	----	----
Benzo(k)fluoranthene	207-08-9	10	µg/kg	----	400	570	----	----
Chrysene	218-01-9	10	µg/kg	----	1060	990	----	----
Coronene	191-07-1	10	µg/kg	----	90	180	----	----
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	----	150	220	----	----
Fluoranthene	206-44-0	10	µg/kg	----	2220	2000	----	----
Fluorene	86-73-7	10	µg/kg	----	340	480	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	----	460	770	----	----
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	----	<100	<100	----	----
Naphthalene	91-20-3	10	µg/kg	----	1600	3730	----	----
Perylene	198-55-0	10	µg/kg	----	250	380	----	----
Phenanthrene	85-01-8	10	µg/kg	----	1800	1590	----	----
Pyrene	129-00-0	10	µg/kg	----	2070	1680	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	98.1	----	87.5	----	89.7
2-Chlorophenol-D4	93951-73-6	0.1	%	102	----	92.4	----	88.2
2.4.6-Tribromophenol	118-79-6	0.1	%	62.5	----	67.6	----	54.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	67.8	----	95.2	----	85.4
Anthracene-d10	1719-06-8	0.1	%	101	----	114	----	90.1
4-Terphenyl-d14	1718-51-0	0.1	%	47.2	----	103	----	107
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	101	81.1	----	----
Toluene-D8	2037-26-5	0.1	%	----	102	81.6	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	101	84.2	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC22_0.0-0.2	PC22_0.3-0.5	PC33_0.0-0.2	PC33_0.3-0.5	DUP 04
				Client sampling date / time: 06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
				ES0909955-001	ES0909955-002	ES0909955-003	ES0909955-004	ES0909955-005
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**Not Determined**	----	**Not Determined**	----	**Not Determined**
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**Not Determined**	----	**Not Determined**	----	**Not Determined**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**66.3**	**72.6**	----	----
Anthracene-d10	1719-06-8	0.1	%	----	**72.6**	**81.0**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	**55.0**	**68.7**	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
EP131A: Organochlorine Pesticides		
EP131A: Oxychlordane	PC22_0.0-0.2 - 06-JUL-2009 15:00	<5.00
EP131A: Oxychlordane	PC33_0.0-0.2 - 06-JUL-2009 15:00	<5.00
EP131A: Oxychlordane	DUP 04 - 06-JUL-2009 15:00	<5.00

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	136
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	164
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137

QUALITY CONTROL REPORT

Work Order	: **ES0909955**	Page	: 1 of 11
Client	: **ENSR AUSTRALIA PTY LIMITED**	Laboratory	: Environmental Division Sydney
Contact	: MR CHRISTIANN DONNETTI	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: christiaan.donnetti@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S3017805- Port Kembla Outer Harbour	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 08-JUL-2009
Sampler	: RC	Issue Date	: 20-JUL-2009
Order number	: ----		
		No. of samples received	: 5
Quote number	: SY/330/09 V3	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

This document is issued in accordance with NATA accreditation requirements.

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*
Alex Rossi	Organic Chemist	Organics
Edwandy Fadjar	Senior Organic Chemist	Organics
Hoa Nguyen	Inorganic Chemist	Inorganics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam Abou-Maraseh	Spectroscopist	Inorganics

General Comments

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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 insuffient sample for analysis.

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 1034286)									
ES0909954-011	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	44.0	45.4	3.1	0% - 20%
ES0909954-020	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	45.4	47.6	4.7	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 1037515)									
ES0909954-021	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	2.8	2.4	15.6	0% - 20%
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	9.2	8.0	14.0	0% - 20%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	2.3	1.8	# 24.8	0% - 50%
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	12.7	11.5	9.6	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	3.53	3.39	4.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	35.4	31.3	12.3	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	1130	902	# 22.6	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2030	1820	10.6	0% - 20%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	32.1	28.9	10.4	0% - 20%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	2140	1810	16.6	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	188	161	15.8	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	142	137	3.2	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1034723)									
ES0909955-001	PC22_0.0-0.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	1.2	1.1	0.0	0% - 50%
ES0909957-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK026G: Total Cyanide By Discrete Analyser (QC Lot: 1036634)									
ES0909954-002	Anonymous	EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
ES0910073-002	Anonymous	EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1034345)									
ES0909957-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1034126)									

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: 1034126) - continued									
ES0909955-002	PC22_0.3-0.5	EP080: C6 - C9 Fraction	---	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1034346)									
ES0909957-001	Anonymous	EP071: C15 - C28 Fraction	---	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	---	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	---	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEX (QC Lot: 1034126)									
ES0909955-002	PC22_0.3-0.5	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	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 1033880)									
ES0909954-001	Anonymous	EP131A: Aldrin	309-00-2	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: DDT (total)	---	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: gamma-BHC	58-89-9	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
		EP131A: Total Chlordane (sum)	---	0.50	µg/kg	<5.00	<5.00	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 1033881)									
ES0909954-001	Anonymous	EP131B: Total Polychlorinated biphenyls	---	5.0	µg/kg	<50.0	<50.0	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 (%)*
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 1033881) - continued									
ES0909954-001	Anonymous	EP131B: Aroclor 1016	12974-11-2	5.0	µg/kg	<100	<100	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<100	<100	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<100	<100	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<100	<100	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<100	<100	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<100	<100	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<100	<100	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1036138)									
ES0909954-024	Anonymous	EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	<10	0.0	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	770	790	2.7	0% - 20%
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Acenaphthene	83-32-9	10	µg/kg	190	230	15.4	0% - 20%
		EP132: Acenaphthylene	208-96-8	10	µg/kg	890	960	7.9	0% - 20%
		EP132: Anthracene	120-12-7	10	µg/kg	560	580	3.6	0% - 20%
		EP132: Benz(a)anthracene	56-55-3	10	µg/kg	1080	1060	1.9	0% - 20%
		EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	1320	1270	3.2	0% - 20%
		EP132: Benzo(b)fluoranthene	205-99-2	10	µg/kg	1660	1660	0.0	0% - 20%
		EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	800	790	1.3	0% - 20%
		EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	800	920	13.3	0% - 20%
		EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	420	480	14.0	0% - 20%
		EP132: Chrysene	218-01-9	10	µg/kg	1010	990	2.1	0% - 20%
		EP132: Coronene	191-07-1	10	µg/kg	120	120	0.0	0% - 50%
		EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	210	220	0.0	0% - 20%
		EP132: Fluoranthene	206-44-0	10	µg/kg	2150	2190	1.9	0% - 20%
		EP132: Fluorene	86-73-7	10	µg/kg	570	620	7.0	0% - 20%
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	800	770	4.0	0% - 20%
		EP132: Naphthalene	91-20-3	10	µg/kg	6520	6640	1.7	0% - 20%
		EP132: Perylene	198-55-0	10	µg/kg	370	400	8.0	0% - 20%
		EP132: Phenanthrene	85-01-8	10	µg/kg	2010	2110	4.6	0% - 20%
		EP132: Pyrene	129-00-0	10	µg/kg	2010	2010	0.0	0% - 20%
		EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	<100	0.0	No Limit

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

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

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 1037515)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	13.1 mg/kg	105	70	130
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	2.76 mg/kg	99.1	70	130
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	60.9 mg/kg	112	70	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	54.7 mg/kg	96.4	70	130
EG020-SD: Cobalt	7440-48-4	10	mg/kg	<10.0	24.5 mg/kg	102	70	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	54.8 mg/kg	95.7	70	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55.2 mg/kg	104	70	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	----	----	----	----
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	5.6 mg/kg	108	70	130
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	34 mg/kg	111	70	130
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	104 mg/kg	98.4	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1034723)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	92.9	67	118
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1036634)								
EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	50 mg/kg	82.0	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1034345)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	104	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	101	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	94.5	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	102	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	85.6	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	98.6	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	89.6	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	88.3	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	93.3	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	86.1	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	82.4	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	18.2	1.23	91.6
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1034126)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	94.5	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1034346)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	108	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	106	75.3	113

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1034346) - continued								
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	103	72.6	117
EP080: BTEX (QCLot: 1034126)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	94.1	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	87.3	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	87.8	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	85.2	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	87.9	66.7	123
EP131A: Organochlorine Pesticides (QCLot: 1033880)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	75.4	31.7	140
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	40.9	24.5	150
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	74.8	36.9	139
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	59.3	38.2	137
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	87.8	42.5	141
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	76.4	34.8	140
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	112	38	143
EP131A: DDT (total)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	91.5	43.2	134
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	64.0	23.7	139
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	101	35.8	138
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	98.5	7.45	158
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	103	21.6	162
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	59.2	19.3	131
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	75.9	17.9	141
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	100	31	153
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	85.2	34.3	138
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	39.9	18.6	146
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	58.4	30.7	145
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	104	15	157
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	85.0	22.3	145
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	68.2	42.4	139
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 1033881)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1016	12974-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 1033881) - continued								
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	---	---	---	---
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	108	61.3	121
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	---	---	---	---
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1036138)								
EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	100 µg/kg	78.0	34.8	123
EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	<10	100 µg/kg	86.7	66.6	122
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	100 µg/kg	82.1	6.88	147
EP132: Acenaphthene	83-32-9	10	µg/kg	<10	100 µg/kg	91.8	62.9	124
EP132: Acenaphthylene	208-96-8	10	µg/kg	<10	100 µg/kg	80.2	58.2	117
EP132: Anthracene	120-12-7	10	µg/kg	<10	100 µg/kg	87.7	61.4	117
EP132: Benz(a)anthracene	56-55-3	10	µg/kg	<10	100 µg/kg	96.4	65.7	125
EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	<10	100 µg/kg	88.8	60.7	119
EP132: Benzo(b)fluoranthene	205-99-2	10	µg/kg	<10	100 µg/kg	98.8	68.6	126
EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	<10	100 µg/kg	94.9	70	129
EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	<10	100 µg/kg	96.4	52.4	135
EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	<10	100 µg/kg	95.7	70.4	126
EP132: Chrysene	218-01-9	10	µg/kg	<10	100 µg/kg	98.3	67.5	126
EP132: Coronene	191-07-1	10	µg/kg	<10	100 µg/kg	93.2	34.7	141
EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	<10	100 µg/kg	95.6	61.7	129
EP132: Fluoranthene	206-44-0	10	µg/kg	<10	100 µg/kg	97.7	68.7	126
EP132: Fluorene	86-73-7	10	µg/kg	<10	100 µg/kg	94.0	66.7	123
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	<10	100 µg/kg	95.4	56.6	131
EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	100 µg/kg	132	50	138
EP132: Naphthalene	91-20-3	10	µg/kg	<10	100 µg/kg	87.1	63.2	120
EP132: Perylene	198-55-0	10	µg/kg	<10	100 µg/kg	85.8	58.6	119
EP132: Phenanthrene	85-01-8	10	µg/kg	<10	100 µg/kg	95.6	65.4	124
EP132: Pyrene	129-00-0	10	µg/kg	<10	100 µg/kg	97.8	67.9	127

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	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 1037515)							
ES0909954-023	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	89.1	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	96.6	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	114	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	91.0	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	86.0	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	98.6	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	97.3	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1034723)							
ES0909955-001	PC22_0.0-0.2	EG035T: Mercury	7439-97-6	5 mg/kg	101	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1036634)							
ES0909954-002	Anonymous	EK026G: Total Cyanide	57-12-5	50 mg/kg	91.6	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1034345)							
ES0909957-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	86.1	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	73.1	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	76.5	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	78.6	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	39.6	20	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1034126)							
ES0909955-002	PC22_0.3-0.5	EP080: C6 - C9 Fraction	----	26 mg/kg	79.1	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1034346)							
ES0909957-001	Anonymous	EP071: C10 - C14 Fraction	----	640 mg/kg	109	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	91.6	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	90.1	70	130
EP080: BTEX (QCLot: 1034126)							
ES0909955-002	PC22_0.3-0.5	EP080: Benzene	71-43-2	2.5 mg/kg	85.3	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	80.2	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	82.3	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	81.9	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	85.5	70	130
EP131A: Organochlorine Pesticides (QCLot: 1033880)							
ES0909954-001	Anonymous	EP131A: Aldrin	309-00-2	5 µg/kg	# Not Determined	31.7	140
		EP131A: alpha-BHC	319-84-6	5 µg/kg	# Not Determined	24.5	150
		EP131A: beta-BHC	319-85-7	5 µg/kg	# Not Determined	36.9	139

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
				Concentration	MS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 1033880) - continued							
ES0909954-001	Anonymous	EP131A: delta-BHC	319-86-8	5 µg/kg	# Not Determined	38.2	137
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	# Not Determined	42.5	141
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	# Not Determined	34.8	140
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	# Not Determined	38	143
		EP131A: Dieldrin	60-57-1	5 µg/kg	# Not Determined	43.2	134
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	# Not Determined	23.7	139
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	# Not Determined	35.8	138
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	# Not Determined	7.45	158
		EP131A: Endrin	72-20-8	5 µg/kg	# Not Determined	21.6	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	# Not Determined	19.3	131
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	# Not Determined	17.9	141
		EP131A: Heptachlor	76-44-8	5 µg/kg	# Not Determined	31	153
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	# Not Determined	34.3	138
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	# Not Determined	18.6	146
		EP131A: gamma-BHC	58-89-9	5 µg/kg	# Not Determined	30.7	145
		EP131A: Methoxychlor	72-43-5	5 µg/kg	# Not Determined	15	157
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	# Not Determined	22.3	145
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	# Not Determined	42.4	139
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 1033881)							
ES0909954-001	Anonymous	EP131B: Aroclor 1254	11097-69-1	50 µg/kg	# Not Determined	61.3	121
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1036138)							
ES0909954-024	Anonymous	EP132: 3-Methylcholanthrene	56-49-5	100 µg/kg	62.1	21	129
		EP132: 2-Methylnaphthalene	91-57-6	100 µg/kg	109	40	130
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	100 µg/kg	86.4	8	158
		EP132: Acenaphthene	83-32-9	100 µg/kg	52.4	38	127
		EP132: Acenaphthylene	208-96-8	100 µg/kg	# Not Determined	35	122
		EP132: Anthracene	120-12-7	100 µg/kg	60.6	44	124
		EP132: Benz(a)anthracene	56-55-3	100 µg/kg	# Not Determined	48	124
		EP132: Benzo(a)pyrene	50-32-8	100 µg/kg	# Not Determined	44	123
		EP132: Benzo(b)fluoranthene	205-99-2	100 µg/kg	# Not Determined	43	129
		EP132: Benzo(e)pyrene	192-97-2	100 µg/kg	# Not Determined	46	130
		EP132: Benzo(g.h.i)perylene	191-24-2	100 µg/kg	# Not Determined	43	129
		EP132: Benzo(k)fluoranthene	207-08-9	100 µg/kg	71.8	54	123
		EP132: Chrysene	218-01-9	100 µg/kg	# Not Determined	55	122
		EP132: Coronene	191-07-1	100 µg/kg	# 29.0	33	134
		EP132: Dibenz(a.h)anthracene	53-70-3	100 µg/kg	# 19.1	46	129
		EP132: Fluoranthene	206-44-0	100 µg/kg	# Not Determined	52	125
		EP132: Fluorene	86-73-7	100 µg/kg	82.1	45	121

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*
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1036138) - continued							
ES0909954-024	Anonymous	EP132: Indeno(1.2.3.cd)pyrene	193-39-5	100 µg/kg	# Not Determined	41	132
		EP132: N-2-Fluorenyl Acetamide	53-96-3	1000 µg/kg	67.7	28	152
		EP132: Naphthalene	91-20-3	100 µg/kg	# Not Determined	34	130
		EP132: Perylene	198-55-0	100 µg/kg	# 21.2	38	124
		EP132: Phenanthrene	85-01-8	100 µg/kg	# Not Determined	45	124
		EP132: Pyrene	129-00-0	100 µg/kg	# Not Determined	51	129

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES0909955**	Page	: 1 of 11
Client	: ENSR AUSTRALIA PTY LIMITED	Laboratory	: Environmental Division Sydney
Contact	: MR CHRISTIANN DONNETTI	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: christiaan.donnetti@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S3017805- Port Kembla Outer Harbour	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 08-JUL-2009
Sampler	: RC	Issue Date	: 20-JUL-2009
Order number	: ----		
		No. of samples received	: 5
Quote number	: SY/330/09 V3	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 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 / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved							
PC22_0.0-0.2, PC22_0.3-0.5, PC33_0.0-0.2, PC33_0.3-0.5, DUP 04	**06-JUL-2009**	**----**	----	----	**09-JUL-2009**	13-JUL-2009	✓
Soil Glass Jar - Unpreserved							
PC22_0.0-0.2, PC22_0.3-0.5, PC33_0.0-0.2, PC33_0.3-0.5, DUP 04	**06-JUL-2009**	**----**	----	----	**10-JUL-2009**	13-JUL-2009	✓
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved							
PC22_0.0-0.2, PC22_0.3-0.5, PC33_0.0-0.2, PC33_0.3-0.5, DUP 04	**06-JUL-2009**	**13-JUL-2009**	03-AUG-2009	✓	**14-JUL-2009**	02-JAN-2010	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved							
PC22_0.0-0.2, PC22_0.3-0.5, PC33_0.0-0.2, PC33_0.3-0.5, DUP 04	**06-JUL-2009**	**09-JUL-2009**	03-AUG-2009	✓	**10-JUL-2009**	03-AUG-2009	✓
EK026G: Total Cyanide By Discrete Analyser							
Soil Glass Jar - Unpreserved							
PC22_0.3-0.5	**06-JUL-2009**	**09-JUL-2009**	13-JUL-2009	✓	**13-JUL-2009**	24-JUL-2009	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved							
PC22_0.0-0.2, PC33_0.0-0.2, DUP 04	**06-JUL-2009**	**09-JUL-2009**	20-JUL-2009	✓	**09-JUL-2009**	18-AUG-2009	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved							
PC22_0.3-0.5, PC33_0.0-0.2	**06-JUL-2009**	**09-JUL-2009**	20-JUL-2009	✓	**09-JUL-2009**	18-AUG-2009	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEX								
Soil Glass Jar - Unpreserved								
PC22_0.3-0.5,	PC33_0.0-0.2	**06-JUL-2009**	**09-JUL-2009**	20-JUL-2009	✓	**09-JUL-2009**	20-JUL-2009	✓
EP131A: Organochlorine Pesticides								
Soil Glass Jar - Unpreserved								
PC22_0.0-0.2, DUP 04	PC33_0.0-0.2,	**06-JUL-2009**	**08-JUL-2009**	20-JUL-2009	✓	**14-JUL-2009**	17-AUG-2009	✓
EP131B: Polychlorinated Biphenyls (as Aroclors)								
Soil Glass Jar - Unpreserved								
PC22_0.0-0.2, DUP 04	PC33_0.0-0.2,	**06-JUL-2009**	**08-JUL-2009**	20-JUL-2009	✓	**14-JUL-2009**	17-AUG-2009	✓
EP132B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved								
PC22_0.3-0.5,	PC33_0.0-0.2	**06-JUL-2009**	**10-JUL-2009**	20-JUL-2009	✓	**14-JUL-2009**	19-AUG-2009	✓

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	4	30	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	8	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	8	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	8	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	5	**20.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	2	11	**18.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	8	**25.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	8	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	7	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	5	**20.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Organochlorine Pesticides (Ultra-trace)	EP131A	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	8	**12.5**	**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	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Organochlorine Pesticides (Ultra-trace)	EP131A	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	11	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	8	**12.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	8	**12.5**	**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	5	**20.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Organochlorine Pesticides (Ultra-trace)	EP131A	1	8	**12.5**	**5.0**	✓	ALS QCS3 requirement

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*	
Matrix Spikes (MS) - Continued							
PAH/Phenols (SIM)	EP075(SIM)	1	8	**12.5**	**5.0**	✓	ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	8	**12.5**	**5.0**	✓	ALS QCS3 requirement
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	5	**20.0**	**5.0**	✓	ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	11	**9.1**	**5.0**	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	15	**6.7**	**5.0**	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	8	**12.5**	**5.0**	✓	ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	8	**12.5**	**5.0**	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	7	**14.3**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	5	**20.0**	**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 (1999) Schedule B(3) (Method 102)
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 Metals in Sediments by ICPMS	EG020-SD	SOIL	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(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 SnCl2 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)
Total Cyanide By Discrete Analyser	EK026G	SOIL	APHA 21st 4500 CN - C & N. Caustic leach extracts of the sample are distilled with sulphuric acid, converting all CN species to HCN. The distillates are analyzed for CN by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Method 403)
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)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (1999) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (1999) Schedule B(3) (Method 504)
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	SOIL	8270 GCMS Capiliary column, SIM mode.

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for TCN in Soils	EK026PR	SOIL	APHA 21st ed., 4500 CN- C & N. Samples are extracted by end-over-end tumbling with NaOH.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Acetylation	ORG17A-AC	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to 1 mL with exchange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.
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.

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							
EG020-SD: Total Metals in Sediments by ICPMS	ES0909954-021	Anonymous	**Copper**	7440-50-8	22.6 %	0-20%	**RPD exceeds LOR based limits**
EG020-SD: Total Metals in Sediments by ICPMS	ES0909954-021	Anonymous	**Silver**	7440-22-4	24.8 %	0-20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**Aldrin**	309-00-2	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**alpha-BHC**	319-84-6	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**beta-BHC**	319-85-7	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**delta-BHC**	319-86-8	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**4.4`-DDD**	72-54-8	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**4.4`-DDE**	72-55-9	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**4.4`-DDT**	50-29-3	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**Dieldrin**	60-57-1	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**alpha-Endosulfan**	959-98-8	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**beta-Endosulfan**	33213-65-9	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**Endosulfan sulfate**	1031-07-8	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**Endrin**	72-20-8	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**Endrin aldehyde**	7421-93-4	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**Endrin ketone**	53494-70-5	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**Heptachlor**	76-44-8	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**Heptachlor epoxide**	1024-57-3	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**Hexachlorobenzene (HCB)**	118-74-1	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**gamma-BHC**	58-89-9	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**Methoxychlor**	72-43-5	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**cis-Chlordane**	5103-71-9	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131A: Organochlorine Pesticides	ES0909954-001	Anonymous	**trans-Chlordane**	5103-74-2	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP131B: Polychlorinated Biphenyls (as Aroclors)	ES0909954-001	Anonymous	**Aroclor 1254**	11097-69-1	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0909954-024	Anonymous	**Acenaphthylene**	208-96-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0909954-024	Anonymous	**Benz(a)anthracene**	56-55-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0909954-024	Anonymous	**Benzo(a)pyrene**	50-32-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0909954-024	Anonymous	**Benzo(b)fluoranthene**	205-99-2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0909954-024	Anonymous	**Benzo(e)pyrene**	192-97-2	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0909954-024	Anonymous	**Benzo(g.h.i)perylene**	191-24-2	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0909954-024	Anonymous	**Chrysene**	218-01-9	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0909954-024	Anonymous	**Coronene**	191-07-1	29.0 %	33-134%	**Recovery less than lower data quality objective**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0909954-024	Anonymous	**Dibenz(a.h)anthracene**	53-70-3	19.1 %	46-129%	**Recovery less than lower data quality objective**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0909954-024	Anonymous	**Fluoranthene**	206-44-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP132B: Polynuclear Aromatic Hydrocarbons	ES0909954-024	Anonymous	**Indeno(1.2.3.cd)pyrene**	193-39-5	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0909954-024	Anonymous	**Naphthalene**	91-20-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0909954-024	Anonymous	**Perylene**	198-55-0	21.2 %	38-124%	**Recovery less than lower data quality objective**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0909954-024	Anonymous	**Phenanthrene**	85-01-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0909954-024	Anonymous	**Pyrene**	129-00-0	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							
EP131S: OC Pesticide Surrogate	ES0909955-001	PC22_0.0-0.2	**Dibromo-DDE**	21655-73-2	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP131S: OC Pesticide Surrogate	ES0909955-003	PC33_0.0-0.2	**Dibromo-DDE**	21655-73-2	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP131S: OC Pesticide Surrogate	ES0909955-005	DUP 04	**Dibromo-DDE**	21655-73-2	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP131T: PCB Surrogate	ES0909955-001	PC22_0.0-0.2	**Decachlorobiphenyl**	2051-24-3	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP131T: PCB Surrogate	ES0909955-003	PC33_0.0-0.2	**Decachlorobiphenyl**	2051-24-3	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**
EP131T: PCB Surrogate	ES0909955-005	DUP 04	**Decachlorobiphenyl**	2051-24-3	Not Determined	----	**Surrogate recovery not determined due to (target or non-target) matrix interferences**

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.**

SYDNEY W/O.

1 of 1

Chain of Custody

AECOM

AECOM - Sydney
Level 5, 828 Pacific Highway
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
E-mail:

Laboratory Details
Lab. Name: ALS - Sydney
Lab. Address:
Contact Name:
Lab. Ref:
Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY330 09

Sampled By: Richard Cole
AECOM Project No: 53017805
Project Name: Port Kembla Outer Mbr
PO No.

Specifications:

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	
6. Shell Quality Partnership:	
7. Report Format: ☐ Fax ☐ Hardcopy ☑ Email: christiaan.donnetti@aecom.com; richard.cole@aecom.com	

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	Metals M13 (see guide for names)	TOC	PAH (ultra trace)	BTEX / TPH	SPOCAS	Grain Size	Elutriate Metals	Elutriate PAH	Cyanide	TBT	Phenols	OCP - ultra trace	Total PCBs - ultra trace	Other
1	PC22_0.0-0.2	6.7.09	X					X			✓									✓	✓	✓	✓	
2	PC22_0.3-0.5	↓	X					X			✓	✓	✓	✓					✓					
3	PC33_0.0-0.2		X					X		2 x soil jars	✓	✓	✓	✓						✓	✓	✓	✓	
4	PC33_0.3-0.5		X					X		*4 x soil jars & bags	✓	✓			✓	✓	✓	✓						
5	DUP04	↓								4 x soil jars	✓									✓	✓	✓	✓	

Environmental Division
Sydney
Work Order
ES0909955
Telephone : +61-2-8784 8555

CONTRACT WORK
WO: ES0909955
LAB:
DATE: 8/9/09
SPLIT: SPOCAS: ES0909944
TBT/TOC: ES0909947
Elutriates: ES0909955 (Lab Report No.) (Esky ID)

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg

Comments:

Relinquished by:	Richard Cole	Signed:		Date: 8/7/09	Relinquished by:	Signed:	Date:
Recieved by:	Frank	Signed:		Date: 8/9 11am	Recieved by:	Signed:	Date:

Printed copies of this document are uncontrolled

Grain size not required as per Richard Cole 8/7/09

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES0909955**		
Client	: **ENSR AUSTRALIA PTY LIMITED**	Laboratory	: Environmental Division Sydney
Contact	: MR CHRISTIANN DONNETTI	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: christiaan.donnetti@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S3017805- Port Kembla Outer Harbour	Page	: 1 of 3
Order number	: ----		
C-O-C number	: ----	Quote number	: ES2009HLAENV0352 (SY/330/09)
Site	: ----		
Sampler	: RC	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 08-JUL-2009	Issue Date	: 08-JUL-2009 17:47
Client Requested Due Date	: 20-JUL-2009	Scheduled Reporting Date	: **20-JUL-2009**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 0.8'C - Ice present
No. of coolers/boxes	: 3 HARD	No. of samples received	: 5
Sercurity Seal	: Not intact.	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
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **THIS BATCH ES0909955 FOR ALS SYD BATCH ONLY AND SPLIT INTO ES0909952 (ELUTRIATE), ES0909947 (TBT/TOC) & ES0909944 (SPOCAS)**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Nanthini Coilparampil
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 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 neccessary 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.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EA055-103 Moisture Content	SOIL - EG005T (solids) Total Metals by ICP-AES	SOIL - EG035T (solids) Total Mercury by FIMS	SOIL - EK026G (Solids) Total Cyanide By Discrete Analyser	SOIL - EP075 SIM Phenols only SIM - Phenols only	SOIL - EP132B Ultratrace PAH's	SOIL - S-04 TPH/BTEX	SOIL - UTO-2S Ultratrace OC PCB Pesticides
ES0909955-001	06-JUL-2009 15:00	PC22_0.0-0.2	✓	✓	✓		✓			✓
ES0909955-002	06-JUL-2009 15:00	PC22_0.3-0.5		✓	✓	✓		✓	✓	
ES0909955-003	06-JUL-2009 15:00	PC33_0.0-0.2	✓	✓	✓		✓	✓	✓	✓
ES0909955-004	06-JUL-2009 15:00	PC33_0.3-0.5	✓	✓	✓					
ES0909955-005	06-JUL-2009 15:00	DUP 04	✓	✓	✓		✓			✓

Requested Deliverables

ACCOUNTS PAYABLE		
- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com
MR CHRISTIANN DONNETTI		
- *AU Certificate of Analysis - NATA (COA)	Email	christiaan.donnetti@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	christiaan.donnetti@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	christiaan.donnetti@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	christiaan.donnetti@aecom.com
- A4 - AU Tax Invoice (INV)	Email	christiaan.donnetti@aecom.com
- Default - Chain of Custody (COC)	Email	christiaan.donnetti@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	christiaan.donnetti@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	christiaan.donnetti@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	christiaan.donnetti@aecom.com
- EDI Format - XTab (XTAB)	Email	christiaan.donnetti@aecom.com
MR RICHARD COLE		
- *AU Certificate of Analysis - NATA (COA)	Email	richard.cole@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	richard.cole@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	richard.cole@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	richard.cole@aecom.com
- A4 - AU Tax Invoice (INV)	Email	richard.cole@aecom.com
- Default - Chain of Custody (COC)	Email	richard.cole@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	richard.cole@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	richard.cole@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	richard.cole@aecom.com
- EDI Format - XTab (XTAB)	Email	richard.cole@aecom.com
THE RESULTS ADDRESS		
- *AU Certificate of Analysis - NATA (COA)	Email	sydney@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	sydney@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	sydney@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	sydney@aecom.com
- A4 - AU Tax Invoice (INV)	Email	sydney@aecom.com
- Default - Chain of Custody (COC)	Email	sydney@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	sydney@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	sydney@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	sydney@aecom.com
- EDI Format - XTab (XTAB)	Email	sydney@aecom.com

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES0910119**	Page	: 1 of 43
Client	: **ENSR AUSTRALIA PTY LIMITED**	Laboratory	: Environmental Division Sydney
Contact	: MR CHRISTIANN DONNETTI	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: christiaan.donnetti@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S3017805 - Port Kembla Outer Harbour	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 10-JUL-2009
Sampler	: RC	Issue Date	: 22-JUL-2009
Site	: ----		
		No. of samples received	: 62
Quote number	: SY/330/09 V3	No. of samples analysed	: 62

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

This document is issued in accordance with NATA accreditation requirements.

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*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Sarah Millington	Senior Inorganic Chemist	Inorganics
Victor Kedicioglu	Business Manager - NSW	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 insuffient 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 date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

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

- **EG020T: Poor precision was obtained for some elements on sample ES0910119 # 021 due to sample heterogeneity. Results have been confirmed by re-extraction and reanalysis.**
- **EG020T: Poor precision was obtained for some elements on sample ES0910119-011 due to sample heterogeneity.**
- **EP132: Poor matrix spike recovery due to sample matrix interferences.**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	PC20_0.0-0.17	PC29_0.0-0.45	PC29_0.45-0.83	PC28_0.0-0.4	PC28_0.4-0.9
				Client sampling date / time	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910119-001	ES0910119-002	ES0910119-003	ES0910119-004	ES0910119-005
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	---	1.0	%		49.5	45.2	46.0	41.4	35.6
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		1.38	<0.50	2.20	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		37.2	19.6	118	18.4	27.0
Cadmium	7440-43-9	0.1	mg/kg		2.9	1.6	2.8	1.7	0.8
Chromium	7440-47-3	1.0	mg/kg		106	79.0	208	72.8	42.1
Copper	7440-50-8	1.0	mg/kg		787	190	1090	178	173
Cobalt	7440-48-4	0.5	mg/kg		10.6	27.7	12.6	23.0	10.7
Lead	7439-92-1	1.0	mg/kg		622	159	1540	167	265
Nickel	7440-02-0	1.0	mg/kg		23.3	22.2	33.8	19.5	12.9
Selenium	7782-49-2	0.1	mg/kg		5.2	3.2	8.4	2.8	2.8
Silver	7440-22-4	0.1	mg/kg		2.4	0.8	3.0	0.8	0.5
Vanadium	7440-62-2	2.0	mg/kg		88.3	127	120	111	83.8
Zinc	7440-66-6	1.0	mg/kg		1200	609	3010	634	611
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		1.2	0.4	2.1	0.5	0.3
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	---	10	mg/kg		---	<10	---	---	<10
C10 - C14 Fraction	---	50	mg/kg		---	<50	---	---	<50
C15 - C28 Fraction	---	100	mg/kg		---	<100	---	---	<100
C29 - C36 Fraction	---	100	mg/kg		---	<100	---	---	<100
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		---	<0.2	---	---	<0.2
Toluene	108-88-3	0.5	mg/kg		---	<0.5	---	---	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		---	<0.5	---	---	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		---	<0.5	---	---	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		---	<0.5	---	---	<0.5
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	10	µg/kg		---	<10	---	---	<10
2-Methylnaphthalene	91-57-6	10	µg/kg		---	410	---	---	230
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg		---	<10	---	---	<10
Acenaphthene	83-32-9	10	µg/kg		---	70	---	---	40
Acenaphthylene	208-96-8	10	µg/kg		---	380	---	---	240
Anthracene	120-12-7	10	µg/kg		---	240	---	---	180
Benz(a)anthracene	56-55-3	10	µg/kg		---	300	---	---	380
Benzo(a)pyrene	50-32-8	10	µg/kg		---	450	---	---	440
Benzo(b)fluoranthene	205-99-2	10	µg/kg		---	530	---	---	520

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC20_0.0-0.17	PC29_0.0-0.45	PC29_0.45-0.83	PC28_0.0-0.4	PC28_0.4-0.9
				Client sampling date / time: 08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
				ES0910119-001	ES0910119-002	ES0910119-003	ES0910119-004	ES0910119-005
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(e)pyrene	192-97-2	10	µg/kg	----	**240**	----	----	**250**
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	----	**310**	----	----	**260**
Benzo(k)fluoranthene	207-08-9	10	µg/kg	----	**190**	----	----	**160**
Chrysene	218-01-9	10	µg/kg	----	**290**	----	----	**350**
Coronene	191-07-1	10	µg/kg	----	**90**	----	----	**50**
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	----	**70**	----	----	**70**
Fluoranthene	206-44-0	10	µg/kg	----	**780**	----	----	**830**
Fluorene	86-73-7	10	µg/kg	----	**270**	----	----	**170**
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	----	**270**	----	----	**240**
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	----	<100	----	----	<100
Naphthalene	91-20-3	10	µg/kg	----	**4550**	----	----	**2130**
Perylene	198-55-0	10	µg/kg	----	**110**	----	----	**130**
Phenanthrene	85-01-8	10	µg/kg	----	**850**	----	----	**590**
Pyrene	129-00-0	10	µg/kg	----	**680**	----	----	**710**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**103**	----	----	**103**
Toluene-D8	2037-26-5	0.1	%	----	**100**	----	----	**99.7**
4-Bromofluorobenzene	460-00-4	0.1	%	----	**104**	----	----	**103**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**54.4**	----	----	**65.7**
Anthracene-d10	1719-06-8	0.1	%	----	**75.0**	----	----	**71.2**
4-Terphenyl-d14	1718-51-0	0.1	%	----	**64.4**	----	----	**58.4**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC28_0.9-1.4	PC27_0.0-0.5	PC27_0.5-0.9	DUP06	PC26_0.0-0.5
				Client sampling date / time: 08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
				ES0910119-006	ES0910119-007	ES0910119-008	ES0910119-009	ES0910119-010
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	39.6	42.7	40.3	45.0	36.7
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	1.96	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg	117	23.7	26.4	17.2	14.1
Cadmium	7440-43-9	0.1	mg/kg	1.9	2.8	0.8	1.3	1.0
Chromium	7440-47-3	1.0	mg/kg	133	87.8	45.6	64.2	59.8
Copper	7440-50-8	1.0	mg/kg	854	294	170	153	140
Cobalt	7440-48-4	0.5	mg/kg	10.5	18.2	11.1	35.9	29.0
Lead	7439-92-1	1.0	mg/kg	1360	270	250	131	125
Nickel	7440-02-0	1.0	mg/kg	29.0	20.1	13.4	24.8	20.6
Selenium	7782-49-2	0.1	mg/kg	8.9	2.8	2.8	3.4	2.7
Silver	7440-22-4	0.1	mg/kg	2.5	1.0	0.7	0.6	0.6
Vanadium	7440-62-2	2.0	mg/kg	111	111	89.9	126	114
Zinc	7440-66-6	1.0	mg/kg	2040	795	648	490	422
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	1.5	0.6	0.4	0.3	0.3
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	----	<1.0	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	<0.5	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	<0.5	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	----	<2.0	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	<10	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	<50	----
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	<100	----
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	<100	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC28_0.9-1.4	PC27_0.0-0.5	PC27_0.5-0.9	DUP06	PC26_0.0-0.5
				Client sampling date / time: 08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
				ES0910119-006	ES0910119-007	ES0910119-008	ES0910119-009	ES0910119-010
EP080: BTEX - Continued								
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	<0.5	----
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	----	----	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg	----	----	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg	----	----	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg	----	----	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg	----	----	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg	----	----	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg	----	----	<0.50	----	----
^ DDT (total)	----	0.50	µg/kg	----	----	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg	----	----	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg	----	----	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg	----	----	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg	----	----	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	----	----	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg	----	----	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg	----	----	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg	----	----	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg	----	----	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg	----	----	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	----	----	<0.50	----	----
gamma-BHC	58-89-9	0.50	µg/kg	----	----	<0.50	----	----
Methoxychlor	72-43-5	0.50	µg/kg	----	----	<0.50	----	----
cis-Chlordane	5103-71-9	0.50	µg/kg	----	----	<0.50	----	----
trans-Chlordane	5103-74-2	0.50	µg/kg	----	----	<0.50	----	----
^ Total Chlordane (sum)	----	0.50	µg/kg	----	----	<0.50	----	----
Oxychlordane	27304-13-8	0.50	µg/kg	----	----	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)								
^ Total Polychlorinated biphenyls	----	5.0	µg/kg	----	----	<5.0	----	----
Aroclor 1016	12974-11-2	5.0	µg/kg	----	----	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg	----	----	<5.0	----	----
Aroclor 1232	11141-16-5	5.0	µg/kg	----	----	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg	----	----	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg	----	----	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg	----	----	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg	----	----	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC28_0.9-1.4	PC27_0.0-0.5	PC27_0.5-0.9	DUP06	PC26_0.0-0.5
				Client sampling date / time: 08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
				ES0910119-006	ES0910119-007	ES0910119-008	ES0910119-009	ES0910119-010
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	----	<10	----	<10	----
2-Methylnaphthalene	91-57-6	10	µg/kg	----	550	----	610	----
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	----	<10	----	<10	----
Acenaphthene	83-32-9	10	µg/kg	----	90	----	100	----
Acenaphthylene	208-96-8	10	µg/kg	----	480	----	510	----
Anthracene	120-12-7	10	µg/kg	----	370	----	400	----
Benz(a)anthracene	56-55-3	10	µg/kg	----	580	----	620	----
Benzo(a)pyrene	50-32-8	10	µg/kg	----	730	----	770	----
Benzo(b)fluoranthene	205-99-2	10	µg/kg	----	910	----	960	----
Benzo(e)pyrene	192-97-2	10	µg/kg	----	450	----	450	----
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	----	550	----	580	----
Benzo(k)fluoranthene	207-08-9	10	µg/kg	----	320	----	320	----
Chrysene	218-01-9	10	µg/kg	----	540	----	580	----
Coronene	191-07-1	10	µg/kg	----	90	----	80	----
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	----	130	----	140	----
Fluoranthene	206-44-0	10	µg/kg	----	1310	----	1390	----
Fluorene	86-73-7	10	µg/kg	----	370	----	410	----
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	----	470	----	500	----
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	----	<100	----	<100	----
Naphthalene	91-20-3	10	µg/kg	----	5980	----	6850	----
Perylene	198-55-0	10	µg/kg	----	210	----	220	----
Phenanthrene	85-01-8	10	µg/kg	----	1240	----	1340	----
Pyrene	129-00-0	10	µg/kg	----	1120	----	1220	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	92.0	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	96.0	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	85.4	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	99.7	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	101	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	107	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	99.9	----	94.8	----
Toluene-D8	2037-26-5	0.1	%	----	96.2	----	90.6	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	100	----	94.6	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	56.5	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	PC28_0.9-1.4	PC27_0.0-0.5	PC27_0.5-0.9	DUP06	PC26_0.0-0.5
				Client sampling date / time	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910119-006	ES0910119-007	ES0910119-008	ES0910119-009	ES0910119-010
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		---	---	**45.5**	---	---
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		---	**53.2**	---	**69.1**	---
Anthracene-d10	1719-06-8	0.1	%		---	**63.8**	---	**80.5**	---
4-Terphenyl-d14	1718-51-0	0.1	%		---	**55.7**	---	**70.2**	---

Analytical Results

Sub-Matrix: SOIL				Client sample ID	PC26_0.5-0.9	PC8_0.0-0.35	PC8_0.35-0.7	PC8_0.7-1.2	PC9_0.0-0.4
				Client sampling date / time	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910119-011	ES0910119-012	ES0910119-013	ES0910119-014	ES0910119-015
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		38.7	40.0	39.7	34.9	37.4
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		1.03	<0.50	<0.50	5.28	<0.50
Arsenic	7440-38-2	1.00	mg/kg		76.1	27.5	39.9	97.7	25.9
Cadmium	7440-43-9	0.1	mg/kg		1.2	1.1	1.4	1.7	0.5
Chromium	7440-47-3	1.0	mg/kg		55.3	78.5	98.4	26.7	54.5
Copper	7440-50-8	1.0	mg/kg		438	198	281	420	166
Cobalt	7440-48-4	0.5	mg/kg		11.5	17.4	9.9	11.4	12.0
Lead	7439-92-1	1.0	mg/kg		777	231	425	1080	232
Nickel	7440-02-0	1.0	mg/kg		18.9	17.7	16.8	24.4	13.7
Selenium	7782-49-2	0.1	mg/kg		4.1	2.0	2.8	6.0	1.6
Silver	7440-22-4	0.1	mg/kg		1.0	0.6	1.1	2.1	0.6
Vanadium	7440-62-2	2.0	mg/kg		106	108	81.5	96.2	85.6
Zinc	7440-66-6	1.0	mg/kg		1210	693	1210	2010	623
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.7	0.4	0.6	1.0	0.4
EK026G: Total Cyanide By Discrete Analyser									
Total Cyanide	57-12-5	1	mg/kg		----	----	----	----	<1
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	----	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg		----	----	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg		----	----	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg		----	----	----	<1.0	----
2-Nitrophenol	88-75-5	0.5	mg/kg		----	----	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		----	----	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		----	----	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		----	----	----	<0.5	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		----	----	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	----	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	----	----	<0.5	----
Pentachlorophenol	87-86-5	2.0	mg/kg		----	----	----	<2.0	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	<10	----	<10
C10 - C14 Fraction	----	50	mg/kg		<50	----	<50	----	<50
C15 - C28 Fraction	----	100	mg/kg		750	----	400	----	<100
C29 - C36 Fraction	----	100	mg/kg		450	----	280	----	<100
EP080: BTEX									

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC26_0.5-0.9	PC8_0.0-0.35	PC8_0.35-0.7	PC8_0.7-1.2	PC9_0.0-0.4
				Client sampling date / time: 08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
				ES0910119-011	ES0910119-012	ES0910119-013	ES0910119-014	ES0910119-015
EP080: BTEX - Continued								
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
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	----	----	----	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg	----	----	----	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg	----	----	----	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg	----	----	----	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg	----	----	----	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg	----	----	----	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg	----	----	----	<0.50	----
^ DDT (total)	----	0.50	µg/kg	----	----	----	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg	----	----	----	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg	----	----	----	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg	----	----	----	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg	----	----	----	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	----	----	----	<0.50	----
Endrin	72-20-8	0.50	µg/kg	----	----	----	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg	----	----	----	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg	----	----	----	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg	----	----	----	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg	----	----	----	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	----	----	----	<0.50	----
gamma-BHC	58-89-9	0.50	µg/kg	----	----	----	<0.50	----
Methoxychlor	72-43-5	0.50	µg/kg	----	----	----	<0.50	----
cis-Chlordane	5103-71-9	0.50	µg/kg	----	----	----	<0.50	----
trans-Chlordane	5103-74-2	0.50	µg/kg	----	----	----	<0.50	----
^ Total Chlordane (sum)	----	0.50	µg/kg	----	----	----	<0.50	----
Oxychlordane	27304-13-8	0.50	µg/kg	----	----	----	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)								
^ Total Polychlorinated biphenyls	----	5.0	µg/kg	----	----	----	<5.0	----
Aroclor 1016	12974-11-2	5.0	µg/kg	----	----	----	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg	----	----	----	<5.0	----
Aroclor 1232	11141-16-5	5.0	µg/kg	----	----	----	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg	----	----	----	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg	----	----	----	<5.0	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC26_0.5-0.9	PC8_0.0-0.35	PC8_0.35-0.7	PC8_0.7-1.2	PC9_0.0-0.4
				Client sampling date / time: 08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
				ES0910119-011	ES0910119-012	ES0910119-013	ES0910119-014	ES0910119-015
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued								
Aroclor 1254	11097-69-1	5.0	µg/kg	----	----	----	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg	----	----	----	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	<10	----	<10	----	<10
2-Methylnaphthalene	91-57-6	10	µg/kg	**770**	----	**860**	----	**360**
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	----	<10	----	<10
Acenaphthene	83-32-9	10	µg/kg	**90**	----	**150**	----	**60**
Acenaphthylene	208-96-8	10	µg/kg	**750**	----	**750**	----	**340**
Anthracene	120-12-7	10	µg/kg	**520**	----	**500**	----	**280**
Benz(a)anthracene	56-55-3	10	µg/kg	**1070**	----	**880**	----	**580**
Benzo(a)pyrene	50-32-8	10	µg/kg	**1170**	----	**960**	----	**610**
Benzo(b)fluoranthene	205-99-2	10	µg/kg	**1590**	----	**1230**	----	**770**
Benzo(e)pyrene	192-97-2	10	µg/kg	**730**	----	**560**	----	**390**
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	**770**	----	**650**	----	**330**
Benzo(k)fluoranthene	207-08-9	10	µg/kg	**430**	----	**380**	----	**260**
Chrysene	218-01-9	10	µg/kg	**1020**	----	**810**	----	**530**
Coronene	191-07-1	10	µg/kg	**240**	----	**220**	----	**170**
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	**190**	----	**140**	----	**90**
Fluoranthene	206-44-0	10	µg/kg	**2140**	----	**1950**	----	**1230**
Fluorene	86-73-7	10	µg/kg	**500**	----	**530**	----	**250**
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	**670**	----	**570**	----	**320**
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	----	<100	----	<100
Naphthalene	91-20-3	10	µg/kg	**5470**	----	**8180**	----	**3740**
Perylene	198-55-0	10	µg/kg	**350**	----	**280**	----	**180**
Phenanthrene	85-01-8	10	µg/kg	**1590**	----	**1760**	----	**940**
Pyrene	129-00-0	10	µg/kg	**1960**	----	**1650**	----	**1040**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	----	**95.2**	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	----	**99.4**	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	----	**92.6**	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	**104**	----
Anthracene-d10	1719-06-8	0.1	%	----	----	----	**110**	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	**112**	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**101**	----	**104**	----	**101**
Toluene-D8	2037-26-5	0.1	%	**96.1**	----	**97.7**	----	**96.0**
4-Bromofluorobenzene	460-00-4	0.1	%	**100**	----	**96.7**	----	**99.3**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	PC26_0.5-0.9	PC8_0.0-0.35	PC8_0.35-0.7	PC8_0.7-1.2	PC9_0.0-0.4
				Client sampling date / time	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
Compound	*CAS Number*	*LOR*	*Unit*		ES0910119-011	ES0910119-012	ES0910119-013	ES0910119-014	ES0910119-015
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		---	---	---	**49.5**	---
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		---	---	---	**48.3**	---
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**54.8**	---	**60.3**	---	**60.3**
Anthracene-d10	1719-06-8	0.1	%		**72.2**	---	**65.5**	---	**68.3**
4-Terphenyl-d14	1718-51-0	0.1	%		**55.6**	---	**52.3**	---	**56.7**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	PC9_0.4-0.8	PC9_0.8-1.12	PC10_0.0-0.25	PC11_0.0-0.2	PC19_0.0-0.53
				Client sampling date / time	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910119-016	ES0910119-017	ES0910119-018	ES0910119-019	ES0910119-020
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	---	1.0	%		46.7	47.7	34.0	36.5	46.8
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		1.74	2.54	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		71.0	168	19.2	15.1	20.1
Cadmium	7440-43-9	0.1	mg/kg		1.7	1.6	0.9	1.0	5.1
Chromium	7440-47-3	1.0	mg/kg		306	34.3	64.4	68.3	87.8
Copper	7440-50-8	1.0	mg/kg		631	870	165	128	210
Cobalt	7440-48-4	0.5	mg/kg		11.9	12.2	10.2	9.3	17.2
Lead	7439-92-1	1.0	mg/kg		1120	1510	160	119	230
Nickel	7440-02-0	1.0	mg/kg		34.8	26.4	12.9	12.1	18.7
Selenium	7782-49-2	0.1	mg/kg		9.8	4.4	1.4	1.3	2.7
Silver	7440-22-4	0.1	mg/kg		3.3	1.8	0.5	0.6	0.8
Vanadium	7440-62-2	2.0	mg/kg		121	124	75.0	65.2	99.0
Zinc	7440-66-6	1.0	mg/kg		2760	2340	460	422	911
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		1.2	1.1	0.3	0.2	0.4
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		---	---	---	<0.5	---
2-Chlorophenol	95-57-8	0.5	mg/kg		---	---	---	<0.5	---
2-Methylphenol	95-48-7	0.5	mg/kg		---	---	---	<0.5	---
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg		---	---	---	<1.0	---
2-Nitrophenol	88-75-5	0.5	mg/kg		---	---	---	<0.5	---
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		---	---	---	<0.5	---
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		---	---	---	<0.5	---
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		---	---	---	<0.5	---
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		---	---	---	<0.5	---
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		---	---	---	<0.5	---
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		---	---	---	<0.5	---
Pentachlorophenol	87-86-5	2.0	mg/kg		---	---	---	<2.0	---
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	---	10	mg/kg		---	<10	---	<10	<10
C10 - C14 Fraction	---	50	mg/kg		---	<50	---	<50	<50
C15 - C28 Fraction	---	100	mg/kg		---	760	---	<100	410
C29 - C36 Fraction	---	100	mg/kg		---	440	---	<100	300
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

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC9_0.4-0.8	PC9_0.8-1.12	PC10_0.0-0.25	PC11_0.0-0.2	PC19_0.0-0.53
				Client sampling date / time: 08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
				ES0910119-016	ES0910119-017	ES0910119-018	ES0910119-019	ES0910119-020
EP080: BTEX - Continued								
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
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	----	----	----	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg	----	----	----	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg	----	----	----	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg	----	----	----	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg	----	----	----	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg	----	----	----	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg	----	----	----	<0.50	----
^ DDT (total)	----	0.50	µg/kg	----	----	----	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg	----	----	----	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg	----	----	----	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg	----	----	----	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg	----	----	----	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	----	----	----	<0.50	----
Endrin	72-20-8	0.50	µg/kg	----	----	----	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg	----	----	----	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg	----	----	----	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg	----	----	----	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg	----	----	----	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	----	----	----	<0.50	----
gamma-BHC	58-89-9	0.50	µg/kg	----	----	----	<0.50	----
Methoxychlor	72-43-5	0.50	µg/kg	----	----	----	<0.50	----
cis-Chlordane	5103-71-9	0.50	µg/kg	----	----	----	<0.50	----
trans-Chlordane	5103-74-2	0.50	µg/kg	----	----	----	<0.50	----
^ Total Chlordane (sum)	----	0.50	µg/kg	----	----	----	<0.50	----
Oxychlordane	27304-13-8	0.50	µg/kg	----	----	----	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)								
^ Total Polychlorinated biphenyls	----	5.0	µg/kg	----	----	----	<5.0	----
Aroclor 1016	12974-11-2	5.0	µg/kg	----	----	----	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg	----	----	----	<5.0	----
Aroclor 1232	11141-16-5	5.0	µg/kg	----	----	----	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg	----	----	----	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg	----	----	----	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg	----	----	----	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg	----	----	----	<5.0	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC9_0.4-0.8	PC9_0.8-1.12	PC10_0.0-0.25	PC11_0.0-0.2	PC19_0.0-0.53
				Client sampling date / time: 08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
				ES0910119-016	ES0910119-017	ES0910119-018	ES0910119-019	ES0910119-020
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	----	<10	----	<10	<10
2-Methylnaphthalene	91-57-6	10	µg/kg	----	1320	----	400	1320
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	----	<10	----	<10	<10
Acenaphthene	83-32-9	10	µg/kg	----	140	----	70	200
Acenaphthylene	208-96-8	10	µg/kg	----	1320	----	380	1180
Anthracene	120-12-7	10	µg/kg	----	1020	----	320	700
Benz(a)anthracene	56-55-3	10	µg/kg	----	2440	----	720	820
Benzo(a)pyrene	50-32-8	10	µg/kg	----	2510	----	870	1160
Benzo(b)fluoranthene	205-99-2	10	µg/kg	----	3340	----	1080	1390
Benzo(e)pyrene	192-97-2	10	µg/kg	----	1530	----	500	620
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	----	1550	----	630	830
Benzo(k)fluoranthene	207-08-9	10	µg/kg	----	1050	----	330	450
Chrysene	218-01-9	10	µg/kg	----	2280	----	700	760
Coronene	191-07-1	10	µg/kg	----	440	----	270	350
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	----	400	----	120	160
Fluoranthene	206-44-0	10	µg/kg	----	4460	----	1530	2100
Fluorene	86-73-7	10	µg/kg	----	840	----	270	830
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	----	1400	----	570	710
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	----	<100	----	<100	<100
Naphthalene	91-20-3	10	µg/kg	----	8800	----	5200	14600
Perylene	198-55-0	10	µg/kg	----	690	----	230	300
Phenanthrene	85-01-8	10	µg/kg	----	2800	----	1180	2540
Pyrene	129-00-0	10	µg/kg	----	3960	----	1280	1950
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	----	96.4	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	----	101	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	----	99.8	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	102	----
Anthracene-d10	1719-06-8	0.1	%	----	----	----	112	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	118	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	93.0	----	98.5	105
Toluene-D8	2037-26-5	0.1	%	----	84.4	----	90.8	95.0
4-Bromofluorobenzene	460-00-4	0.1	%	----	85.0	----	93.9	101
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	53.6	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	PC9_0.4-0.8	PC9_0.8-1.12	PC10_0.0-0.25	PC11_0.0-0.2	PC19_0.0-0.53
				Client sampling date / time	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910119-016	ES0910119-017	ES0910119-018	ES0910119-019	ES0910119-020
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		---	---	---	**47.6**	---
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		---	**54.8**	---	**63.3**	**56.3**
Anthracene-d10	1719-06-8	0.1	%		---	**61.0**	---	**71.6**	**76.4**
4-Terphenyl-d14	1718-51-0	0.1	%		---	**49.7**	---	**60.8**	**66.0**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC19_0.53-1.03	PC15_0.0-0.5	PC15_0.5-1.0	PC13_0.0-0.06	PC12_0.0-0.4
				Client sampling date / time: 08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
				ES0910119-021	ES0910119-022	ES0910119-023	ES0910119-024	ES0910119-025
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	42.7	40.8	45.9	47.8	44.4
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	0.70	<0.50	1.06	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg	57.8	22.5	67.0	20.8	18.7
Cadmium	7440-43-9	0.1	mg/kg	2.0	1.1	2.0	0.4	0.8
Chromium	7440-47-3	1.0	mg/kg	77.7	62.7	256	65.6	82.9
Copper	7440-50-8	1.0	mg/kg	417	174	650	245	243
Cobalt	7440-48-4	0.5	mg/kg	12.3	18.0	12.1	8.4	9.7
Lead	7439-92-1	1.0	mg/kg	472	231	965	158	181
Nickel	7440-02-0	1.0	mg/kg	21.0	16.6	30.6	14.1	16.8
Selenium	7782-49-2	0.1	mg/kg	4.4	2.7	6.2	1.3	1.8
Silver	7440-22-4	0.1	mg/kg	1.7	0.7	3.0	0.7	0.9
Vanadium	7440-62-2	2.0	mg/kg	105	112	115	79.3	81.6
Zinc	7440-66-6	1.0	mg/kg	1990	696	2530	459	521
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	1.0	0.4	1.4	0.4	0.4
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	<10	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	<50	----
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	<100	----
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	<100	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	<0.5	----
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	----	<10	----	<10	----
2-Methylnaphthalene	91-57-6	10	µg/kg	----	410	----	570	----
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	----	<10	----	<10	----
Acenaphthene	83-32-9	10	µg/kg	----	70	----	110	----
Acenaphthylene	208-96-8	10	µg/kg	----	390	----	490	----
Anthracene	120-12-7	10	µg/kg	----	260	----	510	----
Benz(a)anthracene	56-55-3	10	µg/kg	----	400	----	1170	----
Benzo(a)pyrene	50-32-8	10	µg/kg	----	480	----	1310	----
Benzo(b)fluoranthene	205-99-2	10	µg/kg	----	630	----	1690	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	PC19_0.53-1.03	PC15_0.0-0.5	PC15_0.5-1.0	PC13_0.0-0.06	PC12_0.0-0.4
				Client sampling date / time	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
					ES0910119-021	ES0910119-022	ES0910119-023	ES0910119-024	ES0910119-025
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(e)pyrene	192-97-2	10	µg/kg		---	**300**	---	**820**	---
Benzo(g.h.i)perylene	191-24-2	10	µg/kg		---	**250**	---	**900**	---
Benzo(k)fluoranthene	207-08-9	10	µg/kg		---	**180**	---	**510**	---
Chrysene	218-01-9	10	µg/kg		---	**380**	---	**1140**	---
Coronene	191-07-1	10	µg/kg		---	**30**	---	**340**	---
Dibenz(a.h)anthracene	53-70-3	10	µg/kg		---	**70**	---	**200**	---
Fluoranthene	206-44-0	10	µg/kg		---	**940**	---	**2410**	---
Fluorene	86-73-7	10	µg/kg		---	**270**	---	**410**	---
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg		---	**240**	---	**820**	---
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg		---	<100	---	<100	---
Naphthalene	91-20-3	10	µg/kg		---	**4780**	---	**6280**	---
Perylene	198-55-0	10	µg/kg		---	**140**	---	**400**	---
Phenanthrene	85-01-8	10	µg/kg		---	**890**	---	**1710**	---
Pyrene	129-00-0	10	µg/kg		---	**830**	---	**2050**	---
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		---	**105**	---	**95.7**	---
Toluene-D8	2037-26-5	0.1	%		---	**96.3**	---	**83.7**	---
4-Bromofluorobenzene	460-00-4	0.1	%		---	**101**	---	**87.5**	---
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		---	**66.4**	---	**75.7**	---
Anthracene-d10	1719-06-8	0.1	%		---	**74.8**	---	**87.4**	---
4-Terphenyl-d14	1718-51-0	0.1	%		---	**60.7**	---	**72.3**	---

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC12_0.4-0.76	DUP09	PC36_0.0-0.16	PC36_0.16-0.5	PC37_0.0-0.37
				Client sampling date / time: 09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
				ES0910119-026	ES0910119-027	ES0910119-028	ES0910119-029	ES0910119-030
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	45.3	33.0	44.3	53.2	41.7
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.74	1.22	0.83
Arsenic	7440-38-2	1.00	mg/kg	22.1	14.0	38.3	76.1	33.5
Cadmium	7440-43-9	0.1	mg/kg	1.1	2.3	1.0	2.7	1.2
Chromium	7440-47-3	1.0	mg/kg	94.8	46.9	77.0	170	104
Copper	7440-50-8	1.0	mg/kg	295	89.5	856	2160	639
Cobalt	7440-48-4	0.5	mg/kg	10.8	11.0	8.8	14.4	7.5
Lead	7439-92-1	1.0	mg/kg	203	115	378	877	361
Nickel	7440-02-0	1.0	mg/kg	19.1	11.6	24.0	43.2	17.4
Selenium	7782-49-2	0.1	mg/kg	2.0	1.3	7.2	17.3	6.8
Silver	7440-22-4	0.1	mg/kg	1.1	0.4	3.2	7.4	2.7
Vanadium	7440-62-2	2.0	mg/kg	90.6	64.7	103	132	70.5
Zinc	7440-66-6	1.0	mg/kg	588	426	708	1500	775
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.4	0.2	0.8	2.0	0.9
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	<1	----	----	<1
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	----	----	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	----	----	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	----	----	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	----	----	<100	<100
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
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	<10	----	----	<10	<10
2-Methylnaphthalene	91-57-6	10	µg/kg	680	----	----	1160	580
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	----	----	<10	<10
Acenaphthene	83-32-9	10	µg/kg	120	----	----	200	100
Acenaphthylene	208-96-8	10	µg/kg	540	----	----	800	410
Anthracene	120-12-7	10	µg/kg	530	----	----	740	410
Benz(a)anthracene	56-55-3	10	µg/kg	1160	----	----	1390	650

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC12_0.4-0.76	DUP09	PC36_0.0-0.16	PC36_0.16-0.5	PC37_0.0-0.37
				Client sampling date / time: 09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
				ES0910119-026	ES0910119-027	ES0910119-028	ES0910119-029	ES0910119-030
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(a)pyrene	50-32-8	10	µg/kg	1370	----	----	1780	850
Benzo(b)fluoranthene	205-99-2	10	µg/kg	1700	----	----	2430	1150
Benzo(e)pyrene	192-97-2	10	µg/kg	800	----	----	1160	510
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	930	----	----	1240	590
Benzo(k)fluoranthene	207-08-9	10	µg/kg	530	----	----	640	340
Chrysene	218-01-9	10	µg/kg	1070	----	----	1440	660
Coronene	191-07-1	10	µg/kg	350	----	----	440	200
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	200	----	----	280	130
Fluoranthene	206-44-0	10	µg/kg	2290	----	----	2780	1360
Fluorene	86-73-7	10	µg/kg	460	----	----	750	400
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	840	----	----	1120	550
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	----	----	<100	<100
Naphthalene	91-20-3	10	µg/kg	7620	----	----	9390	5520
Perylene	198-55-0	10	µg/kg	390	----	----	580	240
Phenanthrene	85-01-8	10	µg/kg	1800	----	----	2640	1370
Pyrene	129-00-0	10	µg/kg	1930	----	----	2460	1170
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	100	----	----	98.6	97.7
Toluene-D8	2037-26-5	0.1	%	93.4	----	----	92.6	91.8
4-Bromofluorobenzene	460-00-4	0.1	%	94.8	----	----	90.4	93.1
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	64.9	----	----	61.0	63.4
Anthracene-d10	1719-06-8	0.1	%	75.3	----	----	68.1	75.7
4-Terphenyl-d14	1718-51-0	0.1	%	56.6	----	----	49.3	58.6

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	PC38_0.0-0.4	PC38_0.4-0.8	PC38_0.8-1.23	DUP16	PC40_0.0-0.5
				Client sampling date / time	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
					ES0910119-031	ES0910119-032	ES0910119-033	ES0910119-034	ES0910119-035
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	---	1.0	%		49.5	55.4	32.5	57.4	35.0
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		0.90	1.12	1.01	2.02	<0.50
Arsenic	7440-38-2	1.00	mg/kg		61.9	60.1	28.2	111	18.1
Cadmium	7440-43-9	0.1	mg/kg		1.6	3.8	2.9	17.7	0.8
Chromium	7440-47-3	1.0	mg/kg		156	261	66.8	321	85.5
Copper	7440-50-8	1.0	mg/kg		1470	1130	390	1940	193
Cobalt	7440-48-4	0.5	mg/kg		13.4	14.8	5.2	16.0	11.6
Lead	7439-92-1	1.0	mg/kg		708	790	274	1240	150
Nickel	7440-02-0	1.0	mg/kg		55.4	27.3	10.5	38.6	20.2
Selenium	7782-49-2	0.1	mg/kg		14.6	17.4	4.3	19.4	1.7
Silver	7440-22-4	0.1	mg/kg		6.8	5.6	1.8	9.5	0.7
Vanadium	7440-62-2	2.0	mg/kg		118	132	41.9	139	155
Zinc	7440-66-6	1.0	mg/kg		1290	1740	500	2940	468
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		1.6	1.9	0.6	2.5	0.5
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		---	---	---	<0.8	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		---	---	---	<0.8	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		---	---	---	<0.8	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg		---	---	---	<1.6	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg		---	---	---	<0.8	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		---	---	---	<0.8	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		---	---	---	<0.8	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		---	---	---	<0.8	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		---	---	---	<0.8	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		---	---	---	<0.8	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		---	---	---	<0.8	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg		---	---	---	<2.0	<2.0
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	---	10	mg/kg		---	<10	---	---	---
C10 - C14 Fraction	---	50	mg/kg		---	<50	---	---	---
C15 - C28 Fraction	---	100	mg/kg		---	<100	---	---	---
C29 - C36 Fraction	---	100	mg/kg		---	<100	---	---	---
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		---	<0.2	---	---	---
Toluene	108-88-3	0.5	mg/kg		---	<0.5	---	---	---

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC38_0.0-0.4	PC38_0.4-0.8	PC38_0.8-1.23	DUP16	PC40_0.0-0.5
				Client sampling date / time: 09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
				ES0910119-031	ES0910119-032	ES0910119-033	ES0910119-034	ES0910119-035
EP080: BTEX - Continued								
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	----	----	----
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	----	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg	----	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg	----	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg	----	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg	----	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg	----	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg	----	----	----	<0.50	<0.50
^ DDT (total)	----	0.50	µg/kg	----	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg	----	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg	----	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg	----	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg	----	----	----	<0.50	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	----	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg	----	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg	----	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg	----	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg	----	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg	----	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	----	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.50	µg/kg	----	----	----	<0.50	<0.50
Methoxychlor	72-43-5	0.50	µg/kg	----	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.50	µg/kg	----	----	----	<0.50	<0.50
trans-Chlordane	5103-74-2	0.50	µg/kg	----	----	----	<0.50	<0.50
^ Total Chlordane (sum)	----	0.50	µg/kg	----	----	----	<0.50	<0.50
Oxychlordane	27304-13-8	0.50	µg/kg	----	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)								
^ Total Polychlorinated biphenyls	----	5.0	µg/kg	----	----	----	<5.0	<5.0
Aroclor 1016	12974-11-2	5.0	µg/kg	----	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg	----	----	----	<5.0	<5.0
Aroclor 1232	11141-16-5	5.0	µg/kg	----	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg	----	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg	----	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg	----	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg	----	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC38_0.0-0.4	PC38_0.4-0.8	PC38_0.8-1.23	DUP16	PC40_0.0-0.5
				Client sampling date / time: 09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
				ES0910119-031	ES0910119-032	ES0910119-033	ES0910119-034	ES0910119-035
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	----	<10	----	----	----
2-Methylnaphthalene	91-57-6	10	µg/kg	----	1230	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	----	<10	----	----	----
Acenaphthene	83-32-9	10	µg/kg	----	190	----	----	----
Acenaphthylene	208-96-8	10	µg/kg	----	830	----	----	----
Anthracene	120-12-7	10	µg/kg	----	620	----	----	----
Benz(a)anthracene	56-55-3	10	µg/kg	----	830	----	----	----
Benzo(a)pyrene	50-32-8	10	µg/kg	----	1190	----	----	----
Benzo(b)fluoranthene	205-99-2	10	µg/kg	----	1550	----	----	----
Benzo(e)pyrene	192-97-2	10	µg/kg	----	740	----	----	----
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	----	870	----	----	----
Benzo(k)fluoranthene	207-08-9	10	µg/kg	----	530	----	----	----
Chrysene	218-01-9	10	µg/kg	----	830	----	----	----
Coronene	191-07-1	10	µg/kg	----	290	----	----	----
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	----	140	----	----	----
Fluoranthene	206-44-0	10	µg/kg	----	1940	----	----	----
Fluorene	86-73-7	10	µg/kg	----	680	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	----	770	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	----	<100	----	----	----
Naphthalene	91-20-3	10	µg/kg	----	11400	----	----	----
Perylene	198-55-0	10	µg/kg	----	370	----	----	----
Phenanthrene	85-01-8	10	µg/kg	----	2380	----	----	----
Pyrene	129-00-0	10	µg/kg	----	1740	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	----	88.3	78.6
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	----	72.7	83.1
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	----	76.4	71.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	79.5	77.6
Anthracene-d10	1719-06-8	0.1	%	----	----	----	79.8	78.2
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	50.0	78.4
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	94.6	----	----	----
Toluene-D8	2037-26-5	0.1	%	----	88.6	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	90.6	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	59.4	71.6

Analytical Results

Sub-Matrix: SOIL				Client sample ID	PC38_0.0-0.4	PC38_0.4-0.8	PC38_0.8-1.23	DUP16	PC40_0.0-0.5
				Client sampling date / time	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910119-031	ES0910119-032	ES0910119-033	ES0910119-034	ES0910119-035
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		---	---	---	**42.8**	**92.7**
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		---	**56.8**	---	---	---
Anthracene-d10	1719-06-8	0.1	%		---	**69.3**	---	---	---
4-Terphenyl-d14	1718-51-0	0.1	%		---	**40.8**	---	---	---

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	PC40_0.5-1.0	PC40_1.0-1.47	PC41_0.0-0.5	PC41_0.5-1.0	PC41_1.0-1.55
				Client sampling date / time	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
					ES0910119-036	ES0910119-037	ES0910119-038	ES0910119-039	ES0910119-040
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		42.6	46.1	50.0	50.4	41.0
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	5.05	0.62	<0.50	2.79
Arsenic	7440-38-2	1.00	mg/kg		40.6	287	38.4	37.9	171
Cadmium	7440-43-9	0.1	mg/kg		1.4	2.0	1.7	2.4	1.9
Chromium	7440-47-3	1.0	mg/kg		72.2	31.8	185	218	65.6
Copper	7440-50-8	1.0	mg/kg		288	859	676	509	825
Cobalt	7440-48-4	0.5	mg/kg		10.4	10.0	13.8	15.0	10.0
Lead	7439-92-1	1.0	mg/kg		389	1720	462	403	1870
Nickel	7440-02-0	1.0	mg/kg		14.8	29.1	26.1	22.0	24.8
Selenium	7782-49-2	0.1	mg/kg		3.3	10.8	5.2	4.0	9.2
Silver	7440-22-4	0.1	mg/kg		1.0	1.8	2.6	2.2	1.6
Vanadium	7440-62-2	2.0	mg/kg		84.4	140	146	118	121
Zinc	7440-66-6	1.0	mg/kg		1010	1840	1200	1270	1630
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.6	1.6	1.2	0.9	1.6
EK026G: Total Cyanide By Discrete Analyser									
Total Cyanide	57-12-5	1	mg/kg		<1	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	<10	----	<10
C10 - C14 Fraction	----	50	mg/kg		<50	----	<50	----	<50
C15 - C28 Fraction	----	100	mg/kg		<100	----	<100	----	<100
C29 - C36 Fraction	----	100	mg/kg		<100	----	<100	----	<100
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
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	10	µg/kg		<10	----	<10	----	<10
2-Methylnaphthalene	91-57-6	10	µg/kg		290	----	1060	----	400
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg		<10	----	<10	----	<10
Acenaphthene	83-32-9	10	µg/kg		50	----	200	----	50
Acenaphthylene	208-96-8	10	µg/kg		290	----	790	----	370
Anthracene	120-12-7	10	µg/kg		220	----	840	----	320
Benz(a)anthracene	56-55-3	10	µg/kg		410	----	1790	----	680

Analytical Results

Sub-Matrix: SOIL				Client sample ID	PC40_0.5-1.0	PC40_1.0-1.47	PC41_0.0-0.5	PC41_0.5-1.0	PC41_1.0-1.55
				Client sampling date / time	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910119-036	ES0910119-037	ES0910119-038	ES0910119-039	ES0910119-040
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(a)pyrene	50-32-8	10	µg/kg		440	----	2340	----	750
Benzo(b)fluoranthene	205-99-2	10	µg/kg		570	----	2940	----	950
Benzo(e)pyrene	192-97-2	10	µg/kg		280	----	1440	----	510
Benzo(g.h.i)perylene	191-24-2	10	µg/kg		180	----	1640	----	490
Benzo(k)fluoranthene	207-08-9	10	µg/kg		190	----	940	----	280
Chrysene	218-01-9	10	µg/kg		370	----	1760	----	630
Coronene	191-07-1	10	µg/kg		30	----	610	----	160
Dibenz(a.h)anthracene	53-70-3	10	µg/kg		50	----	380	----	90
Fluoranthene	206-44-0	10	µg/kg		880	----	3170	----	1220
Fluorene	86-73-7	10	µg/kg		210	----	750	----	270
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg		180	----	1490	----	310
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg		<100	----	<100	----	<100
Naphthalene	91-20-3	10	µg/kg		2880	----	9700	----	2820
Perylene	198-55-0	10	µg/kg		130	----	640	----	220
Phenanthrene	85-01-8	10	µg/kg		710	----	2720	----	950
Pyrene	129-00-0	10	µg/kg		770	----	2700	----	1270
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		105	----	93.7	----	101
Toluene-D8	2037-26-5	0.1	%		102	----	88.9	----	97.7
4-Bromofluorobenzene	460-00-4	0.1	%		105	----	88.1	----	98.3
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		51.8	----	67.8	----	60.6
Anthracene-d10	1719-06-8	0.1	%		60.5	----	77.6	----	62.5
4-Terphenyl-d14	1718-51-0	0.1	%		50.7	----	67.7	----	60.4

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: DUP17	PC25_0.0-0.35	DUP08	PC24_0.0-0.23	PC55_0.0-0.3
				Client sampling date / time: 09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
				ES0910119-041	ES0910119-042	ES0910119-043	ES0910119-044	ES0910119-045
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	46.8	38.0	42.0	44.2	21.2
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	1.06
Arsenic	7440-38-2	1.00	mg/kg	34.2	16.6	18.7	20.6	36.6
Cadmium	7440-43-9	0.1	mg/kg	1.2	2.7	1.4	1.7	0.4
Chromium	7440-47-3	1.0	mg/kg	140	64.3	90.9	111	23.7
Copper	7440-50-8	1.0	mg/kg	561	128	211	250	225
Cobalt	7440-48-4	0.5	mg/kg	12.7	10.6	10.8	11.4	3.0
Lead	7439-92-1	1.0	mg/kg	358	131	183	195	201
Nickel	7440-02-0	1.0	mg/kg	26.4	12.5	14.9	17.0	26.9
Selenium	7782-49-2	0.1	mg/kg	4.8	1.6	2.0	2.1	1.6
Silver	7440-22-4	0.1	mg/kg	2.5	0.9	1.2	1.3	0.5
Vanadium	7440-62-2	2.0	mg/kg	105	67.5	74.4	91.9	31.6
Zinc	7440-66-6	1.0	mg/kg	952	537	633	669	668
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.9	0.2	0.4	0.4	<0.1
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	<1	<1	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	----	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	----	----	----	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	----	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	----	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	----	----	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	----	----	----	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	----	----	----	----	<2.0
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	<10	----	<10
C10 - C14 Fraction	----	50	mg/kg	----	<50	<50	----	<50
C15 - C28 Fraction	----	100	mg/kg	----	<100	<100	----	<100
C29 - C36 Fraction	----	100	mg/kg	----	<100	<100	----	<100
EP080: BTEX								

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: DUP17	PC25_0.0-0.35	DUP08	PC24_0.0-0.23	PC55_0.0-0.3
				Client sampling date / time: 09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
				ES0910119-041	ES0910119-042	ES0910119-043	ES0910119-044	ES0910119-045
EP080: BTEX - Continued								
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
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg	----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg	----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg	----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg	----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg	----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg	----	----	----	----	<0.50
^ DDT (total)	----	0.50	µg/kg	----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg	----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg	----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg	----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg	----	----	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg	----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg	----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg	----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg	----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg	----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	----	----	----	----	<0.50
gamma-BHC	58-89-9	0.50	µg/kg	----	----	----	----	<0.50
Methoxychlor	72-43-5	0.50	µg/kg	----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.50	µg/kg	----	----	----	----	<0.50
trans-Chlordane	5103-74-2	0.50	µg/kg	----	----	----	----	<0.50
^ Total Chlordane (sum)	----	0.50	µg/kg	----	----	----	----	<0.50
Oxychlordane	27304-13-8	0.50	µg/kg	----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)								
^ Total Polychlorinated biphenyls	----	5.0	µg/kg	----	----	----	----	<5.0
Aroclor 1016	12974-11-2	5.0	µg/kg	----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg	----	----	----	----	<5.0
Aroclor 1232	11141-16-5	5.0	µg/kg	----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg	----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg	----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: DUP17	PC25_0.0-0.35	DUP08	PC24_0.0-0.23	PC55_0.0-0.3
				Client sampling date / time: 09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
				ES0910119-041	ES0910119-042	ES0910119-043	ES0910119-044	ES0910119-045
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued								
Aroclor 1254	11097-69-1	5.0	µg/kg	----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg	----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	----	<10	<10	----	<10
2-Methylnaphthalene	91-57-6	10	µg/kg	----	**770**	**480**	----	**20**
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	----	<10	<10	----	<10
Acenaphthene	83-32-9	10	µg/kg	----	**100**	**80**	----	<10
Acenaphthylene	208-96-8	10	µg/kg	----	**560**	**360**	----	<10
Anthracene	120-12-7	10	µg/kg	----	**380**	**310**	----	<10
Benz(a)anthracene	56-55-3	10	µg/kg	----	**640**	**780**	----	**20**
Benzo(a)pyrene	50-32-8	10	µg/kg	----	**820**	**900**	----	**20**
Benzo(b)fluoranthene	205-99-2	10	µg/kg	----	**1000**	**1090**	----	**30**
Benzo(e)pyrene	192-97-2	10	µg/kg	----	**450**	**520**	----	**20**
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	----	**560**	**580**	----	**10**
Benzo(k)fluoranthene	207-08-9	10	µg/kg	----	**310**	**290**	----	<10
Chrysene	218-01-9	10	µg/kg	----	**600**	**760**	----	**20**
Coronene	191-07-1	10	µg/kg	----	**200**	**190**	----	<10
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	----	**100**	**120**	----	<10
Fluoranthene	206-44-0	10	µg/kg	----	**1430**	**1580**	----	**50**
Fluorene	86-73-7	10	µg/kg	----	**400**	**280**	----	<10
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	----	**360**	**530**	----	**10**
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	----	<100	<100	----	<100
Naphthalene	91-20-3	10	µg/kg	----	**7830**	**5970**	----	**110**
Perylene	198-55-0	10	µg/kg	----	**200**	**230**	----	<10
Phenanthrene	85-01-8	10	µg/kg	----	**1500**	**1180**	----	**40**
Pyrene	129-00-0	10	µg/kg	----	**1220**	**1320**	----	**40**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	----	----	**91.0**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	----	----	**89.2**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	----	----	**77.6**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	**84.8**
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	**83.9**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	**87.5**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**98.1**	**99.3**	----	**114**
Toluene-D8	2037-26-5	0.1	%	----	**96.0**	**99.3**	----	**92.4**
4-Bromofluorobenzene	460-00-4	0.1	%	----	**99.8**	**93.2**	----	**93.0**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: DUP17	PC25_0.0-0.35	DUP08	PC24_0.0-0.23	PC55_0.0-0.3
				Client sampling date / time: 09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
				ES0910119-041	ES0910119-042	ES0910119-043	ES0910119-044	ES0910119-045
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	**59.5**
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	**53.5**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**87.4**	**61.3**	----	**56.5**
Anthracene-d10	1719-06-8	0.1	%	----	**87.7**	**61.8**	----	**58.0**
4-Terphenyl-d14	1718-51-0	0.1	%	----	**76.0**	**56.0**	----	**56.5**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC55_0.3-0.63	PC45_0.0-0.5	PC45_0.5-1.03	PC42_0.0-0.5	PC42_0.5-0.88
				Client sampling date / time: 09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
				ES0910119-046	ES0910119-047	ES0910119-048	ES0910119-049	ES0910119-050
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	22.6	37.7	43.8	41.7	36.6
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	4.18	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg	58.5	21.3	44.6	38.0	21.2
Cadmium	7440-43-9	0.1	mg/kg	2.8	0.4	1.3	0.6	1.1
Chromium	7440-47-3	1.0	mg/kg	32.5	73.2	66.6	91.2	56.0
Copper	7440-50-8	1.0	mg/kg	1610	179	252	291	114
Cobalt	7440-48-4	0.5	mg/kg	6.0	8.4	11.0	13.4	23.5
Lead	7439-92-1	1.0	mg/kg	517	163	380	282	105
Nickel	7440-02-0	1.0	mg/kg	60.7	13.0	15.2	20.7	17.4
Selenium	7782-49-2	0.1	mg/kg	13.0	1.9	3.7	2.1	2.3
Silver	7440-22-4	0.1	mg/kg	4.8	0.8	1.3	1.0	0.6
Vanadium	7440-62-2	2.0	mg/kg	27.5	213	90.3	106	105
Zinc	7440-66-6	1.0	mg/kg	991	425	893	728	418
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.5	0.2	0.4	0.4	0.1
EK026G: Total Cyanide By Discrete Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	----	<1	<1	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	<10	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	<50	----
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	<100	----
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	<100	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	<0.2	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	<0.5	----
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	----	<10	----	<10	----
2-Methylnaphthalene	91-57-6	10	µg/kg	----	600	----	720	----
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	----	<10	----	<10	----
Acenaphthene	83-32-9	10	µg/kg	----	120	----	140	----
Acenaphthylene	208-96-8	10	µg/kg	----	490	----	570	----
Anthracene	120-12-7	10	µg/kg	----	500	----	570	----
Benz(a)anthracene	56-55-3	10	µg/kg	----	1200	----	1440	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC55_0.3-0.63	PC45_0.0-0.5	PC45_0.5-1.03	PC42_0.0-0.5	PC42_0.5-0.88
				Client sampling date / time: 09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
				ES0910119-046	ES0910119-047	ES0910119-048	ES0910119-049	ES0910119-050
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(a)pyrene	50-32-8	10	µg/kg	----	1470	----	1760	----
Benzo(b)fluoranthene	205-99-2	10	µg/kg	----	1870	----	2160	----
Benzo(e)pyrene	192-97-2	10	µg/kg	----	930	----	1100	----
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	----	930	----	1090	----
Benzo(k)fluoranthene	207-08-9	10	µg/kg	----	550	----	760	----
Chrysene	218-01-9	10	µg/kg	----	1220	----	1450	----
Coronene	191-07-1	10	µg/kg	----	340	----	390	----
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	----	220	----	260	----
Fluoranthene	206-44-0	10	µg/kg	----	2290	----	2710	----
Fluorene	86-73-7	10	µg/kg	----	450	----	510	----
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	----	910	----	1060	----
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	----	<100	----	<100	----
Naphthalene	91-20-3	10	µg/kg	----	9150	----	9520	----
Perylene	198-55-0	10	µg/kg	----	420	----	500	----
Phenanthrene	85-01-8	10	µg/kg	----	1650	----	1880	----
Pyrene	129-00-0	10	µg/kg	----	1970	----	2350	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	99.9	----	80.4	----
Toluene-D8	2037-26-5	0.1	%	----	92.1	----	87.7	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	93.1	----	84.5	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	81.3	----	87.3	----
Anthracene-d10	1719-06-8	0.1	%	----	80.7	----	86.2	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	72.2	----	77.1	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	PC43_0.0-0.35	PC43_0.35-0.7	PC43_0.7-1.05	DUP13	PC14_0.0-0.36
				Client sampling date / time	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	08-JUL-2009 15:00
					ES0910119-051	ES0910119-052	ES0910119-053	ES0910119-054	ES0910119-055
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		53.7	47.8	50.5	48.1	39.5
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	0.52	<0.50
Arsenic	7440-38-2	1.00	mg/kg		24.8	30.1	33.2	39.3	33.0
Cadmium	7440-43-9	0.1	mg/kg		0.8	1.5	2.6	1.0	0.9
Chromium	7440-47-3	1.0	mg/kg		117	152	177	118	89.2
Copper	7440-50-8	1.0	mg/kg		366	492	492	372	223
Cobalt	7440-48-4	0.5	mg/kg		10.5	12.6	15.5	15.3	13.3
Lead	7439-92-1	1.0	mg/kg		242	335	363	359	355
Nickel	7440-02-0	1.0	mg/kg		20.6	24.5	22.5	21.3	17.7
Selenium	7782-49-2	0.1	mg/kg		2.5	4.6	4.2	3.5	2.7
Silver	7440-22-4	0.1	mg/kg		1.3	2.6	2.6	1.6	1.0
Vanadium	7440-62-2	2.0	mg/kg		149	100	105	110	84.8
Zinc	7440-66-6	1.0	mg/kg		699	932	1140	926	870
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.4	0.8	0.8	0.6	0.4
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	<0.5	----	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg		----	<0.5	----	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg		----	<0.5	----	<0.5	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg		----	<1.0	----	<1.0	----
2-Nitrophenol	88-75-5	0.5	mg/kg		----	<0.5	----	<0.5	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		----	<0.5	----	<0.5	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		----	<0.5	----	<0.5	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		----	<0.5	----	<0.5	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		----	<0.5	----	<0.5	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	<0.5	----	<0.5	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	<0.5	----	<0.5	----
Pentachlorophenol	87-86-5	2.0	mg/kg		----	<2.0	----	<2.0	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	<50	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	<100	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	<100	----	----
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC43_0.0-0.35	PC43_0.35-0.7	PC43_0.7-1.05	DUP13	PC14_0.0-0.36
				Client sampling date / time: 09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	08-JUL-2009 15:00
				ES0910119-051	ES0910119-052	ES0910119-053	ES0910119-054	ES0910119-055
EP080: BTEX - Continued								
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	<0.5	----	----
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	----	<0.50	----	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg	----	<0.50	----	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg	----	<0.50	----	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg	----	<0.50	----	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg	----	<0.50	----	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg	----	<0.50	----	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg	----	<0.50	----	<0.50	----
^ DDT (total)	----	0.50	µg/kg	----	<0.50	----	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg	----	<0.50	----	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg	----	<0.50	----	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg	----	<0.50	----	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg	----	<0.50	----	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	----	<0.50	----	<0.50	----
Endrin	72-20-8	0.50	µg/kg	----	<0.50	----	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg	----	<0.50	----	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg	----	<0.50	----	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg	----	<0.50	----	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg	----	<0.50	----	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	----	<0.50	----	<0.50	----
gamma-BHC	58-89-9	0.50	µg/kg	----	<0.50	----	<0.50	----
Methoxychlor	72-43-5	0.50	µg/kg	----	<0.50	----	<0.50	----
cis-Chlordane	5103-71-9	0.50	µg/kg	----	<0.50	----	<0.50	----
trans-Chlordane	5103-74-2	0.50	µg/kg	----	<0.50	----	<0.50	----
^ Total Chlordane (sum)	----	0.50	µg/kg	----	<0.50	----	<0.50	----
Oxychlordane	27304-13-8	0.50	µg/kg	----	<0.50	----	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)								
^ Total Polychlorinated biphenyls	----	5.0	µg/kg	----	<5.0	----	<5.0	----
Aroclor 1016	12974-11-2	5.0	µg/kg	----	<5.0	----	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg	----	<5.0	----	<5.0	----
Aroclor 1232	11141-16-5	5.0	µg/kg	----	<5.0	----	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg	----	<5.0	----	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg	----	<5.0	----	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg	----	<5.0	----	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg	----	<5.0	----	<5.0	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	PC43_0.0-0.35	PC43_0.35-0.7	PC43_0.7-1.05	DUP13	PC14_0.0-0.36
				Client sampling date / time	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	08-JUL-2009 15:00
					ES0910119-051	ES0910119-052	ES0910119-053	ES0910119-054	ES0910119-055
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	10	µg/kg		<10	----	<10	----	----
2-Methylnaphthalene	91-57-6	10	µg/kg		1310	----	1280	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg		<10	----	<10	----	----
Acenaphthene	83-32-9	10	µg/kg		250	----	180	----	----
Acenaphthylene	208-96-8	10	µg/kg		1010	----	850	----	----
Anthracene	120-12-7	10	µg/kg		1010	----	600	----	----
Benz(a)anthracene	56-55-3	10	µg/kg		2030	----	890	----	----
Benzo(a)pyrene	50-32-8	10	µg/kg		2700	----	1150	----	----
Benzo(b)fluoranthene	205-99-2	10	µg/kg		3530	----	1390	----	----
Benzo(e)pyrene	192-97-2	10	µg/kg		1740	----	690	----	----
Benzo(g.h.i)perylene	191-24-2	10	µg/kg		1660	----	770	----	----
Benzo(k)fluoranthene	207-08-9	10	µg/kg		990	----	420	----	----
Chrysene	218-01-9	10	µg/kg		2060	----	870	----	----
Coronene	191-07-1	10	µg/kg		430	----	240	----	----
Dibenz(a.h)anthracene	53-70-3	10	µg/kg		400	----	160	----	----
Fluoranthene	206-44-0	10	µg/kg		3910	----	1940	----	----
Fluorene	86-73-7	10	µg/kg		1020	----	700	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg		1610	----	690	----	----
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg		<100	----	<100	----	----
Naphthalene	91-20-3	10	µg/kg		17500	----	16000	----	----
Perylene	198-55-0	10	µg/kg		730	----	280	----	----
Phenanthrene	85-01-8	10	µg/kg		3250	----	2280	----	----
Pyrene	129-00-0	10	µg/kg		3370	----	1710	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		----	90.7	----	84.1	----
2-Chlorophenol-D4	93951-73-6	0.1	%		----	71.7	----	86.8	----
2.4.6-Tribromophenol	118-79-6	0.1	%		----	74.5	----	73.1	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	79.3	----	79.1	----
Anthracene-d10	1719-06-8	0.1	%		----	81.4	----	78.2	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	84.0	----	83.2	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		87.0	----	85.9	----	----
Toluene-D8	2037-26-5	0.1	%		83.8	----	88.0	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		81.6	----	85.8	----	----
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		----	95.4	----	93.9	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	PC43_0.0-0.35	PC43_0.35-0.7	PC43_0.7-1.05	DUP13	PC14_0.0-0.36
				Client sampling date / time	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	08-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910119-051	ES0910119-052	ES0910119-053	ES0910119-054	ES0910119-055
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		---	**91.7**	---	**104**	---
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**67.7**	---	**82.9**	---	---
Anthracene-d10	1719-06-8	0.1	%		**65.8**	---	**73.3**	---	---
4-Terphenyl-d14	1718-51-0	0.1	%		**58.8**	---	**64.5**	---	---

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	PC34_0.0-0.27	PC35_0.0-0.35	PC35_0.35-0.59	PC39_0.0-0.4	PC39_0.4-0.87
				Client sampling date / time	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
					ES0910119-056	ES0910119-057	ES0910119-058	ES0910119-061	ES0910119-062
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	---	1.0	%		61.9	17.6	48.1	52.9	49.0
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		12.1	<0.50	1.33	0.85	0.88
Arsenic	7440-38-2	1.00	mg/kg		844	4.37	87.8	56.6	48.5
Cadmium	7440-43-9	0.1	mg/kg		25.9	0.1	2.4	1.4	2.1
Chromium	7440-47-3	1.0	mg/kg		158	9.6	134	138	180
Copper	7440-50-8	1.0	mg/kg		16600	73.0	2540	1210	808
Cobalt	7440-48-4	0.5	mg/kg		19.8	1.6	14.4	12.6	13.3
Lead	7439-92-1	1.0	mg/kg		4880	33.2	1020	558	566
Nickel	7440-02-0	1.0	mg/kg		423	3.3	67.3	60.3	24.1
Selenium	7782-49-2	0.1	mg/kg		392	0.9	24.8	13.3	10.3
Silver	7440-22-4	0.1	mg/kg		137	0.8	13.2	7.1	4.8
Vanadium	7440-62-2	2.0	mg/kg		110	37.0	113	106	107
Zinc	7440-66-6	1.0	mg/kg		3710	68.3	1480	1110	1260
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		6.9	0.3	1.9	1.1	1.1
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.8	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.8	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.8	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg		<1.6	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.8	----	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.8	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.8	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.8	----	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		<0.8	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.8	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.8	----	----	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg		<2.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	---	10	mg/kg		---	<10	---	<10	----
C10 - C14 Fraction	---	50	mg/kg		---	<50	---	<50	----
C15 - C28 Fraction	---	100	mg/kg		---	<100	---	200	----
C29 - C36 Fraction	---	100	mg/kg		---	<100	---	190	----
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		---	<0.2	---	<0.2	----
Toluene	108-88-3	0.5	mg/kg		---	<0.5	---	<0.5	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC34_0.0-0.27	PC35_0.0-0.35	PC35_0.35-0.59	PC39_0.0-0.4	PC39_0.4-0.87
				Client sampling date / time: 08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
				ES0910119-056	ES0910119-057	ES0910119-058	ES0910119-061	ES0910119-062
EP080: BTEX - Continued								
Ethylbenzene	100-41-4	0.5	mg/kg	---	<0.5	----	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	---	<0.5	----	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	---	<0.5	----	<0.5	----
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg	<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg	<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg	<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	----	----	----	----
^ DDT (total)	----	0.50	µg/kg	<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg	<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg	<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg	<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	**57.5**	----	----	----	----
gamma-BHC	58-89-9	0.50	µg/kg	<0.50	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg	<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.50	µg/kg	<0.50	----	----	----	----
trans-Chlordane	5103-74-2	0.50	µg/kg	<0.50	----	----	----	----
^ Total Chlordane (sum)	----	0.50	µg/kg	<0.50	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)								
^ Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1016	12974-11-2	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC34_0.0-0.27	PC35_0.0-0.35	PC35_0.35-0.59	PC39_0.0-0.4	PC39_0.4-0.87
				Client sampling date / time: 08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
				ES0910119-056	ES0910119-057	ES0910119-058	ES0910119-061	ES0910119-062
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	----	<10	----	<10	----
2-Methylnaphthalene	91-57-6	10	µg/kg	----	130	----	1430	----
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	----	<10	----	<10	----
Acenaphthene	83-32-9	10	µg/kg	----	20	----	250	----
Acenaphthylene	208-96-8	10	µg/kg	----	80	----	1000	----
Anthracene	120-12-7	10	µg/kg	----	80	----	1070	----
Benz(a)anthracene	56-55-3	10	µg/kg	----	180	----	2100	----
Benzo(a)pyrene	50-32-8	10	µg/kg	----	220	----	2740	----
Benzo(b)fluoranthene	205-99-2	10	µg/kg	----	290	----	3470	----
Benzo(e)pyrene	192-97-2	10	µg/kg	----	140	----	1720	----
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	----	130	----	1650	----
Benzo(k)fluoranthene	207-08-9	10	µg/kg	----	80	----	1100	----
Chrysene	218-01-9	10	µg/kg	----	180	----	2120	----
Coronene	191-07-1	10	µg/kg	----	20	----	530	----
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	----	40	----	420	----
Fluoranthene	206-44-0	10	µg/kg	----	430	----	3760	----
Fluorene	86-73-7	10	µg/kg	----	80	----	1100	----
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	----	120	----	1580	----
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	----	<100	----	<100	----
Naphthalene	91-20-3	10	µg/kg	----	1470	----	17200	----
Perylene	198-55-0	10	µg/kg	----	60	----	740	----
Phenanthrene	85-01-8	10	µg/kg	----	320	----	3410	----
Pyrene	129-00-0	10	µg/kg	----	380	----	3110	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	84.6	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	73.1	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	80.0	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	83.8	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	86.4	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	65.9	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	96.7	----	82.6	----
Toluene-D8	2037-26-5	0.1	%	----	99.8	----	84.8	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	102	----	79.7	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	97.0	----	----	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	PC34_0.0-0.27	PC35_0.0-0.35	PC35_0.35-0.59	PC39_0.0-0.4	PC39_0.4-0.87
				Client sampling date / time	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910119-056	ES0910119-057	ES0910119-058	ES0910119-061	ES0910119-062
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**152**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	**77.5**	----	**80.9**	----
Anthracene-d10	1719-06-8	0.1	%		----	**74.6**	----	**75.0**	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	**72.0**	----	**66.4**	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	RB03	RB04	----	----	----
				Client sampling date / time	08-JUL-2009 15:00	08-JUL-2009 15:00	----	----	----
Compound	CAS Number	LOR	Unit		ES0910119-059	ES0910119-060	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L		<0.1	<0.1	----	----	----
2-Methylnaphthalene	91-57-6	0.1	µg/L		<0.1	<0.1	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L		<0.1	<0.1	----	----	----
Acenaphthene	83-32-9	0.1	µg/L		<0.1	<0.1	----	----	----
Acenaphthylene	208-96-8	0.1	µg/L		<0.1	<0.1	----	----	----
Anthracene	120-12-7	0.1	µg/L		<0.1	<0.1	----	----	----
Benz(a)anthracene	56-55-3	0.1	µg/L		<0.1	<0.1	----	----	----
Benzo(a)pyrene	50-32-8	0.05	µg/L		<0.05	<0.05	----	----	----
Benzo(b)fluoranthene	205-99-2	0.1	µg/L		<0.1	<0.1	----	----	----
Benzo(e)pyrene	192-97-2	0.1	µg/L		<0.1	<0.1	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L		<0.1	<0.1	----	----	----
Benzo(k)fluoranthene	207-08-9	0.1	µg/L		<0.1	<0.1	----	----	----
Chrysene	218-01-9	0.1	µg/L		<0.1	<0.1	----	----	----
Coronene	191-07-1	0.1	µg/L		<0.1	<0.1	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L		<0.1	<0.1	----	----	----
Fluoranthene	206-44-0	0.1	µg/L		<0.1	<0.1	----	----	----
Fluorene	86-73-7	0.1	µg/L		<0.1	<0.1	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L		<0.1	<0.1	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.1	µg/L		<0.1	<0.1	----	----	----
Naphthalene	91-20-3	0.1	µg/L		<0.1	<0.1	----	----	----
Perylene	198-55-0	0.1	µg/L		<0.1	<0.1	----	----	----
Phenanthrene	85-01-8	0.1	µg/L		<0.1	<0.1	----	----	----
Pyrene	129-00-0	0.1	µg/L		<0.1	<0.1	----	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**94.0**	**99.7**	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**95.1**	**99.2**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**104**	**117**	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	136
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	164
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

QUALITY CONTROL REPORT

Work Order	: **ES0910119**	Page	: 1 of 22
Client	: **ENSR AUSTRALIA PTY LIMITED**	Laboratory	: Environmental Division Sydney
Contact	: MR CHRISTIANN DONNETTI	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: christiaan.donnetti@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S3017805 - Port Kembla Outer Harbour	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 10-JUL-2009
Sampler	: RC	Issue Date	: 22-JUL-2009
Order number	: ----		
		No. of samples received	: 62
Quote number	: SY/330/09 V3	No. of samples analysed	: 62

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

This document is issued in accordance with NATA accreditation requirements.

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*
Alex Rossi	Organic Chemist	Organics
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Sarah Millington	Senior Inorganic Chemist	Inorganics
Victor Kedicioglu	Business Manager - NSW	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 insuffient sample for analysis.

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 1038129)									
ES0910119-001	PC20_0.0-0.17	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	49.5	49.2	0.8	0% - 20%
ES0910119-005	PC28_0.4-0.9	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	35.6	38.1	6.8	0% - 20%
EA055: Moisture Content (QC Lot: 1038130)									
ES0910119-016	PC9_0.4-0.8	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	46.7	46.3	1.0	0% - 20%
ES0910119-056	PC34_0.0-0.27	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	61.9	58.8	5.1	0% - 20%
EA055: Moisture Content (QC Lot: 1038140)									
ES0910050-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	26.8	25.5	4.8	0% - 20%
ES0910119-030	PC37_0.0-0.37	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	41.7	39.5	5.4	0% - 20%
EA055: Moisture Content (QC Lot: 1038141)									
ES0910119-041	DUP17	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	46.8	47.0	0.3	0% - 20%
ES0910119-050	PC42_0.5-0.88	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	36.6	36.9	0.7	0% - 20%
EA055: Moisture Content (QC Lot: 1039075)									
ES0910054-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	10.0	9.2	8.1	No Limit
ES0910119-052	PC43_0.35-0.7	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	47.8	49.3	2.9	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 1038093)									
ES0910119-001	PC20_0.0-0.17	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	2.9	2.8	4.5	0% - 20%
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	5.2	5.3	1.9	0% - 20%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	2.4	2.2	8.7	0% - 20%
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	10.6	10.4	1.9	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	1.38	1.08	24.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	106	107	0.5	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	787	769	2.3	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	622	556	11.1	0% - 20%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	23.3	23.5	0.9	0% - 20%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	1200	1210	0.7	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	37.2	38.0	2.1	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	88.3	88.2	0.2	0% - 20%
ES0910119-011	PC26_0.5-0.9	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	1.2	1.1	11.1	0% - 50%
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	4.1	3.6	11.9	0% - 20%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	1.0	0.9	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	11.5	9.6	18.0	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	1.03	1.20	15.4	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	55.3	42.8	# 25.3	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	438	373	16.0	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	777	692	11.6	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 (%)*
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 1038093) - continued									
ES0910119-011	PC26_0.5-0.9	EG020-SD: Nickel	7440-02-0	1.0	mg/kg	18.9	19.0	0.9	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	1210	1020	16.2	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	76.1	74.0	2.7	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	106	90.4	15.5	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 1038095)									
ES0910119-021	PC19_0.53-1.03	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	2.0	2.6	# 23.1	0% - 20%
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	4.4	4.9	11.8	0% - 20%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	1.7	1.9	9.5	0% - 50%
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	12.3	11.4	8.4	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	0.70	1.04	38.6	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	77.7	110	# 34.4	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	417	357	15.5	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	472	596	# 23.2	0% - 20%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	21.0	24.0	13.4	0% - 20%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	1990	1540	# 25.3	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	57.8	49.8	14.9	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	105	105	0.6	0% - 20%
ES0910119-031	PC38_0.0-0.4	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	1.6	1.6	0.0	0% - 50%
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	14.6	16.4	11.9	0% - 20%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	6.8	8.0	16.0	0% - 20%
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	13.4	13.3	0.8	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	0.90	0.94	3.9	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	156	159	1.9	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	1470	1630	10.2	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	708	742	4.8	0% - 20%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	55.4	62.6	12.1	0% - 20%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	1290	1320	2.4	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	61.9	65.8	6.1	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	118	117	0.0	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 1039204)									
ES0910119-041	DUP17	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	1.2	1.1	0.0	0% - 50%
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	4.8	4.2	13.6	0% - 20%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	2.5	2.2	12.2	0% - 20%
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	12.7	11.8	7.8	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	140	128	8.8	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	561	479	15.6	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	358	322	10.4	0% - 20%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	26.4	24.2	8.7	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 (%)*
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 1039204) - continued									
ES0910119-041	DUP17	EG020-SD: Zinc	7440-66-6	1.0	mg/kg	952	874	8.5	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	34.2	31.9	6.8	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	105	112	6.9	0% - 20%
ES0910119-051	PC43_0.0-0.35	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	0.8	1.2	38.9	0% - 50%
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	2.5	2.8	11.4	0% - 20%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	1.3	1.4	12.2	0% - 50%
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	10.5	11.3	7.9	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	117	131	11.3	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	366	388	5.9	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	242	254	5.0	0% - 20%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	20.6	22.7	10.0	0% - 20%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	699	784	11.5	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	24.8	28.4	13.5	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	149	135	10.0	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1038092)									
ES0910119-001	PC20_0.0-0.17	EG035T: Mercury	7439-97-6	0.1	mg/kg	1.2	1.1	12.2	0% - 50%
ES0910119-011	PC26_0.5-0.9	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.7	0.9	17.9	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1038094)									
ES0910119-021	PC19_0.53-1.03	EG035T: Mercury	7439-97-6	0.1	mg/kg	1.0	1.1	13.0	0% - 50%
ES0910119-031	PC38_0.0-0.4	EG035T: Mercury	7439-97-6	0.1	mg/kg	1.6	1.5	0.0	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1039203)									
ES0910119-041	DUP17	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.9	0.7	29.0	No Limit
ES0910119-051	PC43_0.0-0.35	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.4	0.5	25.4	No Limit
EK026G: Total Cyanide By Discrete Analyser (QC Lot: 1039614)									
ES0910112-001	Anonymous	EK026G: Total Cyanide	57-12-5	1	mg/kg	17	16	0.0	0% - 50%
ES0910119-046	PC55_0.3-0.63	EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1037933)									
ES0910119-019	PC11_0.0-0.2	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	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)A: Phenolic Compounds (QC Lot: 1037933) - continued									
ES0910119-019	PC11_0.0-0.2	EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1038127)									
ES0910119-045	PC55_0.0-0.3	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1037909)									
ES0910119-002	PC29_0.0-0.45	EP080: C6 - C9 Fraction	---	10	mg/kg	<10	<10	0.0	No Limit
ES0910119-022	PC15_0.0-0.5	EP080: C6 - C9 Fraction	---	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1037932)									
ES0910119-019	PC11_0.0-0.2	EP071: C15 - C28 Fraction	---	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	---	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	---	50	mg/kg	<50	<50	0.0	No Limit
ES0910119-022	PC15_0.0-0.5	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: 1038126)									
ES0910119-045	PC55_0.0-0.3	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
ES0910119-057	PC35_0.0-0.35	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: 1038168)									
ES0910119-043	DUP08	EP080: C6 - C9 Fraction	---	10	mg/kg	<10	<10	0.0	No Limit
ES0910119-061	PC39_0.0-0.4	EP080: C6 - C9 Fraction	---	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1038633)									
ES0910182-001	Anonymous	EP071: C15 - C28 Fraction	---	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	---	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	---	50	mg/kg	<50	<50	0.0	No Limit
ES0910193-006	Anonymous	EP071: C15 - C28 Fraction	---	100	mg/kg	<100	<100	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1038633) - continued									
ES0910193-006	Anonymous	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: BTEX (QC Lot: 1037909)									
ES0910119-002	PC29_0.0-0.45	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES0910119-022	PC15_0.0-0.5	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	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080: BTEX (QC Lot: 1038168)									
ES0910119-043	DUP08	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES0910119-061	PC39_0.0-0.4	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 1038649)									
ES0910119-008	PC27_0.5-0.9	EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: DDT (total)	---	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	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 (%)*
EP131A: Organochlorine Pesticides (QC Lot: 1038649) - continued									
ES0910119-008	PC27_0.5-0.9	EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: gamma-BHC	58-89-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Total Chlordane (sum)	---	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES0910203-003	Anonymous	EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: DDT (total)	---	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: gamma-BHC	58-89-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Total Chlordane (sum)	---	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 1038650)									

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 (%)*
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 1038650) - continued									
ES0910119-008	PC27_0.5-0.9	EP131B: Total Polychlorinated biphenyls	---	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12974-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES0910203-003	Anonymous	EP131B: Total Polychlorinated biphenyls	---	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12974-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1038009)									
EB0910858-001	Anonymous	EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	<10	0.0	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	430	360	18.0	0% - 20%
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Acenaphthene	83-32-9	10	µg/kg	80	70	15.4	No Limit
		EP132: Acenaphthylene	208-96-8	10	µg/kg	380	320	16.8	0% - 20%
		EP132: Anthracene	120-12-7	10	µg/kg	400	330	16.8	0% - 20%
		EP132: Benz(a)anthracene	56-55-3	10	µg/kg	950	810	15.9	0% - 20%
		EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	1060	900	16.1	0% - 20%
		EP132: Benzo(b)fluoranthene	205-99-2	10	µg/kg	1340	1150	14.9	0% - 20%
		EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	670	570	16.5	0% - 20%
		EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	780	660	16.8	0% - 20%
		EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	430	420	0.0	0% - 20%
		EP132: Chrysene	218-01-9	10	µg/kg	950	770	# 20.5	0% - 20%
		EP132: Coronene	191-07-1	10	µg/kg	300	240	# 20.7	0% - 20%
		EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	210	190	11.8	0% - 50%
		EP132: Fluoranthene	206-44-0	10	µg/kg	2080	1760	16.9	0% - 20%
		EP132: Fluorene	86-73-7	10	µg/kg	300	250	18.8	0% - 20%
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	690	580	16.0	0% - 20%
		EP132: Naphthalene	91-20-3	10	µg/kg	4580	3620	# 23.6	0% - 20%
		EP132: Perylene	198-55-0	10	µg/kg	340	300	11.6	0% - 20%
		EP132: Phenanthrene	85-01-8	10	µg/kg	1330	1070	# 21.7	0% - 20%
		EP132: Pyrene	129-00-0	10	µg/kg	1780	1500	17.0	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 (%)*
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1038009) - continued									
EB0910858-001	Anonymous	EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	<100	0.0	No Limit
ES0910119-020	PC19_0.0-0.53	EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	<10	0.0	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	1320	1290	2.2	0% - 20%
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Acenaphthene	83-32-9	10	µg/kg	200	190	0.0	0% - 50%
		EP132: Acenaphthylene	208-96-8	10	µg/kg	1180	1160	2.4	0% - 20%
		EP132: Anthracene	120-12-7	10	µg/kg	700	680	2.7	0% - 20%
		EP132: Benz(a)anthracene	56-55-3	10	µg/kg	820	840	2.3	0% - 20%
		EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	1160	1180	1.6	0% - 20%
		EP132: Benzo(b)fluoranthene	205-99-2	10	µg/kg	1390	1410	1.3	0% - 20%
		EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	620	650	4.4	0% - 20%
		EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	830	830	0.0	0% - 20%
		EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	450	480	6.1	0% - 20%
		EP132: Chrysene	218-01-9	10	µg/kg	760	790	3.6	0% - 20%
		EP132: Coronene	191-07-1	10	µg/kg	350	340	0.0	0% - 20%
		EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	160	160	0.0	0% - 50%
		EP132: Fluoranthene	206-44-0	10	µg/kg	2100	2100	0.0	0% - 20%
		EP132: Fluorene	86-73-7	10	µg/kg	830	800	3.5	0% - 20%
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	710	720	0.0	0% - 20%
		EP132: Naphthalene	91-20-3	10	µg/kg	14600	15400	5.0	0% - 20%
		EP132: Perylene	198-55-0	10	µg/kg	300	300	0.0	0% - 20%
		EP132: Phenanthrene	85-01-8	10	µg/kg	2540	2470	3.0	0% - 20%
		EP132: Pyrene	129-00-0	10	µg/kg	1950	1940	1.0	0% - 20%
		EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	<100	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1038144)									
ES0910119-042	PC25_0.0-0.35	EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	<10	0.0	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	770	550	# 34.1	0% - 20%
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Acenaphthene	83-32-9	10	µg/kg	100	80	24.4	No Limit
		EP132: Acenaphthylene	208-96-8	10	µg/kg	560	440	# 25.3	0% - 20%
		EP132: Anthracene	120-12-7	10	µg/kg	380	310	# 20.2	0% - 20%
		EP132: Benz(a)anthracene	56-55-3	10	µg/kg	640	530	17.9	0% - 20%
		EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	820	680	19.4	0% - 20%
		EP132: Benzo(b)fluoranthene	205-99-2	10	µg/kg	1000	850	16.6	0% - 20%
		EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	450	400	12.2	0% - 20%
		EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	560	460	# 20.5	0% - 20%
		EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	310	240	# 25.7	0% - 20%
		EP132: Chrysene	218-01-9	10	µg/kg	600	510	17.4	0% - 20%
		EP132: Coronene	191-07-1	10	µg/kg	200	150	# 27.3	0% - 50%

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1038144) - continued									
ES0910119-042	PC25_0.0-0.35	EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	100	90	17.0	No Limit
		EP132: Fluoranthene	206-44-0	10	µg/kg	1430	1180	19.2	0% - 20%
		EP132: Fluorene	86-73-7	10	µg/kg	400	330	# 20.1	0% - 20%
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	360	330	6.6	0% - 20%
		EP132: Naphthalene	91-20-3	10	µg/kg	7830	6780	14.4	0% - 20%
		EP132: Perylene	198-55-0	10	µg/kg	200	190	0.0	0% - 50%
		EP132: Phenanthrene	85-01-8	10	µg/kg	1500	1110	# 29.6	0% - 20%
		EP132: Pyrene	129-00-0	10	µg/kg	1220	1010	18.8	0% - 20%
		EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	<100	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1038053)									
ES0910121-007	Anonymous	EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(b)fluoranthene	205-99-2	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Coronene	191-07-1	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: N-2-Fluorenyl Acetamide	53-96-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Perylene	198-55-0	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Pyrene	129-00-0	0.1	µg/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: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 1038093)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	13.1 mg/kg	117	70	130
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	2.76 mg/kg	111	70	130
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	60.9 mg/kg	116	70	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	54.7 mg/kg	110	70	130
EG020-SD: Cobalt	7440-48-4	10	mg/kg	<10.0	24.5 mg/kg	115	70	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	54.8 mg/kg	109	70	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55.2 mg/kg	115	70	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	----	----	----	----
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	5.6 mg/kg	115	70	130
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	34 mg/kg	114	70	130
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	104 mg/kg	107	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 1038095)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	13.1 mg/kg	123	70	130
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	2.76 mg/kg	112	70	130
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	60.9 mg/kg	127	70	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	54.7 mg/kg	113	70	130
EG020-SD: Cobalt	7440-48-4	10	mg/kg	<10.0	24.5 mg/kg	128	70	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	54.8 mg/kg	121	70	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55.2 mg/kg	118	70	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	----	----	----	----
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	5.6 mg/kg	117	70	130
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	34 mg/kg	121	70	130
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	104 mg/kg	111	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 1039204)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	13.1 mg/kg	116	70	130
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	2.76 mg/kg	110	70	130
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	60.9 mg/kg	116	70	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	54.7 mg/kg	110	70	130
EG020-SD: Cobalt	7440-48-4	10	mg/kg	<10.0	24.5 mg/kg	115	70	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	54.8 mg/kg	109	70	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55.2 mg/kg	115	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 1039204) - continued								
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	----	---	----	----
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	5.6 mg/kg	115	70	130
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	34 mg/kg	114	70	130
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	104 mg/kg	107	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1038092)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	94.8	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1038094)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	96.9	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1039203)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	88.0	67	118
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1039614)								
EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	50 mg/kg	85.8	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1037933)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	96.1	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	93.0	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	92.7	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	100	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	82.2	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	94.8	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	89.7	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	91.8	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	90.8	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	81.8	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	84.0	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	21.1	1.23	91.6
EP075(SIM)A: Phenolic Compounds (QCLot: 1038127)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	100	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	100	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	112	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	107	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	98.5	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	102	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	82.2	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	99.6	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	93.9	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	81.0	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	80.0	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	19.1	1.23	91.6

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1037909)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	70.9	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1037932)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	105	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	101	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	85.0	72.6	117
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1038126)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	96.0	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	102	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	107	72.6	117
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1038168)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	80.6	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1038633)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	112	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	102	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	93.0	72.6	117
EP080: BTEX (QCLot: 1037909)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	79.6	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	82.2	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	81.6	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	81.5	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	82.4	66.7	123
EP080: BTEX (QCLot: 1038168)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	84.7	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	103	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	83.4	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	80.2	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	83.8	66.7	123
EP131A: Organochlorine Pesticides (QCLot: 1038649)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	87.8	31.7	140
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	55.0	24.5	150
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	70.2	36.9	139
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	92.5	38.2	137
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	91.0	42.5	141
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	88.6	34.8	140
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	126	38	143
EP131A: DDT (total)	----	0.5	µg/kg	<0.50	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 1038649) - continued								
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	98.0	43.2	134
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	70.2	23.7	139
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	92.6	35.8	138
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	130	7.45	158
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	138	21.6	162
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	83.8	19.3	131
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	111	17.9	141
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	102	31	153
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	94.8	34.3	138
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	53.0	18.6	146
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	75.4	30.7	145
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	132	15	157
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	86.7	22.3	145
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	81.0	42.4	139
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 1038650)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1016	12974-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	87.6	61.3	121
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1038009)								
EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	100 µg/kg	84.8	34.8	123
EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	<10	100 µg/kg	111	66.6	122
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	100 µg/kg	82.4	6.88	147
EP132: Acenaphthene	83-32-9	10	µg/kg	<10	100 µg/kg	89.9	62.9	124
EP132: Acenaphthylene	208-96-8	10	µg/kg	<10	100 µg/kg	86.0	58.2	117
EP132: Anthracene	120-12-7	10	µg/kg	<10	100 µg/kg	86.7	61.4	117
EP132: Benz(a)anthracene	56-55-3	10	µg/kg	<10	100 µg/kg	93.9	65.7	125
EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	<10	100 µg/kg	93.0	60.7	119
EP132: Benzo(b)fluoranthene	205-99-2	10	µg/kg	<10	100 µg/kg	95.5	68.6	126
EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	<10	100 µg/kg	97.4	70	129
EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	<10	100 µg/kg	98.2	52.4	135
EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	<10	100 µg/kg	100	70.4	126
EP132: Chrysene	218-01-9	10	µg/kg	<10	100 µg/kg	93.9	67.5	126

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1038009) - continued								
EP132: Coronene	191-07-1	10	µg/kg	<10	100 µg/kg	93.4	34.7	141
EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	<10	100 µg/kg	98.8	61.7	129
EP132: Fluoranthene	206-44-0	10	µg/kg	<10	100 µg/kg	94.6	68.7	126
EP132: Fluorene	86-73-7	10	µg/kg	<10	100 µg/kg	91.3	66.7	123
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	<10	100 µg/kg	99.3	56.6	131
EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	1000 µg/kg	95.8	50	138
EP132: Naphthalene	91-20-3	10	µg/kg	<10	100 µg/kg	88.0	63.2	120
EP132: Perylene	198-55-0	10	µg/kg	<10	100 µg/kg	88.5	58.6	119
EP132: Phenanthrene	85-01-8	10	µg/kg	<10	100 µg/kg	92.4	65.4	124
EP132: Pyrene	129-00-0	10	µg/kg	<10	100 µg/kg	94.3	67.9	127
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1038144)								
EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	100 µg/kg	83.3	34.8	123
EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	<10	100 µg/kg	101	66.6	122
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	100 µg/kg	91.5	6.88	147
EP132: Acenaphthene	83-32-9	10	µg/kg	<10	100 µg/kg	105	62.9	124
EP132: Acenaphthylene	208-96-8	10	µg/kg	<10	100 µg/kg	99.3	58.2	117
EP132: Anthracene	120-12-7	10	µg/kg	<10	100 µg/kg	99.2	61.4	117
EP132: Benz(a)anthracene	56-55-3	10	µg/kg	<10	100 µg/kg	103	65.7	125
EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	<10	100 µg/kg	103	60.7	119
EP132: Benzo(b)fluoranthene	205-99-2	10	µg/kg	<10	100 µg/kg	113	68.6	126
EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	<10	100 µg/kg	112	70	129
EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	<10	100 µg/kg	111	52.4	135
EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	<10	100 µg/kg	111	70.4	126
EP132: Chrysene	218-01-9	10	µg/kg	<10	100 µg/kg	105	67.5	126
EP132: Coronene	191-07-1	10	µg/kg	<10	100 µg/kg	112	34.7	141
EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	<10	100 µg/kg	114	61.7	129
EP132: Fluoranthene	206-44-0	10	µg/kg	<10	100 µg/kg	109	68.7	126
EP132: Fluorene	86-73-7	10	µg/kg	<10	100 µg/kg	109	66.7	123
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	<10	100 µg/kg	113	56.6	131
EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	1000 µg/kg	105	50	138
EP132: Naphthalene	91-20-3	10	µg/kg	<10	100 µg/kg	103	63.2	120
EP132: Perylene	198-55-0	10	µg/kg	<10	100 µg/kg	96.7	58.6	119
EP132: Phenanthrene	85-01-8	10	µg/kg	<10	100 µg/kg	106	65.4	124
EP132: Pyrene	129-00-0	10	µg/kg	<10	100 µg/kg	108	67.9	127

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1038053)								
EP132: 3-Methylcholanthrene	56-49-5	0.10	µg/L	<0.1	2 µg/L	98.5	65.8	121

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1038053) - continued								
EP132: 2-Methylnaphthalene	91-57-6	0.10	µg/L	<0.1	2 µg/L	# 119	67.7	112
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.10	µg/L	<0.1	2 µg/L	99.9	11.6	146
EP132: Acenaphthene	83-32-9	0.10	µg/L	<0.1	2 µg/L	98.4	73.2	111
EP132: Acenaphthylene	208-96-8	0.10	µg/L	<0.1	2 µg/L	94.6	72.4	112
EP132: Anthracene	120-12-7	0.10	µg/L	<0.1	2 µg/L	96.1	73.4	113
EP132: Benz(a)anthracene	56-55-3	0.10	µg/L	<0.1	2 µg/L	108	73.6	114
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	102	75.2	117
EP132: Benzo(b)fluoranthene	205-99-2	0.10	µg/L	<0.1	2 µg/L	114	71.4	119
EP132: Benzo(e)pyrene	192-97-2	0.10	µg/L	<0.1	2 µg/L	108	75.3	118
EP132: Benzo(g.h.i)perylene	191-24-2	0.10	µg/L	<0.1	2 µg/L	81.6	66.6	121
EP132: Benzo(k)fluoranthene	207-08-9	0.10	µg/L	<0.1	2 µg/L	108	74.8	118
EP132: Chrysene	218-01-9	0.10	µg/L	<0.1	2 µg/L	108	69.6	120
EP132: Coronene	191-07-1	0.10	µg/L	<0.1	2 µg/L	58.8	47.4	131
EP132: Dibenz(a.h)anthracene	53-70-3	0.10	µg/L	<0.1	2 µg/L	91.8	71.5	117
EP132: Fluoranthene	206-44-0	0.10	µg/L	<0.1	2 µg/L	106	74.8	117
EP132: Fluorene	86-73-7	0.10	µg/L	<0.1	2 µg/L	101	72.9	114
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L	<0.1	2 µg/L	89.9	67.8	119
EP132: N-2-Fluorenyl Acetamide	53-96-3	0.10	µg/L	<0.1	20 µg/L	108	53.6	131
EP132: Naphthalene	91-20-3	0.10	µg/L	<0.1	2 µg/L	94.8	68.3	116
EP132: Perylene	198-55-0	0.10	µg/L	<0.1	2 µg/L	101	68	122
EP132: Phenanthrene	85-01-8	0.10	µg/L	<0.1	2 µg/L	106	74.8	112
EP132: Pyrene	129-00-0	0.10	µg/L	<0.1	2 µg/L	105	75.1	117

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	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 1038093)							
ES0910119-001	PC20_0.0-0.17	EG020-SD: Arsenic	7440-38-2	50 mg/kg	99.5	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	101	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	124	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	104	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	91.4	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	98.7	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	88.1	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 1038095)							
ES0910119-021	PC19_0.53-1.03	EG020-SD: Arsenic	7440-38-2	50 mg/kg	103	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	96.6	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	92.0	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	100	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	77.2	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	98.2	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	# Not Determined	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 1039204)							
ES0910119-041	DUP17	EG020-SD: Arsenic	7440-38-2	50 mg/kg	91.2	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	97.6	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	93.9	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	79.4	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	86.0	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	93.4	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	78.2	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1038092)							
ES0910119-001	PC20_0.0-0.17	EG035T: Mercury	7439-97-6	5 mg/kg	100	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1038094)							
ES0910119-021	PC19_0.53-1.03	EG035T: Mercury	7439-97-6	5 mg/kg	104	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1039203)							
ES0910119-041	DUP17	EG035T: Mercury	7439-97-6	5 mg/kg	101	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1039614)							
ES0910112-001	Anonymous	EK026G: Total Cyanide	57-12-5	50 mg/kg	112	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1037933)							
ES0910119-019	PC11_0.0-0.2	EP075(SIM): Phenol	108-95-2	10 mg/kg	82.5	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	81.9	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
EP075(SIM)A: Phenolic Compounds (QCLot: 1037933) - continued							
ES0910119-019	PC11_0.0-0.2	EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	79.7	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	83.5	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	47.7	20	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1038127)							
ES0910119-034	DUP16	EP075(SIM): Phenol	108-95-2	10 mg/kg	121	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	98.4	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	92.7	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	96.8	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	67.6	20	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1037909)							
ES0910119-002	PC29_0.0-0.45	EP080: C6 - C9 Fraction	----	26 mg/kg	91.4	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1037932)							
ES0910119-019	PC11_0.0-0.2	EP071: C10 - C14 Fraction	----	640 mg/kg	106	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	97.3	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	89.7	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1038126)							
ES0910119-045	PC55_0.0-0.3	EP071: C10 - C14 Fraction	----	640 mg/kg	110	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	117	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	110	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1038168)							
ES0910119-043	DUP08	EP080: C6 - C9 Fraction	----	26 mg/kg	93.8	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1038633)							
ES0910182-001	Anonymous	EP071: C10 - C14 Fraction	----	640 mg/kg	84.4	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	77.5	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	80.1	70	130
EP080: BTEX (QCLot: 1037909)							
ES0910119-002	PC29_0.0-0.45	EP080: Benzene	71-43-2	2.5 mg/kg	71.8	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	84.6	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	81.4	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	82.5	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	81.9	70	130
EP080: BTEX (QCLot: 1038168)							
ES0910119-043	DUP08	EP080: Benzene	71-43-2	2.5 mg/kg	74.4	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	72.8	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	74.7	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEX (QCLot: 1038168) - continued							
ES0910119-043	DUP08	EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	78.2	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	76.1	70	130
EP131A: Organochlorine Pesticides (QCLot: 1038649)							
ES0910119-008	PC27_0.5-0.9	EP131A: Aldrin	309-00-2	5 µg/kg	58.5	31.7	140
		EP131A: alpha-BHC	319-84-6	5 µg/kg	64.3	24.5	150
		EP131A: beta-BHC	319-85-7	5 µg/kg	70.8	36.9	139
		EP131A: delta-BHC	319-86-8	5 µg/kg	92.4	38.2	137
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	72.0	42.5	141
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	72.9	34.8	140
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	85.5	38	143
		EP131A: Dieldrin	60-57-1	5 µg/kg	60.2	43.2	134
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	39.3	23.7	139
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	63.4	35.8	138
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	66.2	7.45	158
		EP131A: Endrin	72-20-8	5 µg/kg	138	21.6	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	56.2	19.3	131
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	61.4	17.9	141
		EP131A: Heptachlor	76-44-8	5 µg/kg	122	31	153
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	67.7	34.3	138
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	62.5	18.6	146
		EP131A: gamma-BHC	58-89-9	5 µg/kg	66.8	30.7	145
		EP131A: Methoxychlor	72-43-5	5 µg/kg	91.3	15	157
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	62.6	22.3	145
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	50.2	42.4	139
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 1038650)							
ES0910119-008	PC27_0.5-0.9	EP131B: Aroclor 1254	11097-69-1	50 µg/kg	77.9	61.3	121
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1038009)							
EB0910858-001	Anonymous	EP132: 3-Methylcholanthrene	56-49-5	100 µg/kg	82.4	21	129
		EP132: 2-Methylnaphthalene	91-57-6	100 µg/kg	48.8	40	130
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	100 µg/kg	67.3	8	158
		EP132: Acenaphthene	83-32-9	100 µg/kg	64.7	38	127
		EP132: Acenaphthylene	208-96-8	100 µg/kg	35.7	35	122
		EP132: Anthracene	120-12-7	100 µg/kg	# 25.7	44	124
		EP132: Benz(a)anthracene	56-55-3	100 µg/kg	# Not Determined	48	124
		EP132: Benzo(a)pyrene	50-32-8	100 µg/kg	# Not Determined	44	123
		EP132: Benzo(b)fluoranthene	205-99-2	100 µg/kg	# Not Determined	43	129
		EP132: Benzo(e)pyrene	192-97-2	100 µg/kg	# 38.4	46	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: Spike Recovery (%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1038009) - continued							
EB0910858-001	Anonymous	EP132: Benzo(g.h.i)perylene	191-24-2	100 µg/kg	# Not Determined	43	129
		EP132: Benzo(k)fluoranthene	207-08-9	100 µg/kg	# 34.1	54	123
		EP132: Chrysene	218-01-9	100 µg/kg	# Not Determined	55	122
		EP132: Coronene	191-07-1	100 µg/kg	# Not Determined	33	134
		EP132: Dibenz(a.h)anthracene	53-70-3	100 µg/kg	46.1	46	129
		EP132: Fluoranthene	206-44-0	100 µg/kg	# Not Determined	52	125
		EP132: Fluorene	86-73-7	100 µg/kg	# 39.4	45	121
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	100 µg/kg	# 24.7	41	132
		EP132: N-2-Fluorenyl Acetamide	53-96-3	1000 µg/kg	99.4	28	152
		EP132: Naphthalene	91-20-3	100 µg/kg	# Not Determined	34	130
		EP132: Perylene	198-55-0	100 µg/kg	# 36.0	38	124
		EP132: Phenanthrene	85-01-8	100 µg/kg	# Not Determined	45	124
		EP132: Pyrene	129-00-0	100 µg/kg	# Not Determined	51	129
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1038144)							
ES0910119-042	PC25_0.0-0.35	EP132: 3-Methylcholanthrene	56-49-5	100 µg/kg	65.9	21	129
		EP132: 2-Methylnaphthalene	91-57-6	100 µg/kg	# Not Determined	40	130
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	100 µg/kg	61.6	8	158
		EP132: Acenaphthene	83-32-9	100 µg/kg	45.0	38	127
		EP132: Acenaphthylene	208-96-8	100 µg/kg	# Not Determined	35	122
		EP132: Anthracene	120-12-7	100 µg/kg	# Not Determined	44	124
		EP132: Benz(a)anthracene	56-55-3	100 µg/kg	# Not Determined	48	124
		EP132: Benzo(a)pyrene	50-32-8	100 µg/kg	# Not Determined	44	123
		EP132: Benzo(b)fluoranthene	205-99-2	100 µg/kg	# Not Determined	43	129
		EP132: Benzo(e)pyrene	192-97-2	100 µg/kg	# Not Determined	46	130
		EP132: Benzo(g.h.i)perylene	191-24-2	100 µg/kg	# Not Determined	43	129
		EP132: Benzo(k)fluoranthene	207-08-9	100 µg/kg	# Not Determined	54	123
		EP132: Chrysene	218-01-9	100 µg/kg	# Not Determined	55	122
		EP132: Coronene	191-07-1	100 µg/kg	# Not Determined	33	134
		EP132: Dibenz(a.h)anthracene	53-70-3	100 µg/kg	# 41.9	46	129
		EP132: Fluoranthene	206-44-0	100 µg/kg	# Not Determined	52	125
		EP132: Fluorene	86-73-7	100 µg/kg	# Not Determined	45	121
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	100 µg/kg	# 2.4	41	132
		EP132: N-2-Fluorenyl Acetamide	53-96-3	1000 µg/kg	79.5	28	152
		EP132: Naphthalene	91-20-3	100 µg/kg	# Not Determined	34	130
		EP132: Perylene	198-55-0	100 µg/kg	# 27.7	38	124
		EP132: Phenanthrene	85-01-8	100 µg/kg	# Not Determined	45	124
		EP132: Pyrene	129-00-0	100 µg/kg	# Not Determined	51	129

Sub-Matrix: **WATER**

Matrix Spike (MS) Report

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: Spike Recovery (%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1038053)							
ES0910121-007	Anonymous	EP132: 3-Methylcholanthrene	56-49-5	2 µg/L	101	59	115
		EP132: 2-Methylnaphthalene	91-57-6	2 µg/L	# 133	46	120
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	2 µg/L	102	21	135
		EP132: Acenaphthene	83-32-9	2 µg/L	101	62	114
		EP132: Acenaphthylene	208-96-8	2 µg/L	105	61	119
		EP132: Anthracene	120-12-7	2 µg/L	102	68	116
		EP132: Benz(a)anthracene	56-55-3	2 µg/L	106	67	122
		EP132: Benzo(a)pyrene	50-32-8	2 µg/L	105	72	114
		EP132: Benzo(b)fluoranthene	205-99-2	2 µg/L	109	69	119
		EP132: Benzo(e)pyrene	192-97-2	2 µg/L	103	71	119
		EP132: Benzo(g.h.i)perylene	191-24-2	2 µg/L	77.1	49	133
		EP132: Benzo(k)fluoranthene	207-08-9	2 µg/L	104	71	124
		EP132: Chrysene	218-01-9	2 µg/L	103	70	118
		EP132: Coronene	191-07-1	2 µg/L	59.1	29	138
		EP132: Dibenz(a.h)anthracene	53-70-3	2 µg/L	87.8	60	122
		EP132: Fluoranthene	206-44-0	2 µg/L	103	65	121
		EP132: Fluorene	86-73-7	2 µg/L	102	63	118
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	2 µg/L	85.6	57	123
		EP132: N-2-Fluorenyl Acetamide	53-96-3	20 µg/L	104	29	212
		EP132: Naphthalene	91-20-3	2 µg/L	100	53	115
		EP132: Perylene	198-55-0	2 µg/L	103	71	118
		EP132: Phenanthrene	85-01-8	2 µg/L	102	67	120
		EP132: Pyrene	129-00-0	2 µg/L	102	70	117

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES0910119**	Page	: 1 of 17
Client	: ENSR AUSTRALIA PTY LIMITED	Laboratory	: Environmental Division Sydney
Contact	: MR CHRISTIANN DONNETTI	Contact	: Charlie Pierce
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Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S3017805 - Port Kembla Outer Harbour	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 10-JUL-2009
Sampler	: RC	Issue Date	: 22-JUL-2009
Order number	: ----		
		No. of samples received	: 62
Quote number	: SY/330/09 V3	No. of samples analysed	: 62

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 / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content								
Soil Glass Jar - Unpreserved								
PC20_0.0-0.17,	PC29_0.0-0.45,	**08-JUL-2009**	**----**	----	----	**14-JUL-2009**	15-JUL-2009	✓
PC29_0.45-0.83,	PC28_0.0-0.4,							
PC28_0.4-0.9,	PC28_0.9-1.4,							
PC27_0.0-0.5,	PC27_0.5-0.9,							
DUP06,	PC26_0.0-0.5,							
PC26_0.5-0.9,	PC8_0.0-0.35,							
PC8_0.35-0.7,	PC8_0.7-1.2,							
PC9_0.0-0.4,	PC9_0.4-0.8,							
PC9_0.8-1.12,	PC10_0.0-0.25,							
PC11_0.0-0.2,	PC19_0.0-0.53,							
PC19_0.53-1.03,	PC15_0.0-0.5,							
PC15_0.5-1.0,	PC14_0.0-0.36,							
PC34_0.0-0.27,	PC35_0.0-0.35,							
PC35_0.35-0.59,	PC39_0.0-0.4,							
PC39_0.4-0.87								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)				Sample Date	Extraction / Preparation			Analysis		
					Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content - Continued										
Soil Glass Jar - Unpreserved										
PC13_0.0-0.06,	PC12_0.0-0.4,			**09-JUL-2009**	**----**	----	----	**14-JUL-2009**	16-JUL-2009	✓
PC12_0.4-0.76,	DUP09,									
PC36_0.0-0.16,	PC36_0.16-0.5,									
PC37_0.0-0.37,	PC38_0.0-0.4,									
PC38_0.4-0.8,	PC38_0.8-1.23,									
DUP16,	PC40_0.0-0.5,									
PC40_0.5-1.0,	PC40_1.0-1.47,									
PC41_0.0-0.5,	PC41_0.5-1.0,									
PC41_1.0-1.55,	DUP17,									
DUP08,										
DUP13,	PC25_0.0-0.35,	PC24_0.0-0.23,	PC55_0.0-0.3,							
PC55_0.3-0.63,	PC45_0.0-0.5,									
PC45_0.5-1.03,	PC42_0.0-0.5,									
PC42_0.5-0.88,	PC43_0.0-0.35,									
PC43_0.35-0.7,	PC43_0.7-1.05									

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020-SD: Total Metals in Sediments by ICPMS								
Soil Glass Jar - Unpreserved								
PC20_0.0-0.17,	PC29_0.0-0.45,	**08-JUL-2009**	**13-JUL-2009**	05-AUG-2009	✓	**14-JUL-2009**	04-JAN-2010	✓
PC29_0.45-0.83,	PC28_0.0-0.4,							
PC28_0.4-0.9,	PC28_0.9-1.4,							
PC27_0.0-0.5,	PC27_0.5-0.9,							
DUP06,	PC26_0.0-0.5,							
PC26_0.5-0.9,	PC8_0.0-0.35,							
PC8_0.35-0.7,	PC8_0.7-1.2,							
PC9_0.0-0.4,	PC9_0.4-0.8,							
PC9_0.8-1.12,	PC10_0.0-0.25,							
PC11_0.0-0.2,	PC19_0.0-0.53,							
PC19_0.53-1.03,	PC15_0.0-0.5,							
PC15_0.5-1.0								
Soil Glass Jar - Unpreserved								
PC14_0.0-0.36,	PC34_0.0-0.27,	**08-JUL-2009**	**14-JUL-2009**	05-AUG-2009	✓	**15-JUL-2009**	04-JAN-2010	✓
PC35_0.0-0.35,	PC35_0.35-0.59,							
PC39_0.0-0.4,	PC39_0.4-0.87							
Soil Glass Jar - Unpreserved								
PC13_0.0-0.06,	PC12_0.0-0.4,	**09-JUL-2009**	**13-JUL-2009**	06-AUG-2009	✓	**14-JUL-2009**	05-JAN-2010	✓
PC12_0.4-0.76,	DUP09,							
PC36_0.0-0.16,	PC36_0.16-0.5,							
PC37_0.0-0.37,	PC38_0.0-0.4,							
PC38_0.4-0.8,	PC38_0.8-1.23,							
DUP16,	PC40_0.0-0.5,							
PC40_0.5-1.0,	PC40_1.0-1.47,							
PC41_0.0-0.5,	PC41_0.5-1.0,							
PC41_1.0-1.55								
Soil Glass Jar - Unpreserved								
DUP17,	PC25_0.0-0.35,	**09-JUL-2009**	**14-JUL-2009**	06-AUG-2009	✓	**15-JUL-2009**	05-JAN-2010	✓
DUP08,	PC24_0.0-0.23,							
PC55_0.0-0.3,	PC55_0.3-0.63,							
PC45_0.0-0.5,	PC45_0.5-1.03,							
PC42_0.0-0.5,	PC42_0.5-0.88,							
PC43_0.0-0.35,	PC43_0.35-0.7,							
PC43_0.7-1.05,	DUP13							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved								
PC20_0.0-0.17,	PC29_0.0-0.45,	**08-JUL-2009**	**13-JUL-2009**	05-AUG-2009	✓	**14-JUL-2009**	05-AUG-2009	✓
PC29_0.45-0.83,	PC28_0.0-0.4,							
PC28_0.4-0.9,	PC28_0.9-1.4,							
PC27_0.0-0.5,	PC27_0.5-0.9,							
DUP06,	PC26_0.0-0.5,							
PC26_0.5-0.9,	PC8_0.0-0.35,							
PC8_0.35-0.7,	PC8_0.7-1.2,							
PC9_0.0-0.4,	PC9_0.4-0.8,							
PC9_0.8-1.12,	PC10_0.0-0.25,							
PC11_0.0-0.2,	PC19_0.0-0.53,							
PC19_0.53-1.03,	PC15_0.0-0.5,							
PC15_0.5-1.0								
Soil Glass Jar - Unpreserved								
PC14_0.0-0.36,	PC34_0.0-0.27,	**08-JUL-2009**	**14-JUL-2009**	05-AUG-2009	✓	**15-JUL-2009**	05-AUG-2009	✓
PC35_0.0-0.35,	PC35_0.35-0.59,							
PC39_0.0-0.4,	PC39_0.4-0.87							
Soil Glass Jar - Unpreserved								
PC13_0.0-0.06,	PC12_0.0-0.4,	**09-JUL-2009**	**13-JUL-2009**	06-AUG-2009	✓	**14-JUL-2009**	06-AUG-2009	✓
PC12_0.4-0.76,	DUP09,							
PC36_0.0-0.16,	PC36_0.16-0.5,							
PC37_0.0-0.37,	PC38_0.0-0.4,							
PC38_0.4-0.8,	PC38_0.8-1.23,							
DUP16,	PC40_0.0-0.5,							
PC40_0.5-1.0,	PC40_1.0-1.47,							
PC41_0.0-0.5,	PC41_0.5-1.0,							
PC41_1.0-1.55								
Soil Glass Jar - Unpreserved								
DUP17,	PC25_0.0-0.35,	**09-JUL-2009**	**14-JUL-2009**	06-AUG-2009	✓	**15-JUL-2009**	06-AUG-2009	✓
DUP08,	PC24_0.0-0.23,							
PC55_0.0-0.3,	PC55_0.3-0.63,							
PC45_0.0-0.5,	PC45_0.5-1.03,							
PC42_0.0-0.5,	PC42_0.5-0.88,							
PC43_0.0-0.35,	PC43_0.35-0.7,							
PC43_0.7-1.05,	DUP13							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK026G: Total Cyanide By Discrete Analyser								
Soil Glass Jar - Unpreserved								
PC9_0.0-0.4		**08-JUL-2009**	**14-JUL-2009**	15-JUL-2009	✓	**16-JUL-2009**	28-JUL-2009	✓
Soil Glass Jar - Unpreserved								
DUP09,	PC37_0.0-0.37,	**09-JUL-2009**	**14-JUL-2009**	16-JUL-2009	✓	**16-JUL-2009**	28-JUL-2009	✓
PC40_0.5-1.0,	PC25_0.0-0.35,							
DUP08,	PC55_0.3-0.63,							
PC45_0.5-1.03,	PC42_0.0-0.5							
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved								
PC34_0.0-0.27		**08-JUL-2009**	**14-JUL-2009**	22-JUL-2009	✓	**14-JUL-2009**	23-AUG-2009	✓
Soil Glass Jar - Unpreserved								
PC27_0.5-0.9,	PC8_0.7-1.2,	**08-JUL-2009**	**15-JUL-2009**	22-JUL-2009	✓	**15-JUL-2009**	24-AUG-2009	✓
PC11_0.0-0.2								
Soil Glass Jar - Unpreserved								
DUP16,	PC40_0.0-0.5,	**09-JUL-2009**	**14-JUL-2009**	23-JUL-2009	✓	**14-JUL-2009**	23-AUG-2009	✓
PC55_0.0-0.3,	PC43_0.35-0.7,							
DUP13								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved								
PC29_0.0-0.45,	PC28_0.4-0.9,	**08-JUL-2009**	**13-JUL-2009**	22-JUL-2009	✓	**14-JUL-2009**	22-JUL-2009	✓
PC27_0.0-0.5,	DUP06,							
PC26_0.5-0.9,	PC8_0.35-0.7,							
PC9_0.0-0.4,	PC9_0.8-1.12,							
PC11_0.0-0.2,	PC19_0.0-0.53,							
PC15_0.0-0.5,	PC35_0.0-0.35,							
PC39_0.0-0.4								
Soil Glass Jar - Unpreserved								
PC35_0.0-0.35,	PC39_0.0-0.4	**08-JUL-2009**	**14-JUL-2009**	22-JUL-2009	✓	**14-JUL-2009**	23-AUG-2009	✓
Soil Glass Jar - Unpreserved								
PC29_0.0-0.45,	PC28_0.4-0.9,	**08-JUL-2009**	**15-JUL-2009**	22-JUL-2009	✓	**15-JUL-2009**	24-AUG-2009	✓
PC27_0.0-0.5,	DUP06,							
PC26_0.5-0.9,	PC8_0.35-0.7,							
PC9_0.0-0.4,	PC9_0.8-1.12,							
PC11_0.0-0.2,	PC19_0.0-0.53,							
PC15_0.0-0.5								
Soil Glass Jar - Unpreserved								
PC13_0.0-0.06,	PC12_0.4-0.76,	**09-JUL-2009**	**13-JUL-2009**	23-JUL-2009	✓	**14-JUL-2009**	23-JUL-2009	✓
PC36_0.16-0.5,	PC37_0.0-0.37,							
PC38_0.4-0.8,	PC40_0.5-1.0,							
PC41_0.0-0.5,	PC41_1.0-1.55,							
PC25_0.0-0.35,	DUP08,							
PC55_0.0-0.3,	PC45_0.0-0.5,							
PC42_0.0-0.5,	PC43_0.0-0.35,							
PC43_0.7-1.05								
Soil Glass Jar - Unpreserved								
PC12_0.4-0.76,	PC36_0.16-0.5,	**09-JUL-2009**	**14-JUL-2009**	23-JUL-2009	✓	**14-JUL-2009**	23-AUG-2009	✓
PC37_0.0-0.37,	PC38_0.4-0.8,							
PC40_0.5-1.0,	PC41_0.0-0.5,							
PC41_1.0-1.55,	PC25_0.0-0.35,							
DUP08,	PC55_0.0-0.3,							
PC45_0.0-0.5,	PC42_0.0-0.5,							
PC43_0.0-0.35,	PC43_0.7-1.05							
Soil Glass Jar - Unpreserved								
PC13_0.0-0.06		**09-JUL-2009**	**15-JUL-2009**	23-JUL-2009	✓	**15-JUL-2009**	24-AUG-2009	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEX							
Soil Glass Jar - Unpreserved PC29_0.0-0.45, PC28_0.4-0.9, PC27_0.0-0.5, DUP06, PC26_0.5-0.9, PC8_0.35-0.7, PC9_0.0-0.4, PC9_0.8-1.12, PC11_0.0-0.2, PC19_0.0-0.53, PC15_0.0-0.5, PC35_0.0-0.35, PC39_0.0-0.4	**08-JUL-2009**	**13-JUL-2009**	22-JUL-2009	✓	**14-JUL-2009**	22-JUL-2009	✓
Soil Glass Jar - Unpreserved PC13_0.0-0.06, PC12_0.4-0.76, PC36_0.16-0.5, PC37_0.0-0.37, PC38_0.4-0.8, PC40_0.5-1.0, PC41_0.0-0.5, PC41_1.0-1.55, PC25_0.0-0.35, DUP08, PC55_0.0-0.3, PC45_0.0-0.5, PC42_0.0-0.5, PC43_0.0-0.35, PC43_0.7-1.05	**09-JUL-2009**	**13-JUL-2009**	23-JUL-2009	✓	**14-JUL-2009**	23-JUL-2009	✓
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved PC27_0.5-0.9, PC8_0.7-1.2, PC11_0.0-0.2, PC34_0.0-0.27	**08-JUL-2009**	**14-JUL-2009**	22-JUL-2009	✓	**21-JUL-2009**	23-AUG-2009	✓
Soil Glass Jar - Unpreserved DUP16, PC40_0.0-0.5, PC55_0.0-0.3, PC43_0.35-0.7, DUP13	**09-JUL-2009**	**14-JUL-2009**	23-JUL-2009	✓	**21-JUL-2009**	23-AUG-2009	✓
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved PC27_0.5-0.9, PC8_0.7-1.2, PC11_0.0-0.2, PC34_0.0-0.27	**08-JUL-2009**	**14-JUL-2009**	22-JUL-2009	✓	**21-JUL-2009**	23-AUG-2009	✓
Soil Glass Jar - Unpreserved DUP16, PC40_0.0-0.5, PC55_0.0-0.3, PC43_0.35-0.7, DUP13	**09-JUL-2009**	**14-JUL-2009**	23-JUL-2009	✓	**21-JUL-2009**	23-AUG-2009	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP132B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved								
PC29_0.0-0.45,	PC28_0.4-0.9,	**08-JUL-2009**	**15-JUL-2009**	22-JUL-2009	✓	**15-JUL-2009**	24-AUG-2009	✓
PC27_0.0-0.5,	DUP06,							
PC26_0.5-0.9,	PC8_0.35-0.7,							
PC9_0.0-0.4,	PC9_0.8-1.12,							
PC11_0.0-0.2,	PC19_0.0-0.53,							
PC15_0.0-0.5,	PC35_0.0-0.35,							
PC39_0.0-0.4								
Soil Glass Jar - Unpreserved								
PC13_0.0-0.06,	PC12_0.4-0.76,	**09-JUL-2009**	**15-JUL-2009**	23-JUL-2009	✓	**15-JUL-2009**	24-AUG-2009	✓
PC36_0.16-0.5,	PC37_0.0-0.37,							
PC38_0.4-0.8,	PC40_0.5-1.0,							
PC41_0.0-0.5,	PC41_1.0-1.55,							
PC25_0.0-0.35,	DUP08,							
PC55_0.0-0.3,	PC45_0.0-0.5,							
PC42_0.0-0.5,	PC43_0.0-0.35,							
PC43_0.7-1.05								

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP132B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved								
RB03,	RB04	**08-JUL-2009**	**13-JUL-2009**	15-JUL-2009	✓	**14-JUL-2009**	22-AUG-2009	✓

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	10	89	**11.2**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	3	29	**10.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	2	16	**12.5**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	6	60	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	6	60	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	6	53	**11.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	4	40	**10.0**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Organochlorine Pesticides (Ultra-trace)	EP131A	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	15	**13.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	2	29	**6.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	3	60	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	3	60	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	3	53	**5.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	40	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Organochlorine Pesticides (Ultra-trace)	EP131A	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	15	**13.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	2	29	**6.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Cyanide By Discrete Analyser	EK026G	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	3	60	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	3	60	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	3	53	**5.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	40	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Organochlorine Pesticides (Ultra-trace)	EP131A	1	15	**6.7**	**5.0**	✓	ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	15	**13.3**	**5.0**	✓	ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	15	**6.7**	**5.0**	✓	ALS QCS3 requirement
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	2	29	**6.9**	**5.0**	✓	ALS QCS3 requirement

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*	
Matrix Spikes (MS) - Continued							
Total Cyanide By Discrete Analyser	EK026G	1	16	**6.3**	**5.0**	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	3	60	**5.0**	**5.0**	✓	ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	3	60	**5.0**	**5.0**	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	3	53	**5.7**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	40	**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)							
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	13	**7.7**	**10.0**	×	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	13	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	13	**7.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	13	**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
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 (1999) Schedule B(3) (Method 102)
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(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 SnCl2 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)
Total Cyanide By Discrete Analyser	EK026G	SOIL	APHA 21st 4500 CN - C & N. Caustic leach extracts of the sample are distilled with sulphuric acid, converting all CN species to HCN. The distillates are analyzed for CN by Discrete Analyser. This method is compliant with NEPM (1999) Schedule B(3) (Method 403)
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)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (1999) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (1999) Schedule B(3) (Method 504)
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	SOIL	8270 GCMS Capiliary column, SIM mode.
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	WATER	USEPA 3640 (GPC Cleanup), 8270 GCMS Capiliary column, SIM mode. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for TCN in Soils	EK026PR	SOIL	APHA 21st ed., 4500 CN- C & N. Samples are extracted by end-over-end tumbling with NaOH.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)

Preparation Methods	Method	Matrix	Method Descriptions
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/ Acetylation	ORG17A-AC	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to 1 mL with exchange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.
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.
Sep. Funnel Extraction /Acetylation of Phenolic Compounds	ORG14-AC	WATER	USEPA 3510 (Extraction)/ In-house (Acetylation): A 1L sample is extracted into dichloromethane and concentrated to 1 mL with echange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace 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							
EG020-SD: Total Metals in Sediments by ICPMS	ES0910119-021	PC19_0.53-1.03	**Cadmium**	7440-43-9	23.1 %	0-20%	**RPD exceeds LOR based limits**
EG020-SD: Total Metals in Sediments by ICPMS	ES0910119-021	PC19_0.53-1.03	**Chromium**	7440-47-3	34.4 %	0-20%	**RPD exceeds LOR based limits**
EG020-SD: Total Metals in Sediments by ICPMS	ES0910119-011	PC26_0.5-0.9	**Chromium**	7440-47-3	25.3 %	0-20%	**RPD exceeds LOR based limits**
EG020-SD: Total Metals in Sediments by ICPMS	ES0910119-021	PC19_0.53-1.03	**Lead**	7439-92-1	23.2 %	0-20%	**RPD exceeds LOR based limits**
EG020-SD: Total Metals in Sediments by ICPMS	ES0910119-021	PC19_0.53-1.03	**Zinc**	7440-66-6	25.3 %	0-20%	**RPD exceeds LOR based limits**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**2-Methylnaphthalene**	91-57-6	34.1 %	0-20%	**RPD exceeds LOR based limits**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Acenaphthylene**	208-96-8	25.3 %	0-20%	**RPD exceeds LOR based limits**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Anthracene**	120-12-7	20.2 %	0-20%	**RPD exceeds LOR based limits**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Benzo(g.h.i)perylene**	191-24-2	20.5 %	0-20%	**RPD exceeds LOR based limits**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Benzo(k)fluoranthene**	207-08-9	25.7 %	0-20%	**RPD exceeds LOR based limits**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Chrysene**	218-01-9	20.5 %	0-20%	**RPD exceeds LOR based limits**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Coronene**	191-07-1	27.3 %	0-20%	**RPD exceeds LOR based limits**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Coronene**	191-07-1	20.7 %	0-20%	**RPD exceeds LOR based limits**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Fluorene**	86-73-7	20.1 %	0-20%	**RPD exceeds LOR based limits**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Naphthalene**	91-20-3	23.6 %	0-20%	**RPD exceeds LOR based limits**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Phenanthrene**	85-01-8	21.7 %	0-20%	**RPD exceeds LOR based limits**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Phenanthrene**	85-01-8	29.6 %	0-20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EG020-SD: Total Metals in Sediments by ICPMS	ES0910119-021	PC19_0.53-1.03	**Zinc**	7440-66-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**2-Methylnaphthalene**	91-57-6	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Acenaphthylene**	208-96-8	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Anthracene**	120-12-7	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Anthracene**	120-12-7	25.7 %	44-124%	**Recovery less than lower data quality objective**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Benz(a)anthracene**	56-55-3	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Benz(a)anthracene**	56-55-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Benzo(a)pyrene**	50-32-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Benzo(a)pyrene**	50-32-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Benzo(b)fluoranthene**	205-99-2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Benzo(b)fluoranthene**	205-99-2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Benzo(e)pyrene**	192-97-2	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Benzo(e)pyrene**	192-97-2	38.4 %	46-130%	**Recovery less than lower data quality objective**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Benzo(g.h.i)perylene**	191-24-2	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Benzo(g.h.i)perylene**	191-24-2	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Benzo(k)fluoranthene**	207-08-9	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Benzo(k)fluoranthene**	207-08-9	34.1 %	54-123%	**Recovery less than lower data quality objective**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Chrysene**	218-01-9	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Chrysene**	218-01-9	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Coronene**	191-07-1	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Coronene**	191-07-1	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Dibenz(a.h)anthracene**	53-70-3	41.9 %	46-129%	**Recovery less than lower data quality objective**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Fluoranthene**	206-44-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries - Continued							
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Fluoranthene**	206-44-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Fluorene**	86-73-7	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Fluorene**	86-73-7	39.4 %	45-121%	**Recovery less than lower data quality objective**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Indeno(1.2.3.cd)pyrene**	193-39-5	24.7 %	41-132%	**Recovery less than lower data quality objective**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Indeno(1.2.3.cd)pyrene**	193-39-5	2.4 %	41-132%	**Recovery less than lower data quality objective**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Naphthalene**	91-20-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Naphthalene**	91-20-3	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Perylene**	198-55-0	27.7 %	38-124%	**Recovery less than lower data quality objective**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Perylene**	198-55-0	36.0 %	38-124%	**Recovery less than lower data quality objective**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Phenanthrene**	85-01-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**Phenanthrene**	85-01-8	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910119-042	PC25_0.0-0.35	**Pyrene**	129-00-0	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP132B: Polynuclear Aromatic Hydrocarbons	EB0910858-001	Anonymous	**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
Laboratory Control Spike (LCS) Recoveries							
EP132B: Polynuclear Aromatic Hydrocarbons	1192258-002	----	**2-Methylnaphthalene**	91-57-6	119 %	67.7-112%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
EP132B: Polynuclear Aromatic Hydrocarbons	ES0910121-007	Anonymous	**2-Methylnaphthalene**	91-57-6	133 %	46-120%	**Recovery greater than upper data quality objective**

- **For all matrices, no Method Blank value 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.

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	1	13	7.7	10.0	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

SYDNEY W/O

1 of 6

Chain of Custody

AECOM

AECOM - Sydney
Level 5, 828 Pacific Highway
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
E-mail:

Laboratory Details
Lab. Name:
Lab. Address:
Contact Name:
Lab. Ref:
Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY330809 v2

Sampled By: Richard Cole
AECOM Project No: S3017805
Project Name: Port Kembla Outer Harbour
PO No.

Specifications:

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	
6. Shell Quality Partnership:	
7. Report Format: ☐ Fax ☐ Hardcopy ☑ Email : christiaan.donnelli@aecom.com, richard.cole@aecom.com	

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	Metals M13 (sea quote)	TOC	PAH (Ultra trace)	BTEX / TPH	SPOCAS	Elutrace Metals	Elutrace PAH	Coarse	TBT	Phenols	OCP (ST)	Total PCBs (ST)	Other
1	PC20_0.0-0.17	8.7.09	X							1 x small 3 x large 1 x Bag	✓	✓			✓	✓	✓		✓				CONTRACT WORK
2	PC29_0.0-0.45		X							3 x large 1 x small 1 x Bag	✓	✓	✓	✓	✓	✓	✓		✓				WO: ES0910119
3	PC29_0.45-0.83		X							1 x large	✓												LAB:
4	PC28_0.0-0.4		X							2 x soil jars	✓	✓							✓				DATE: 10/7/09
5	PC28_0.4-0.9		X							2 x soil jars	✓	✓	✓	✓									SPLIT: TBT/Hg: ES0910122
6	PC28_0.9-1.4		X							4x soil jars 1 bag	✓	✓			✓	✓	✓						Elut Metals: ES0910121
7	PC27_0.0-0.5		X							2 x soil jars	✓	✓	✓	✓					✓				SPOCAS: ES0910124
8	PC27_0.5-0.9		X							4x soil jars 1 bag	✓	✓			✓	✓	✓			✓	✓	✓	
9	DUP06		X								✓	✓	✓	✓					✓				
10	PC26_0.0-0.5		X							4x soil jars 1 bag	✓	✓			✓	✓	✓		✓				
11	PC26_0.5-0.87		X							2 x soil jars	✓	✓	✓	✓									
12	PC8_0.0-0.35	↓	X							2 x soil jars	✓								✓				

Environmental Division
Sydney
Work Order
ES0910119
Telephone : +61-2-8784 8555

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg

Comments:

Lab Report No. | Esky ID

Relinquished by: Richard Cole — Signed: — Date: 10/7/09
Recieved by: Frank — Signed: — Date: 10/7/09 11am

Relinquished by: — Signed: — Date:
Recieved by: — Signed: — Date:

Chain of Custody

2 of 6

AECOM

AECOM - Sydney
Level 5, 828 Pacific Highway
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
E-mail:

Laboratory Details
Lab. Name: ALS - Sydney
Lab. Address:
Contact Name:
Lab. Ref:
Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: S4330 09 v2

Sampled By: Richard Cole
AECOM Project No: S3017805
Project Name: Port Kembla Outer Harbour PO No.

Specifications:

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	
6. Shell Quality Partnership:	
7. Report Format: ☐ Fax ☐ Hardcopy ☑ Email: christiaan.donnetti@aecom.com; richard.cole@aecom.com	

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	Metals M13 (sea gel)	TOC	PAH (ultra trace)	BTEX / TPH	SPOCAS	Elutriate Metals	Elutriate PAH	Cyanide	VTRT	Phenols	OCP (5)	Total PCBs (5)	Other
13	PC8_0.35-0.7	8.7.09	X					X		4x soil jars 1 bag	✓	✓	✓	✓	✓	✓	✓						
14	PC8_0.7-1.2		X					X		1x soil jar	✓									✓	✓	✓	
15	PC9_0.0-0.4		X					X		3x soil jars	✓	✓	✓	✓				✓	✓				
16	PC9_0.4-0.8		X					X		2x soil jars	✓												
17	PC9_0.8-1.12		X					X		4x soil jars 1 bag	✓	✓	✓	✓	✓	✓	✓						
	~~PC9~~ E2		X					X		1x soil jar	QC FOR ELUTRIATE TEST PC9_0.8-1.12												
18	PC10_0.0-0.25		X					X		2x soil jars	✓	✓							✓				
19	PC11_0.0-0.2		X					X		4x soil jars	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	
20	PC19_0.0-0.53		X					X		2x soil jars	✓	✓	✓	✓					✓				
21	PC19_0.53-1.03		X					X		1x soil jars	✓												
22	PC15_0.0-0.5		X					X		1x large 1x small	✓	✓	✓	✓					✓				
23	PC15_0.5-1.0	↓	X					X		3x large 1x small 1x Pag	✓	✓			✓	✓	✓						

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg

Comments:

Lab Report No.
Esky ID

Relinquished by: Richard Cole — Signed: — Date: 10/9/09
Recieved by: Frank — Signed: — Date: 11/7/09 16:0

Relinquished by: — Signed: — Date:
Recieved by: — Signed: — Date:

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Revision: Jun 08

Chain of Custody

3 of 6

AECOM

AECOM - Sydney
Level 5, 828 Pacific Highway
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
E-mail:

Laboratory Details
Lab. Name: ALS - Sydney
Lab. Address:
Contact Name:
Lab. Ref:
Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY330 004 v2

Sampled By: Richard Cole
AECOM Project No: S3017805
Project Name: Port Kembla Outer Harbour
PO No.

Specifications:

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	
6. Shell Quality Partnership:	
7. Report Format: ☐ Fax ☐ Hardcopy ☑ Email: christiaan.donnetti@aecom.com, richard.cole@aecom.com	

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	Metals M13 (Soil grade)	TOC	PAH (ultra trace)	BTEX/TPH	SPOCAS	Elutriate Metals	Elutriate PAH	Cyanide	TRT	Phenols (5)	OCP (5)	Total PCBs (5)	Other
24	PC13_0.0-0.06	9.7.09	X					X		2x soil jars	✓	✓	✓	✓					✓				
25	PC12_0.0-0.4		X					X		2x soil jars	✓								✓				
26	PC12_0.4-0.76		X					X		4x soil jars 1 bag	✓	✓	✓	✓	✓	✓	✓						
27	DUP09		X					X		2x soil jars	✓							✓					
28	PC36_0.0-0.16		X					X		1x soil jar	✓								✓				
29	PC36_0.16-0.5		X					X		4x soil jars 1 bag	✓	✓	✓	✓	✓	✓	✓						
30	PC37_0.0-0.37		X					X			✓	✓	✓	✓				✓	✓				
31	PC38_0.0-0.4		X					X		4x soil jars 1 bag	✓	✓			✓	✓	✓		✓				
32	PC38_0.4-0.8		X					X		2x soil jars	✓	✓	✓	✓									
33	PC38_0.8-1.23		X					X		4x soil jars 1 bag	✓												
34	DUP16		X					X			✓									✓	✓	✓	
35	PC40_0.0-0.5	↓	X					X			✓								✓	✓	✓	✓	

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg

Comments: *Elutriate Metals (Dredging guideline LOR)

Lab Report No.
Esky ID

Relinquished by: Richard Cole Signed: Date: 10/7/09
Recieved by: Frank Signed: Date: 10/7/09 11:40

Relinquished by: Signed: Date:
Recieved by: Signed: Date:

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Chain of Custody

4 of 6

AECOM

AECOM - Sydney
Level 5, 828 Pacific Highway
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
E-mail:

Laboratory Details
Lab. Name: ALS - Sydney
Lab. Address:
Contact Name:
Lab. Ref:
Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY33009 v2

Sampled By: Richard Cole
AECOM Project No: S3017805
Project Name: Port Kembla Outer Harbour PO No.

Specifications:

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	
6. Shell Quality Partnership:	
7. Report Format: ☐ Fax ☐ Hardcopy ☑ Email: christiaan.donnetti@aecom.com, richard.cole@aecom.com	

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	Metals M13 (29 ppm)	TOC	PAH (calibrate)	BTEX TPH	SPOCAS	Elutriate Metals	Elutriate PAH	Cyanide	TBT	Phenols	OCP (5)	Total PCBs (5)	Other
36	PC40-0.5-1.0	9.7.09	X					X		3 x soil jars	✓	✓	✓	✓				✓					
37	PC40-1.0-1.47		X					X			✓	✓			✓	✓	✓						
38	PC41_0.0-0.5		X					X		4x soil jars 1 bag	✓	✓	✓	✓	✓	✓	✓		✓				
39	PC41-0.5-1.0		X					X		2 x soil jars	✓												
40	PC41-1.0-1.55		X					X		2 x soil jars	✓	✓	✓	✓									
41	DUP17		X					X			✓												
42	PC25-0.0-0.35		X					X		2x soil jars	✓	✓	✓	✓				✓	✓				
43	DUP08		X					X			✓	✓	✓	✓				✓	✓				
44	PC24-0.0-0.23		X					X		2 x soil jars	✓								✓				
45	PC55_0.0-0.3		X					X		2 x soil jars	✓	✓	✓	✓				✓	✓	✓	✓	✓	
46	PC55-0.3-0.63		X					X		4 x soil jars 1 bag	✓	✓			✓	✓	✓	✓					
47	PC45_0.0-0.5	↓	X					X		2 x soil jars	✓	✓	✓	✓					✓				

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg

Comments:

Lab Report No.

Esky ID

Relinquished by: Richard Cole — Signed: — Date: 10/7/09

Recieved by: Frank — Signed: — Date: 10/7/09 11am

Relinquished by: — Signed: — Date:

Recieved by: — Signed: — Date:

Chain of Custody

5 of 6

AECOM

AECOM - Sydney
Level 5, 828 Pacific Highway
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
E-mail:

Laboratory Details
Lab. Name: ALS - Sydney
Lab. Address:
Contact Name:
Lab. Ref:
Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: SY330 09 R2

Sampled By: Richard Cole
AECOM Project No: S3017805
Project Name: Port Kembla Outer Harbour PO No.

Specifications:

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	
6. Shell Quality Partnership:	
7. Report Format: ☐ Fax ☐ Hardcopy ☑ Email: christiaan.donnetti@aecom.com, richard.cole@aecom.com	

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	Analysis Request: Metals M13 (8260 8270)	TOC	PAH (ultra trace)	BTEX TPH	SPOCAS	Elutriate Metals	Elutriate PAH	Cyanide	TBT	Phenols (5)	OCP (5)	Total PCBs (5)	Other
48	PC45_0.5-1.03	9.7.09	X					X		4x soil jars 1 bag	✓	✓			✓	✓	✓	✓					
49	PC42_0.0-0.5		X					X		4x soil jars 1 bag	✓								✓				
50	PC42_0.5-0.88		X					X		2x soil jars	✓	✓	✓	✓	✓	✓	✓	✓					
51	PC43_0.0-0.35		X					X		2x soil jars	✓	✓	✓	✓					✓				
52	PC43_0.35-0.7		X					X		2x soil jars	✓									✓	✓	✓	
53	PC43_0.7-1.05	↓	X					X		4x soil jars 1 bag	✓	✓	✓	✓	✓	✓	✓						
54	DUP13	9.7.09	X					X		2x soil jars	✓								✓	✓	✓	✓	

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg

Comments:

Lab Report No.

Esky ID

Relinquished by: Richard Cole Signed: Date: 10/7/09

Recieved by: Frank Signed: Date: 10/7/09 11am

Relinquished by: Signed: Date:

Recieved by: Signed: Date:

Printed copies of this document are uncontrolled

Chain of Custody

6 of 6

AECOM

AECOM - Sydney
Level 5, 828 Pacific Highway
Pymble NSW 2073 Australia
Tel: 61 2 8484 8999
Fax: 61 2 8484 8989
E-mail:

Laboratory Details
Lab. Name:
Lab. Address:
Contact Name:
Lab. Ref:
Tel:
Fax:
Preliminary Report by:
Final Report by:
Lab Quote No: S433009 v2.

Sampled By: Richard Cole
AECOM Project No: S3017805
Project Name: Port Kembla Outer Harbour
PO No.

Specifications:

	Yes (tick)
1. Urgent TAT required? (please circle: 24hr 48hr _____days)	
2. Fast TAT Guarantee Required?	
3. Is any sediment layer present in waters to be excluded from extractions?	
4. % extraneous material removed from samples to be reported as per NEPM 5.1.1?	
5. Special storage requirements? (details: _____)	
6. Shell Quality Partnership:	
7. Report Format: ☐ Fax ☐ Hardcopy ☑ Email: richard.cole@aecom.com christiaan.donnelli@aecom.com	

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	Metals M13 (ggg as)	TOC	PAH (ultra low)	BTEX / TPH	SPOCAS	Fluorine Metals	Fluorine PAH	Cyanide	TBT	Phenols	OCP (35)	Total PCBs (35)	Other
55	PC14_0.0-0.36	8-7-09	X					X		4x soil jars 1 bag	✓	✓			✓	✓	✓		✓				
56	PC34_0.0-0.27	1x soil jar	X					X		1x large 1x small	✓								✓	✓	✓	✓	
57	PC35_0.0-0.35	3x large 1x small 1x Bag	X					X		3x large 1x small 1x Bag	✓	✓	✓	✓	✓	✓	✓		✓				
58	PC35_0.35-0.59	1x soil Jar	X					X		1x large	✓												
	Extras																						
59	RB03			X																			
60	RB04			X																			
61	PC39_0.0-0.4		X																				
62	PC39_0.4-0.87		X																				

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg

Comments:

Lab Report No.

Esky ID

Relinquished by: Richard Cole Signed: Date: 10/7/09

Recieved by: Frank Signed: Date: 10/7/09 11am

Relinquished by: Signed: Date:

Recieved by: Signed: Date:

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES0910119**		
Client	: **ENSR AUSTRALIA PTY LIMITED**	Laboratory	: Environmental Division Sydney
Contact	: MR CHRISTIANN DONNETTI	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: christiaan.donnetti@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S3017805 - Port Kembla Outer Harbour	Page	: 1 of 4
Order number	: ----		
C-O-C number	: ----	Quote number	: ES2009HLAENV0352 (SY/330/09 V3)
Site	: ----		
Sampler	: RC	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 10-JUL-2009	Issue Date	: 13-JUL-2009 11:14
Client Requested Due Date	: 22-JUL-2009	Scheduled Reporting Date	: **22-JUL-2009**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 2.2'C - Ice present
No. of coolers/boxes	: 4 HARD	No. of samples received	: 62
Sercurity Seal	: Intact.	No. of samples analysed	: 62

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Water sample could not conducted EP132LL analysis due to limitted volume , as per Chris Donneth conducted EP132 analysis on 13/07/09**
- **This batch split into ES0910122 (TBT/TOC), ES0910121 (ELUTRIATE) & ES0910124 (SPOCAS)**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Nanthini Coilparampil
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 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 neccessary 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.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EA055-103 Moisture Content	SOIL - EG020-SD Total Metals in Sediments by ICPMS (NODG)	SOIL - EG035T (solids) Total Mercury by FIMS	SOIL - EK026G (Solids) Total Cyanide By Discrete Analyser	SOIL - EP075 SIM Phenols only SIM - Phenols only	SOIL - EP132B Ultratrace PAH's	SOIL - S-04 TPH/BTEX	SOIL - UTO-2S Ultratrace OC PCB Pesticides
ES0910119-001	08-JUL-2009 15:00	PC20_0.0-0.17	✓	✓	✓					
ES0910119-002	08-JUL-2009 15:00	PC29_0.0-0.45		✓	✓			✓	✓	
ES0910119-003	08-JUL-2009 15:00	PC29_0.45-0.83	✓	✓	✓					
ES0910119-004	08-JUL-2009 15:00	PC28_0.0-0.4	✓	✓	✓					
ES0910119-005	08-JUL-2009 15:00	PC28_0.4-0.9		✓	✓			✓	✓	
ES0910119-006	08-JUL-2009 15:00	PC28_0.9-1.4	✓	✓	✓					
ES0910119-007	08-JUL-2009 15:00	PC27_0.0-0.5		✓	✓			✓	✓	
ES0910119-008	08-JUL-2009 15:00	PC27_0.5-0.9	✓	✓	✓		✓			✓
ES0910119-009	08-JUL-2009 15:00	DUP06		✓	✓			✓	✓	
ES0910119-010	08-JUL-2009 15:00	PC26_0.0-0.5	✓	✓	✓					
ES0910119-011	08-JUL-2009 15:00	PC26_0.5-0.9		✓	✓			✓	✓	
ES0910119-012	08-JUL-2009 15:00	PC8_0.0-0.35	✓	✓	✓					
ES0910119-013	08-JUL-2009 15:00	PC8_0.35-0.7		✓	✓			✓	✓	
ES0910119-014	08-JUL-2009 15:00	PC8_0.7-1.2	✓	✓	✓		✓			✓
ES0910119-015	08-JUL-2009 15:00	PC9_0.0-0.4		✓	✓	✓		✓	✓	
ES0910119-016	08-JUL-2009 15:00	PC9_0.4-0.8	✓	✓	✓					
ES0910119-017	08-JUL-2009 15:00	PC9_0.8-1.12		✓	✓			✓	✓	
ES0910119-018	08-JUL-2009 15:00	PC10_0.0-0.25	✓	✓	✓					
ES0910119-019	08-JUL-2009 15:00	PC11_0.0-0.2	✓	✓	✓		✓	✓	✓	✓
ES0910119-020	08-JUL-2009 15:00	PC19_0.0-0.53		✓	✓			✓	✓	
ES0910119-021	08-JUL-2009 15:00	PC19_0.53-1.03	✓	✓	✓					
ES0910119-022	08-JUL-2009 15:00	PC15_0.0-0.5		✓	✓			✓	✓	
ES0910119-023	08-JUL-2009 15:00	PC15_0.5-1.0	✓	✓	✓					
ES0910119-024	09-JUL-2009 15:00	PC13_0.0-0.06	✓	✓	✓			✓	✓	
ES0910119-025	09-JUL-2009 15:00	PC12_0.0-0.4	✓	✓	✓					
ES0910119-026	09-JUL-2009 15:00	PC12_0.4-0.76	✓	✓	✓			✓	✓	
ES0910119-027	09-JUL-2009 15:00	DUP09	✓	✓	✓	✓				
ES0910119-028	09-JUL-2009 15:00	PC36_0.0-0.16	✓	✓	✓					
ES0910119-029	09-JUL-2009 15:00	PC36_0.16-0.5	✓	✓	✓			✓	✓	
ES0910119-030	09-JUL-2009 15:00	PC37_0.0-0.37	✓	✓	✓	✓		✓	✓	
ES0910119-031	09-JUL-2009 15:00	PC38_0.0-0.4	✓	✓	✓					
ES0910119-032	09-JUL-2009 15:00	PC38_0.4-0.8	✓	✓	✓			✓	✓	
ES0910119-033	09-JUL-2009 15:00	PC38_0.8-1.23	✓	✓	✓					
ES0910119-034	09-JUL-2009 15:00	DUP16	✓	✓	✓		✓			✓
ES0910119-035	09-JUL-2009 15:00	PC40_0.0-0.5	✓	✓	✓		✓			✓

			SOIL - EA055-103 Moisture Content	SOIL - EG020-SD Total Metals in Sediments by ICPMS (NODG)	SOIL - EG035T (solids) Total Mercury by FIMS	SOIL - EK026G (Solids) Total Cyanide By Discrete Analyser	SOIL - EP075 SIM Phenols only SIM - Phenols only	SOIL - EP132B Ultratrace PAH's	SOIL - S-04 TPH/BTEX	SOIL - UTO-2S Ultratrace OC PCB Pesticides
ES0910119-036	09-JUL-2009 15:00	PC40_0.5-1.0	✓	✓	✓	✓		✓	✓	
ES0910119-037	09-JUL-2009 15:00	PC40_1.0-1.47	✓	✓	✓					
ES0910119-038	09-JUL-2009 15:00	PC41_0.0-0.5	✓	✓	✓			✓	✓	
ES0910119-039	09-JUL-2009 15:00	PC41_0.5-1.0	✓	✓	✓					
ES0910119-040	09-JUL-2009 15:00	PC41_1.0-1.55	✓	✓	✓			✓	✓	
ES0910119-041	09-JUL-2009 15:00	DUP17	✓	✓	✓					
ES0910119-042	09-JUL-2009 15:00	PC25_0.0-0.35	✓	✓	✓	✓		✓	✓	
ES0910119-043	09-JUL-2009 15:00	DUP08	✓	✓	✓	✓		✓	✓	
ES0910119-044	09-JUL-2009 15:00	PC24_0.0-0.23	✓	✓	✓					
ES0910119-045	09-JUL-2009 15:00	PC55_0.0-0.3	✓	✓	✓		✓	✓	✓	✓
ES0910119-046	09-JUL-2009 15:00	PC55_0.3-0.63	✓	✓	✓	✓				
ES0910119-047	09-JUL-2009 15:00	PC45_0.0-0.5	✓	✓	✓			✓	✓	
ES0910119-048	09-JUL-2009 15:00	PC45_0.5-1.03	✓	✓	✓	✓				
ES0910119-049	09-JUL-2009 15:00	PC42_0.0-0.5	✓	✓	✓	✓		✓	✓	
ES0910119-050	09-JUL-2009 15:00	PC42_0.5-0.88	✓	✓	✓					
ES0910119-051	09-JUL-2009 15:00	PC43_0.0-0.35	✓	✓	✓			✓	✓	
ES0910119-052	09-JUL-2009 15:00	PC43_0.35-0.7	✓	✓	✓		✓			✓
ES0910119-053	09-JUL-2009 15:00	PC43_0.7-1.05	✓	✓	✓			✓	✓	
ES0910119-054	09-JUL-2009 15:00	DUP13	✓	✓	✓		✓			✓
ES0910119-055	08-JUL-2009 15:00	PC14_0.0-0.36	✓	✓	✓					
ES0910119-056	08-JUL-2009 15:00	PC34_0.0-0.27	✓	✓	✓		✓			✓
ES0910119-057	08-JUL-2009 15:00	PC35_0.0-0.35	✓	✓	✓			✓	✓	
ES0910119-058	08-JUL-2009 15:00	PC35_0.35-0.59	✓	✓	✓					
ES0910119-061	08-JUL-2009 15:00	PC39_0.0-0.4		✓	✓			✓	✓	
ES0910119-062	08-JUL-2009 15:00	PC39_0.4-0.87	✓	✓	✓					

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - EP132(PAH) Ultra Trace Polynuclear Aromatic Compounds
ES0910119-059	08-JUL-2009 15:00	RB03	✓
ES0910119-060	08-JUL-2009 15:00	RB04	✓

Requested Deliverables

ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	accountsenv@aecom.com

MR CHRISTIANN DONNETTI

- *AU Certificate of Analysis - NATA (COA)	Email	christiaan.donnetti@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	christiaan.donnetti@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	christiaan.donnetti@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	christiaan.donnetti@aecom.com
- A4 - AU Tax Invoice (INV)	Email	christiaan.donnetti@aecom.com
- Default - Chain of Custody (COC)	Email	christiaan.donnetti@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	christiaan.donnetti@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	christiaan.donnetti@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	christiaan.donnetti@aecom.com
- EDI Format - XTab (XTAB)	Email	christiaan.donnetti@aecom.com

MR RICHARD COLE

- *AU Certificate of Analysis - NATA (COA)	Email	richard.cole@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	richard.cole@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	richard.cole@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	richard.cole@aecom.com
- A4 - AU Tax Invoice (INV)	Email	richard.cole@aecom.com
- Default - Chain of Custody (COC)	Email	richard.cole@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	richard.cole@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	richard.cole@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	richard.cole@aecom.com
- EDI Format - XTab (XTAB)	Email	richard.cole@aecom.com

THE RESULTS ADDRESS

- *AU Certificate of Analysis - NATA (COA)	Email	sydney@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	sydney@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	sydney@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	sydney@aecom.com
- A4 - AU Tax Invoice (INV)	Email	sydney@aecom.com
- Default - Chain of Custody (COC)	Email	sydney@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	sydney@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	sydney@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	sydney@aecom.com
- EDI Format - XTab (XTAB)	Email	sydney@aecom.com

CERTIFICATE OF ANALYSIS

Work Order	: **ES0910121**	Page	: 1 of 18
Client	: **ENSR AUSTRALIA PTY LIMITED**	Laboratory	: Environmental Division Sydney
Contact	: MR CHRISTIANN DONNETTI	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: christiaan.donnetti@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S3017805 - Port Kembla Outer Harbour	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 10-JUL-2009
Sampler	: RC	Issue Date	: 23-JUL-2009
Site	: ----		
		No. of samples received	: 21
Quote number	: SY/330/09 V3	No. of samples analysed	: 21

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

This document is issued in accordance with NATA accreditation requirements.

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*
Alex Rossi	Organic Chemist	Organics
Wisam Abou-Maraseh	Spectroscopist	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 insuffient 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 date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

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

- **EG093: Workorder ES910121 - LCS recovery for various elements falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**

Analytical Results

Sub-Matrix: **ELUTRIATE**

Compound	CAS Number	LOR	Unit	Client sample ID	PC20_0.0-0.17	PC29_0.0-0.45	PC28_0.9-1.4	PC27_0.5-0.9	PC26_0.0-0.5
				Client sampling date / time	13-JUL-2009 12:00	13-JUL-2009 12:00	13-JUL-2009 12:00	13-JUL-2009 12:00	13-JUL-2009 12:00
					ES0910121-001	ES0910121-002	ES0910121-003	ES0910121-004	ES0910121-005
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EG093T: Total Metals in Saline Water by ORC-ICPMS									
Selenium	7782-49-2	2	µg/L		<2	<2	<2	<2	<2
Antimony	7440-36-0	0.5	µg/L		**1.1**	**0.7**	**2.2**	**0.8**	**0.5**
Arsenic	7440-38-2	0.5	µg/L		**4.7**	**7.0**	**47.0**	**11.2**	**4.5**
Cadmium	7440-43-9	0.2	µg/L		<0.2	<0.2	<0.2	<0.2	<0.2
Chromium	7440-47-3	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Cobalt	7440-48-4	0.2	µg/L		<0.2	<0.2	**0.3**	<0.2	<0.2
Copper	7440-50-8	1	µg/L		<1	<1	<1	<1	**1**
Lead	7439-92-1	0.2	µg/L		<0.2	<0.2	<0.2	<0.2	<0.2
Nickel	7440-02-0	0.5	µg/L		<0.5	<0.5	**2.1**	<0.5	**0.5**
Silver	7440-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	7440-62-2	0.5	µg/L		**1.3**	**0.5**	**1.2**	<0.5	**0.9**
Zinc	7440-66-6	5	µg/L		<5	<5	<5	<5	<5
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	91-57-6	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	83-32-9	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	208-96-8	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	120-12-7	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benz(a)anthracene	56-55-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	50-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	205-99-2	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(e)pyrene	192-97-2	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	207-08-9	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	218-01-9	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Coronene	191-07-1	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	206-44-0	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	86-73-7	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
N-2-Fluorenyl Acetamide	53-96-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	91-20-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perylene	198-55-0	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	85-01-8	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	129-00-0	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1

Analytical Results

Sub-Matrix: ELUTRIATE				Client sample ID	PC20_0.0-0.17	PC29_0.0-0.45	PC28_0.9-1.4	PC27_0.5-0.9	PC26_0.0-0.5
				Client sampling date / time	13-JUL-2009 12:00	13-JUL-2009 12:00	13-JUL-2009 12:00	13-JUL-2009 12:00	13-JUL-2009 12:00
Compound	*CAS Number*	*LOR*	*Unit*		ES0910121-001	ES0910121-002	ES0910121-003	ES0910121-004	ES0910121-005
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**108**	**101**	**109**	**103**	**109**
Anthracene-d10	1719-06-8	0.1	%		**112**	**105**	**115**	**112**	**113**
4-Terphenyl-d14	1718-51-0	0.1	%		**113**	**107**	**114**	**115**	**116**

Analytical Results

Sub-Matrix: **ELUTRIATE**

Compound	CAS Number	LOR	Unit	Client sample ID	PC8_0.35-0.7	PC9_0.8-1.12	PC11_0.0-0.2	PC15_0.5-1.0	PC12_0.4-0.76
				Client sampling date / time	13-JUL-2009 12:00	13-JUL-2009 12:00	13-JUL-2009 12:00	13-JUL-2009 12:00	13-JUL-2009 12:00
					ES0910121-006	ES0910121-007	ES0910121-008	ES0910121-009	ES0910121-010
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EG093T: Total Metals in Saline Water by ORC-ICPMS									
Selenium	7782-49-2	2	µg/L		<2	<2	<2	<2	<2
Antimony	7440-36-0	0.5	µg/L		<0.5	**0.7**	**1.8**	**0.6**	**0.6**
Arsenic	7440-38-2	0.5	µg/L		**10.9**	**23.5**	**3.6**	**9.6**	**4.3**
Cadmium	7440-43-9	0.2	µg/L		<0.2	**0.2**	<0.2	<0.2	<0.2
Chromium	7440-47-3	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Cobalt	7440-48-4	0.2	µg/L		<0.2	**0.5**	<0.2	<0.2	<0.2
Copper	7440-50-8	1	µg/L		<1	<1	<1	<1	<1
Lead	7439-92-1	0.2	µg/L		<0.2	<0.2	**0.4**	<0.2	<0.2
Nickel	7440-02-0	0.5	µg/L		**0.6**	**1.4**	**1.8**	**0.6**	**0.8**
Silver	7440-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	7440-62-2	0.5	µg/L		<0.5	<0.5	**2.5**	<0.5	**0.8**
Zinc	7440-66-6	5	µg/L		<5	<5	<5	<5	<5
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	91-57-6	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	83-32-9	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	208-96-8	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	120-12-7	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benz(a)anthracene	56-55-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	50-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	205-99-2	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(e)pyrene	192-97-2	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	207-08-9	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	218-01-9	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Coronene	191-07-1	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	206-44-0	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	86-73-7	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
N-2-Fluorenyl Acetamide	53-96-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	91-20-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perylene	198-55-0	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	85-01-8	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	129-00-0	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1

Analytical Results

Sub-Matrix: **ELUTRIATE**				Client sample ID	PC8_0.35-0.7	PC9_0.8-1.12	PC11_0.0-0.2	PC15_0.5-1.0	PC12_0.4-0.76
				Client sampling date / time	13-JUL-2009 12:00	13-JUL-2009 12:00	13-JUL-2009 12:00	13-JUL-2009 12:00	13-JUL-2009 12:00
Compound	*CAS Number*	*LOR*	*Unit*		**ES0910121-006**	**ES0910121-007**	**ES0910121-008**	**ES0910121-009**	**ES0910121-010**
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**87.8**	**102**	**84.5**	**108**	**106**
Anthracene-d10	1719-06-8	0.1	%		**93.9**	**106**	**91.0**	**112**	**110**
4-Terphenyl-d14	1718-51-0	0.1	%		**96.1**	**110**	**93.9**	**114**	**114**

Analytical Results

Sub-Matrix: **ELUTRIATE**

Compound	CAS Number	LOR	Unit	Client sample ID	PC36_0.16-0.5	PC38_0.0-0.4	PC40_1.0-1.47	PC41_0.0-0.5	PC55_0.3-0.63
				Client sampling date / time	14-JUL-2009 12:00	14-JUL-2009 12:00	14-JUL-2009 12:00	14-JUL-2009 12:00	14-JUL-2009 12:00
					ES0910121-011	ES0910121-012	ES0910121-013	ES0910121-014	ES0910121-015
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EG093T: Total Metals in Saline Water by ORC-ICPMS									
Selenium	7782-49-2	2	µg/L		<2	<2	<2	<2	<2
Antimony	7440-36-0	0.5	µg/L		**1.8**	<0.5	<0.5	**3.7**	**6.7**
Arsenic	7440-38-2	0.5	µg/L		**18.7**	**18.1**	**67.1**	**7.1**	**29.2**
Cadmium	7440-43-9	0.2	µg/L		<0.2	<0.2	<0.2	<0.2	<0.2
Chromium	7440-47-3	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Cobalt	7440-48-4	0.2	µg/L		<0.2	<0.2	**0.3**	<0.2	<0.2
Copper	7440-50-8	1	µg/L		<1	<1	<1	<1	<1
Lead	7439-92-1	0.2	µg/L		<0.2	<0.2	**0.3**	**0.3**	<0.2
Nickel	7440-02-0	0.5	µg/L		**1.5**	**0.6**	**1.2**	**1.0**	**5.4**
Silver	7440-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	7440-62-2	0.5	µg/L		**0.8**	**1.0**	<0.5	**7.0**	**3.9**
Zinc	7440-66-6	5	µg/L		<5	<5	<5	<5	<5
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	91-57-6	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	83-32-9	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	208-96-8	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	120-12-7	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benz(a)anthracene	56-55-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	50-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	205-99-2	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(e)pyrene	192-97-2	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	207-08-9	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	218-01-9	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Coronene	191-07-1	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	206-44-0	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	86-73-7	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
N-2-Fluorenyl Acetamide	53-96-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	91-20-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perylene	198-55-0	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	85-01-8	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	129-00-0	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1

Analytical Results

Sub-Matrix: ELUTRIATE				Client sample ID	PC36_0.16-0.5	PC38_0.0-0.4	PC40_1.0-1.47	PC41_0.0-0.5	PC55_0.3-0.63
				Client sampling date / time	14-JUL-2009 12:00	14-JUL-2009 12:00	14-JUL-2009 12:00	14-JUL-2009 12:00	14-JUL-2009 12:00
Compound	*CAS Number*	*LOR*	*Unit*		ES0910121-011	ES0910121-012	ES0910121-013	ES0910121-014	ES0910121-015
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**122**	**101**	**108**	**126**	**119**
Anthracene-d10	1719-06-8	0.1	%		**120**	**107**	**110**	**122**	**119**
4-Terphenyl-d14	1718-51-0	0.1	%		**129**	**121**	**122**	**128**	**131**

Analytical Results

Sub-Matrix: **ELUTRIATE**

Compound	CAS Number	LOR	Unit	Client sample ID	PC45_0.5-1.03	PC42_0.0-0.5	PC43_0.7-1.05	PC14_0.0-0.36	PC35_0.0-0.35
				Client sampling date / time	14-JUL-2009 12:00	17-JUL-2009 12:00	14-JUL-2009 12:00	14-JUL-2009 12:00	14-JUL-2009 12:00
					ES0910121-016	ES0910121-017	ES0910121-018	ES0910121-019	ES0910121-020
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EG093T: Total Metals in Saline Water by ORC-ICPMS									
Selenium	7782-49-2	2	µg/L		<2	<2	<2	<2	<2
Antimony	7440-36-0	0.5	µg/L		<0.5	**0.5**	<0.5	<0.5	**4.0**
Arsenic	7440-38-2	0.5	µg/L		**17.8**	**6.5**	**5.8**	**6.7**	**15.4**
Cadmium	7440-43-9	0.2	µg/L		<0.2	<0.2	<0.2	<0.2	<0.2
Chromium	7440-47-3	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
Cobalt	7440-48-4	0.2	µg/L		<0.2	<0.2	<0.2	**0.2**	<0.2
Copper	7440-50-8	1	µg/L		<1	<1	<1	<1	<1
Lead	7439-92-1	0.2	µg/L		<0.2	<0.2	<0.2	<0.2	**0.4**
Nickel	7440-02-0	0.5	µg/L		<0.5	**0.9**	<0.5	**0.8**	**1.5**
Silver	7440-22-4	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	7440-62-2	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	**28.5**
Zinc	7440-66-6	5	µg/L		<5	<5	<5	<5	<5
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	91-57-6	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	83-32-9	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	208-96-8	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	120-12-7	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benz(a)anthracene	56-55-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	50-32-8	0.05	µg/L		<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	205-99-2	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(e)pyrene	192-97-2	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	207-08-9	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	218-01-9	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Coronene	191-07-1	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	206-44-0	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	86-73-7	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
N-2-Fluorenyl Acetamide	53-96-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	91-20-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Perylene	198-55-0	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	85-01-8	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	129-00-0	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	<0.1

Analytical Results

Sub-Matrix: ELUTRIATE				Client sample ID	PC45_0.5-1.03	PC42_0.0-0.5	PC43_0.7-1.05	PC14_0.0-0.36	PC35_0.0-0.35
				Client sampling date / time	14-JUL-2009 12:00	17-JUL-2009 12:00	14-JUL-2009 12:00	14-JUL-2009 12:00	14-JUL-2009 12:00
Compound	*CAS Number*	*LOR*	*Unit*		ES0910121-016	ES0910121-017	ES0910121-018	ES0910121-019	ES0910121-020
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**119**	**124**	**124**	**120**	**113**
Anthracene-d10	1719-06-8	0.1	%		**117**	**132**	**123**	**116**	**114**
4-Terphenyl-d14	1718-51-0	0.1	%		**132**	**133**	**136**	**118**	**127**

Analytical Results

Sub-Matrix: **ELUTRIATE**				Client sample ID	**ELUTRIATE WATER**	----	----	----	----
				Client sampling date / time	13-JUL-2009 12:00	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*		**ES0910121-021**	**----**	**----**	**----**	**----**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EG093T: Total Metals in Saline Water by ORC-ICPMS									
Selenium	7782-49-2	2	µg/L		<2	----	----	----	----
Antimony	7440-36-0	0.5	µg/L		<0.5	----	----	----	----
Arsenic	7440-38-2	0.5	µg/L		**1.5**	----	----	----	----
Cadmium	7440-43-9	0.2	µg/L		<0.2	----	----	----	----
Chromium	7440-47-3	0.5	µg/L		<0.5	----	----	----	----
Cobalt	7440-48-4	0.2	µg/L		<0.2	----	----	----	----
Copper	7440-50-8	1	µg/L		<1	----	----	----	----
Lead	7439-92-1	0.2	µg/L		<0.2	----	----	----	----
Nickel	7440-02-0	0.5	µg/L		<0.5	----	----	----	----
Silver	7440-22-4	0.1	µg/L		<0.1	----	----	----	----
Vanadium	7440-62-2	0.5	µg/L		**2.0**	----	----	----	----
Zinc	7440-66-6	5	µg/L		<5	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L		<0.1	----	----	----	----
2-Methylnaphthalene	91-57-6	0.1	µg/L		<0.1	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L		<0.1	----	----	----	----
Acenaphthene	83-32-9	0.1	µg/L		<0.1	----	----	----	----
Acenaphthylene	208-96-8	0.1	µg/L		<0.1	----	----	----	----
Anthracene	120-12-7	0.1	µg/L		<0.1	----	----	----	----
Benz(a)anthracene	56-55-3	0.1	µg/L		<0.1	----	----	----	----
Benzo(a)pyrene	50-32-8	0.05	µg/L		<0.05	----	----	----	----
Benzo(b)fluoranthene	205-99-2	0.1	µg/L		<0.1	----	----	----	----
Benzo(e)pyrene	192-97-2	0.1	µg/L		<0.1	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L		<0.1	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.1	µg/L		<0.1	----	----	----	----
Chrysene	218-01-9	0.1	µg/L		<0.1	----	----	----	----
Coronene	191-07-1	0.1	µg/L		<0.1	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L		<0.1	----	----	----	----
Fluoranthene	206-44-0	0.1	µg/L		<0.1	----	----	----	----
Fluorene	86-73-7	0.1	µg/L		<0.1	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L		<0.1	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	0.1	µg/L		<0.1	----	----	----	----
Naphthalene	91-20-3	0.1	µg/L		<0.1	----	----	----	----
Perylene	198-55-0	0.1	µg/L		<0.1	----	----	----	----
Phenanthrene	85-01-8	0.1	µg/L		<0.1	----	----	----	----
Pyrene	129-00-0	0.1	µg/L		<0.1	----	----	----	----

Analytical Results

Sub-Matrix: **ELUTRIATE**				Client sample ID	**ELUTRIATE WATER**	----	----	----	----
				Client sampling date / time	13-JUL-2009 12:00	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*		**ES0910121-021**	**----**	**----**	**----**	**----**
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**86.8**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**90.1**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**89.6**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL			Client sample ID	PC20_0.0-0.17	PC29_0.0-0.45	PC28_0.9-1.4	PC27_0.5-0.9	PC26_0.0-0.5
			Client sampling date / time	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
Compound	CAS Number	LOR	Unit	ES0910121-001	ES0910121-002	ES0910121-003	ES0910121-004	ES0910121-005
EN68: Seawater Elutriate Testing Procedure								
Seawater Sampling Date	----	0.1	--	**8/7/09**	**8/7/09**	**8/7/09**	**8/7/09**	**8/7/09**

Analytical Results

Sub-Matrix: SOIL			Client sample ID	PC8_0.35-0.7	PC9_0.8-1.12	PC11_0.0-0.2	PC15_0.5-1.0	PC12_0.4-0.76
			Client sampling date / time	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00	09-JUL-2009 15:00
Compound	CAS Number	LOR	Unit	ES0910121-006	ES0910121-007	ES0910121-008	ES0910121-009	ES0910121-010
EN68: Seawater Elutriate Testing Procedure								
Seawater Sampling Date	----	0.1	--	**8/7/09**	**8/7/09**	**8/7/09**	**8/7/09**	**9/7/09**

Analytical Results

Sub-Matrix: SOIL			Client sample ID	PC36_0.16-0.5	PC38_0.0-0.4	PC40_1.0-1.47	PC41_0.0-0.5	PC55_0.3-0.63
			Client sampling date / time	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00
Compound	CAS Number	LOR	Unit	ES0910121-011	ES0910121-012	ES0910121-013	ES0910121-014	ES0910121-015
EN68: Seawater Elutriate Testing Procedure								
Seawater Sampling Date	----	0.1	--	**9/7/09**	**9/7/09**	**9/7/09**	**9/7/09**	**9/7/09**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	PC45_0.5-1.03	PC42_0.0-0.5	PC43_0.7-1.05	PC14_0.0-0.36	PC35_0.0-0.35
				Client sampling date / time	09-JUL-2009 15:00	09-JUL-2009 15:00	09-JUL-2009 15:00	08-JUL-2009 15:00	08-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910121-016	ES0910121-017	ES0910121-018	ES0910121-019	ES0910121-020
EN68: Seawater Elutriate Testing Procedure									
Seawater Sampling Date	----	0.1	--		9/7/09	9/7/09	9/07/09	8/7/09	8/7/09

Analytical Results

Sub-Matrix: SOIL				Client sample ID	ELUTRIATE WATER	----	----	----	----
				Client sampling date / time	08-JUL-2009 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES0910121-021	----	----	----	----
EN68: Seawater Elutriate Testing Procedure									
Seawater Sampling Date	----	0.1	--		**8/7/09**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **ELUTRIATE**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

QUALITY CONTROL REPORT

Work Order	: **ES0910121**	Page	: 1 of 10
Client	: **ENSR AUSTRALIA PTY LIMITED**	Laboratory	: Environmental Division Sydney
Contact	: MR CHRISTIANN DONNETTI	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: christiaan.donnetti@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S3017805 - Port Kembla Outer Harbour	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 10-JUL-2009
Sampler	: RC	Issue Date	: 23-JUL-2009
Order number	: ----		
		No. of samples received	: 21
Quote number	: SY/330/09 V3	No. of samples analysed	: 21

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

This document is issued in accordance with NATA accreditation requirements.

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*
Alex Rossi	Organic Chemist	Organics
Wisam Abou-Maraseh	Spectroscopist	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 insuffient 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**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1039233)									
ES0910121-001	PC20_0.0-0.17	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES0910121-011	PC36_0.16-0.5	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1045381)									
ES0910121-017	PC42_0.0-0.5	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EG093T: Total Metals in Saline Water by ORC-ICPMS (QC Lot: 1042810)									
ES0910121-001	PC20_0.0-0.17	EG093A-T: Silver	7440-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG093A-T: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-T: Cobalt	7440-48-4	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-T: Lead	7439-92-1	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-T: Antimony	7440-36-0	0.5	µg/L	1.1	1.5	28.4	No Limit
		EG093A-T: Arsenic	7440-38-2	0.5	µg/L	4.7	5.4	14.7	0% - 50%
		EG093A-T: Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-T: Nickel	7440-02-0	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-T: Vanadium	7440-62-2	0.5	µg/L	1.3	1.5	11.4	No Limit
		EG093A-T: Copper	7440-50-8	1	µg/L	<1	<1	0.0	No Limit
		EG093A-T: Zinc	7440-66-6	5	µg/L	<5	<5	0.0	No Limit
ES0910121-011	PC36_0.16-0.5	EG093A-T: Silver	7440-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG093A-T: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-T: Cobalt	7440-48-4	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-T: Lead	7439-92-1	0.2	µg/L	<0.2	0.2	0.0	No Limit
		EG093A-T: Antimony	7440-36-0	0.5	µg/L	1.8	2.1	11.1	No Limit
		EG093A-T: Arsenic	7440-38-2	0.5	µg/L	18.7	19.7	5.1	0% - 20%
		EG093A-T: Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-T: Nickel	7440-02-0	0.5	µg/L	1.5	1.5	0.0	No Limit
		EG093A-T: Vanadium	7440-62-2	0.5	µg/L	0.8	1.0	27.9	No Limit
		EG093A-T: Copper	7440-50-8	1	µg/L	<1	<1	0.0	No Limit
		EG093A-T: Zinc	7440-66-6	5	µg/L	<5	<5	0.0	No Limit
EG093T: Total Metals in Saline Water by ORC-ICPMS (QC Lot: 1042811)									
ES0910121-001	PC20_0.0-0.17	EG093B-T: Selenium	7782-49-2	2	µg/L	<2	<2	0.0	No Limit
ES0910121-011	PC36_0.16-0.5	EG093B-T: Selenium	7782-49-2	2	µg/L	<2	<2	0.0	No Limit
EG093T: Total Metals in Saline Water by ORC-ICPMS (QC Lot: 1044449)									
ES0910121-017	PC42_0.0-0.5	EG093A-T: Silver	7440-22-4	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EG093A-T: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-T: Cobalt	7440-48-4	0.2	µg/L	<0.2	<0.2	0.0	No Limit
		EG093A-T: Lead	7439-92-1	0.2	µg/L	<0.2	0.2	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 (%)*
EG093T: Total Metals in Saline Water by ORC-ICPMS (QC Lot: 1044449) - continued									
ES0910121-017	PC42_0.0-0.5	EG093A-T: Antimony	7440-36-0	0.5	µg/L	0.5	<0.5	0.0	No Limit
		EG093A-T: Arsenic	7440-38-2	0.5	µg/L	6.5	6.3	2.6	0% - 50%
		EG093A-T: Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-T: Nickel	7440-02-0	0.5	µg/L	0.9	0.6	41.2	No Limit
		EG093A-T: Vanadium	7440-62-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EG093A-T: Copper	7440-50-8	1	µg/L	<1	<1	0.0	No Limit
		EG093A-T: Zinc	7440-66-6	5	µg/L	<5	<5	0.0	No Limit
EG093T: Total Metals in Saline Water by ORC-ICPMS (QC Lot: 1044450)									
ES0910121-017	PC42_0.0-0.5	EG093B-T: Selenium	7782-49-2	2	µg/L	<2	<2	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1038053)									
ES0910121-007	PC9_0.8-1.12	EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(b)fluoranthene	205-99-2	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Coronene	191-07-1	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: N-2-Fluorenyl Acetamide	53-96-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Perylene	198-55-0	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Pyrene	129-00-0	0.1	µg/L	<0.1	<0.1	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1044114)									
ES0910206-002	Anonymous	EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	<0.1	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 (%)*
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1044114) - continued									
ES0910206-002	Anonymous	EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(b)fluoranthene	205-99-2	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Coronene	191-07-1	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: N-2-Fluorenyl Acetamide	53-96-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Perylene	198-55-0	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	<0.1	0.0	No Limit
		EP132: Pyrene	129-00-0	0.1	µg/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**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1039233)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	102	81	119
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1045381)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	106	81	119
EG093T: Total Metals in Saline Water by ORC-ICPMS (QCLot: 1042810)								
EG093A-T: Antimony	7440-36-0	0.5	µg/L	<0.5	----	----	----	----
EG093A-T: Arsenic	7440-38-2	0.5	µg/L	<0.5	10 µg/L	97.3	89	125
EG093A-T: Cadmium	7440-43-9	0.2	µg/L	<0.2	10 µg/L	84.0	78	112
EG093A-T: Chromium	7440-47-3	0.5	µg/L	<0.5	10 µg/L	92.0	86	126
EG093A-T: Cobalt	7440-48-4	0.2	µg/L	<0.2	10 µg/L	90.2	90	126
EG093A-T: Copper	7440-50-8	1	µg/L	<1	10 µg/L	93.6	87	123
EG093A-T: Lead	7439-92-1	0.2	µg/L	<0.2	10 µg/L	97.0	89	121
EG093A-T: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	86.7	85	125
EG093A-T: Silver	7440-22-4	0.1	µg/L	<0.1	1 µg/L	78.7	70	130
EG093A-T: Vanadium	7440-62-2	0.5	µg/L	<0.5	10 µg/L	89.3	87	121
EG093A-T: Zinc	7440-66-6	5	µg/L	<5	10 µg/L	# 79.8	82	128
EG093T: Total Metals in Saline Water by ORC-ICPMS (QCLot: 1042811)								
EG093B-T: Selenium	7782-49-2	2	µg/L	<2	10 µg/L	90.8	75	130
EG093T: Total Metals in Saline Water by ORC-ICPMS (QCLot: 1044449)								
EG093A-T: Antimony	7440-36-0	0.5	µg/L	<0.5	----	----	----	----
EG093A-T: Arsenic	7440-38-2	0.5	µg/L	<0.5	10 µg/L	# 85.8	89	125
EG093A-T: Cadmium	7440-43-9	0.2	µg/L	<0.2	10 µg/L	# 78.0	78	112
EG093A-T: Chromium	7440-47-3	0.5	µg/L	<0.5	10 µg/L	90.3	86	126
EG093A-T: Cobalt	7440-48-4	0.2	µg/L	<0.2	10 µg/L	# 89.5	90	126
EG093A-T: Copper	7440-50-8	1	µg/L	<1	10 µg/L	92.4	87	123
EG093A-T: Lead	7439-92-1	0.2	µg/L	<0.2	10 µg/L	# 87.3	89	121
EG093A-T: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	92.5	85	125
EG093A-T: Silver	7440-22-4	0.1	µg/L	<0.1	1 µg/L	94.3	70	130
EG093A-T: Vanadium	7440-62-2	0.5	µg/L	<0.5	10 µg/L	88.2	87	121
EG093A-T: Zinc	7440-66-6	5	µg/L	<5	10 µg/L	96.6	82	128
EG093T: Total Metals in Saline Water by ORC-ICPMS (QCLot: 1044450)								
EG093B-T: Selenium	7782-49-2	2	µg/L	<2	10 µg/L	87.5	75	130
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1038053)								
EP132: 3-Methylcholanthrene	56-49-5	0.10	µg/L	<0.1	2 µg/L	98.5	65.8	121
EP132: 2-Methylnaphthalene	91-57-6	0.10	µg/L	<0.1	2 µg/L	# 119	67.7	112

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1038053) - continued								
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.10	µg/L	<0.1	2 µg/L	99.9	11.6	146
EP132: Acenaphthene	83-32-9	0.10	µg/L	<0.1	2 µg/L	98.4	73.2	111
EP132: Acenaphthylene	208-96-8	0.10	µg/L	<0.1	2 µg/L	94.6	72.4	112
EP132: Anthracene	120-12-7	0.10	µg/L	<0.1	2 µg/L	96.1	73.4	113
EP132: Benz(a)anthracene	56-55-3	0.10	µg/L	<0.1	2 µg/L	108	73.6	114
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	102	75.2	117
EP132: Benzo(b)fluoranthene	205-99-2	0.10	µg/L	<0.1	2 µg/L	114	71.4	119
EP132: Benzo(e)pyrene	192-97-2	0.10	µg/L	<0.1	2 µg/L	108	75.3	118
EP132: Benzo(g.h.i)perylene	191-24-2	0.10	µg/L	<0.1	2 µg/L	81.6	66.6	121
EP132: Benzo(k)fluoranthene	207-08-9	0.10	µg/L	<0.1	2 µg/L	108	74.8	118
EP132: Chrysene	218-01-9	0.10	µg/L	<0.1	2 µg/L	108	69.6	120
EP132: Coronene	191-07-1	0.10	µg/L	<0.1	2 µg/L	58.8	47.4	131
EP132: Dibenz(a.h)anthracene	53-70-3	0.10	µg/L	<0.1	2 µg/L	91.8	71.5	117
EP132: Fluoranthene	206-44-0	0.10	µg/L	<0.1	2 µg/L	106	74.8	117
EP132: Fluorene	86-73-7	0.10	µg/L	<0.1	2 µg/L	101	72.9	114
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L	<0.1	2 µg/L	89.9	67.8	119
EP132: N-2-Fluorenyl Acetamide	53-96-3	0.10	µg/L	<0.1	20 µg/L	108	53.6	131
EP132: Naphthalene	91-20-3	0.10	µg/L	<0.1	2 µg/L	94.8	68.3	116
EP132: Perylene	198-55-0	0.10	µg/L	<0.1	2 µg/L	101	68	122
EP132: Phenanthrene	85-01-8	0.10	µg/L	<0.1	2 µg/L	106	74.8	112
EP132: Pyrene	129-00-0	0.10	µg/L	<0.1	2 µg/L	105	75.1	117
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1039146)								
EP132: 3-Methylcholanthrene	56-49-5	0.10	µg/L	<0.1	2 µg/L	98.3	65.8	121
EP132: 2-Methylnaphthalene	91-57-6	0.10	µg/L	<0.1	2 µg/L	82.0	67.7	112
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.10	µg/L	<0.1	2 µg/L	87.0	11.6	146
EP132: Acenaphthene	83-32-9	0.10	µg/L	<0.1	2 µg/L	85.9	73.2	111
EP132: Acenaphthylene	208-96-8	0.10	µg/L	<0.1	2 µg/L	88.1	72.4	112
EP132: Anthracene	120-12-7	0.10	µg/L	<0.1	2 µg/L	85.7	73.4	113
EP132: Benz(a)anthracene	56-55-3	0.10	µg/L	<0.1	2 µg/L	93.2	73.6	114
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	97.5	75.2	117
EP132: Benzo(b)fluoranthene	205-99-2	0.10	µg/L	<0.1	2 µg/L	98.8	71.4	119
EP132: Benzo(e)pyrene	192-97-2	0.10	µg/L	<0.1	2 µg/L	97.0	75.3	118
EP132: Benzo(g.h.i)perylene	191-24-2	0.10	µg/L	<0.1	2 µg/L	95.5	66.6	121
EP132: Benzo(k)fluoranthene	207-08-9	0.10	µg/L	<0.1	2 µg/L	94.4	74.8	118
EP132: Chrysene	218-01-9	0.10	µg/L	<0.1	2 µg/L	90.1	69.6	120
EP132: Coronene	191-07-1	0.10	µg/L	<0.1	2 µg/L	92.4	47.4	131
EP132: Dibenz(a.h)anthracene	53-70-3	0.10	µg/L	<0.1	2 µg/L	96.4	71.5	117
EP132: Fluoranthene	206-44-0	0.10	µg/L	<0.1	2 µg/L	89.4	74.8	117
EP132: Fluorene	86-73-7	0.10	µg/L	<0.1	2 µg/L	89.5	72.9	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1039146) - continued								
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L	<0.1	2 µg/L	96.3	67.8	119
EP132: N-2-Fluorenyl Acetamide	53-96-3	0.10	µg/L	<0.1	20 µg/L	121	53.6	131
EP132: Naphthalene	91-20-3	0.10	µg/L	<0.1	2 µg/L	83.7	68.3	116
EP132: Perylene	198-55-0	0.10	µg/L	<0.1	2 µg/L	96.0	68	122
EP132: Phenanthrene	85-01-8	0.10	µg/L	<0.1	2 µg/L	88.2	74.8	112
EP132: Pyrene	129-00-0	0.10	µg/L	<0.1	2 µg/L	89.0	75.1	117
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1044114)								
EP132: 3-Methylcholanthrene	56-49-5	0.10	µg/L	<0.1	4 µg/L	79.5	65.8	121
EP132: 2-Methylnaphthalene	91-57-6	0.10	µg/L	<0.1	4 µg/L	74.8	67.7	112
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.10	µg/L	<0.1	4 µg/L	79.8	11.6	146
EP132: Acenaphthene	83-32-9	0.10	µg/L	<0.1	4 µg/L	79.3	73.2	111
EP132: Acenaphthylene	208-96-8	0.10	µg/L	<0.1	4 µg/L	80.0	72.4	112
EP132: Anthracene	120-12-7	0.10	µg/L	<0.1	4 µg/L	78.6	73.4	113
EP132: Benz(a)anthracene	56-55-3	0.10	µg/L	<0.1	4 µg/L	83.8	73.6	114
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	4 µg/L	81.4	75.2	117
EP132: Benzo(b)fluoranthene	205-99-2	0.10	µg/L	<0.1	4 µg/L	83.2	71.4	119
EP132: Benzo(e)pyrene	192-97-2	0.10	µg/L	<0.1	4 µg/L	81.2	75.3	118
EP132: Benzo(g.h.i)perylene	191-24-2	0.10	µg/L	<0.1	4 µg/L	81.2	66.6	121
EP132: Benzo(k)fluoranthene	207-08-9	0.10	µg/L	<0.1	4 µg/L	79.9	74.8	118
EP132: Chrysene	218-01-9	0.10	µg/L	<0.1	4 µg/L	83.3	69.6	120
EP132: Coronene	191-07-1	0.10	µg/L	<0.1	4 µg/L	77.2	47.4	131
EP132: Dibenz(a.h)anthracene	53-70-3	0.10	µg/L	<0.1	4 µg/L	83.0	71.5	117
EP132: Fluoranthene	206-44-0	0.10	µg/L	<0.1	4 µg/L	81.2	74.8	117
EP132: Fluorene	86-73-7	0.10	µg/L	<0.1	4 µg/L	80.9	72.9	114
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L	<0.1	4 µg/L	82.3	67.8	119
EP132: N-2-Fluorenyl Acetamide	53-96-3	0.10	µg/L	<0.1	40 µg/L	79.3	53.6	131
EP132: Naphthalene	91-20-3	0.10	µg/L	<0.1	4 µg/L	74.6	68.3	116
EP132: Perylene	198-55-0	0.10	µg/L	<0.1	4 µg/L	80.5	68	122
EP132: Phenanthrene	85-01-8	0.10	µg/L	<0.1	4 µg/L	81.1	74.8	112
EP132: Pyrene	129-00-0	0.10	µg/L	<0.1	4 µg/L	81.4	75.1	117