QUALITY CONTROL REPORT

Work Order	: **ES0910407**	Page	: 1 of 5
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	: S3012805 - PKOH	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: PORT KEMBLA		
C-O-C number	: ----	Date Samples Received	: 15-JUL-2009
Sampler	: KP/CD	Issue Date	: 28-JUL-2009
Order number	: ----		
		No. of samples received	: 11
Quote number	: SY/330/09 V3	No. of samples analysed	: 9

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*
Kim McCabe	Senior Inorganic Chemist	Stafford Minerals - AY
Matthew Goodwin	Senior Organic Chemist	Inorganics
Matthew Goodwin	Senior Organic Chemist	Organics

General Comments

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

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

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or 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 (%)*
EP005: Total Organic Carbon (TOC) (QC Lot: 1046059)									
ES0910407-001	SG10_0.0-0.7	EP005: Total Organic Carbon	---	0.02	%	6.12	6.09	0.4	0% - 20%
EP090: Organotin Compounds (QC Lot: 1047214)									
ES0910561-040	Anonymous	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
ES0910561-009	Anonymous	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	0.7	1.1	41.8	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
EP005: Total Organic Carbon (TOC) (QCLot: 1046059)								
EP005: Total Organic Carbon	----	0.02	%	<0.02	100 %	102	70	130
EP090: Organotin Compounds (QCLot: 1047214)								
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	12.5 µgSn/kg	107	28	129

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
EP090: Organotin Compounds (QCLot: 1047214)							
EB0911142-003	Anonymous	EP090: Tributyltin	56573-85-4	12.5 µgSn/kg	# Not Determined	20	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES0910407**	Page	: 1 of 5
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	: S3012805 - PKOH	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: PORT KEMBLA		
C-O-C number	: ----	Date Samples Received	: 15-JUL-2009
Sampler	: KP/CD	Issue Date	: 28-JUL-2009
Order number	: ----		
		No. of samples received	: 11
Quote number	: SY/330/09 V3	No. of samples analysed	: 9

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							
SG12_0.0-0.04, SG30_0.0-0.01, PC5_0.0-0.02	**13-JUL-2009**	**----**	----	----	**17-JUL-2009**	20-JUL-2009	✓
EP005: Total Organic Carbon (TOC)							
Soil Glass Jar - Unpreserved							
SG10_0.0-0.7, SG12_0.0-0.04, SG16_0.0-0.05, SG17_0.0-0.06, SG19_0.0-0.01, SG28_0.0-0.01, SG30_0.0-0.01, PC5_0.0-0.02, SG23_0.0-0.02	**13-JUL-2009**	**21-JUL-2009**	10-AUG-2009	✓	**23-JUL-2009**	10-AUG-2009	✓
EP090: Organotin Compounds							
Soil Glass Jar - Unpreserved							
SG12_0.0-0.04, SG30_0.0-0.01, PC5_0.0-0.02	**13-JUL-2009**	**23-JUL-2009**	27-JUL-2009	✓	**27-JUL-2009**	01-SEP-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)							
Organotin Analysis	EP090	2	15	**13.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	1	9	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Organotin Analysis	EP090	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Organotin Analysis	EP090	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Organotin Analysis	EP090	1	15	**6.7**	**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 Organic Carbon	EP005	SOIL	In-house. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.

Preparation Methods	Method	Matrix	Method Descriptions
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated 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
Matrix Spike (MS) Recoveries							
EP090: Organotin Compounds	EB0911142-003	Anonymous	**Tributyltin**	56573-85-4	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 Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**

Regular Sample Surrogates

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

Outliers : Analysis Holding Time Compliance

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

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

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

- **No Quality Control Sample Frequency Outliers exist.**

ALS Sydney: 277-289 Woodpark Road, Smithfield, NSW 2164. Phone (02) 8784 8555; Facsimile (02 8784 8500. Email Samples.Sydney@alsenviro.com

CHAIN OF CUSTODY DOCUMENTATION

ALS Laboratory Group

CLIENT: AECOM
ADDRESS / OFFICE: GORDON
PROJECT MANAGER (PM): CHRIS DONNETTI
PROJECT ID: 53017805
SITE: PORT KEMBLA. P.O. NO.:
RESULTS REQUIRED (Date): QUOTE NO.: SY-330-093

SAMPLER: KP/CD
MOBILE: 0415803884.
PHONE 02 - 84848915
EMAIL REPORT TO: christiaan.donnetti@aecom.com
EMAIL INVOICE TO: (if different to report)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

TBT / TOC only

ALS ID	SAMPLE ID	MATRIX	DATE	Time	CONTAINER INFORMATION Type / Code	Total bottles	Metals (M13)	TOC	PAH (Ultrace)	BTEX/TPH	SPOCAS	ELUT. METALS	ELUT. PAH	CYANIDE	TBT	PHENOLS	OCP (UT)	PCB (UT)
	SG9_0.0-0.7	S	13/7				✓											
1	SG10_0.0-0.7	S	"				✓	✓				✓	✓					
	SG11_0.0-0.7	S	"				✓											
2	SG12_0.0-0.04	S	"				✓	✓	✓		✓	✓	✓	✓	✓			
	SG13_0.0-0.05	S	"				✓											
	SG14_0.0-0.03	S	"				✓				✓							
	SG15_0.0-0.11	S	"				✓											
3	SG16_0.0-0.03	S	"				✓	✓	✓	✓	✓	✓	✓			✓	✓	✓
4	SG17_0.0-0.06	S	"				✓	✓	✓	✓						✓	✓	✓
	SG18_0.0-0.04	S	"				✓											
5	SG19_0.0-0.01	S	"				✓	✓	✓	✓						✓	✓	✓
	SG20_0.0-0.04	S	"				✓											

Environmental Division Sydney
Work Order
ES0910407

Telephone : +61-2-8784 8555

RELINQUIS

Name:
Of:
Name:
Of:

RECEIVED BY

Name: Frank Date: 15/7/09
Of: ALS Time: 5pm
Name: Date:
Of: Time:

METHOD OF SHIPMENT

Con' Note No:
Transport Co:

WORK
ES0910407
ALS Brisbane
15/7/9
~~TBT~~ ELUTRIATE: ES09104
SPOCAS: ES0910406
ALS SYD BATCH ONLY: ES091040

Water Container Codes: P = Unpreserved Plastic; [illegible] = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

Pandac

ALS LABORATORY GROUP - ENVIRONMENTAL DIVISION

ALS Sydney: 277-289 Woodpark Road, Smithfield, NSW 2164. Phone (02) 8784 8555; Facsimile (02 8784 8500. Email Samples.Sydney@alsenviro.com

CHAIN OF CUSTODY DOCUMENTATION

ALS Laboratory Group

CLIENT:	SAMPLER:
ADDRESS / OFFICE:	MOBILE:
PROJECT MANAGER (PM):	PHONE
PROJECT ID:	EMAIL REPORT TO:
SITE: P.O. NO.:	EMAIL INVOICE TO: (if different to report)
RESULTS REQUIRED (Date): QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

FOR LABORATORY USE ONLY
COOLER SEAL (Circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Notes: e.g. Highly contaminated samples
e.g. "High PAHs expected".
Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Metals (M13)	TOC	PAH (UT)	BTEX/TPH	SPOCAS	ELUT METALS	ELUT PAH	CYANIDE	TBT	PHENOLS	OCP (UT)	PCB (UT)	
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles													
	SG-21_0.0-0.02	S	13/7	—			✓												
6	SG-29_0.0-0.01	S	"	—			✓	✓	✓	✓		✓	✓						
7	SG-30_0.0-0.01	S	"	—			✓	✓	✓	✓				✓	✓	✓	✓	✓	
(8)	PC44_0.0-0.06	S	"	—															
(9)	PC66_0.0-0.02	S	"	—															
Not received	PC9	S	"	—															
	DUP02	S	"	—			✓												
	DUP03	S	"	—			✓												
	HS_H_01	W	"	—															
	HS_H_01	W	"	—															
	HS_H_02	W	"	—															
	HS-H-02	W	"	—															

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Frank	Date: 15/7/19	Con' Note No:
Of:	Time:	Of: ALS	Time: 5pm	
Name:	Date:	Name:	Date:	Transport Co:
Of:	Time:	Of:	Time:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

Extra: (10) PCS_0.0-0.02
(11) SG23_0.0-0.02

ALS LABORATORY GROUP - ENVIRONMENTAL DIVISION

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES0910407**		
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	: S3012805 - Port Kembla Outer Harbour	Page	: 1 of 3
Order number	: ----		
C-O-C number	: ----	Quote number	: ES2009HLAENV0352 (SY/330/09 V3)
Site	: PORT KEMBLA		
Sampler	: KP/CD	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 15-JUL-2009	Issue Date	: 17-JUL-2009 12:31
Client Requested Due Date	: 24-JUL-2009	Scheduled Reporting Date	: **24-JUL-2009**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 3.0'C - Ice present
No. of coolers/boxes	: 4 HARD	No. of samples received	: 11
Sercurity Seal	: Intact.	No. of samples analysed	: 9

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.
- (TBT/TOC) Analysis to be conducted by ALS Brisbane
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **This batch TBT & TOC only and split into ES0910405 Sydney batch, ES0910406 (SPOCAS) & ES0910408 (ELUTRIATE)**
- **Sample id PC5_0.0-0.2 received extra and conducted TOC/TBT analysis, sample id SG23_0.0-0.2 received extra and conducted TOC analysis, as per Kate on 16/07/09**
- **Sample id PC9 not received**
- 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*	(On Hold) SOIL No analysis requested	SOIL - EP005 (solids) Total Organic Carbon (TOC) soils	SOIL - EA055-103 Moisture Content	SOIL - EP090 (solids) Organotins
ES0910407-001	13-JUL-2009 15:00	SG10_0.0-0.7		✓		
ES0910407-002	13-JUL-2009 15:00	SG12_0.0-0.04		✓	✓	✓
ES0910407-003	13-JUL-2009 15:00	SG16_0.0-0.05		✓		
ES0910407-004	13-JUL-2009 15:00	SG17_0.0-0.06		✓		
ES0910407-005	13-JUL-2009 15:00	SG19_0.0-0.01		✓		
ES0910407-006	13-JUL-2009 15:00	SG28_0.0-0.01		✓		
ES0910407-007	13-JUL-2009 15:00	SG30_0.0-0.01		✓	✓	✓
ES0910407-008	13-JUL-2009 15:00	PC44_0.0-0.06	✓			
ES0910407-009	13-JUL-2009 15:00	PC66_0.0-0.02	✓			
ES0910407-010	13-JUL-2009 15:00	PC5_0.0-0.02		✓	✓	✓
ES0910407-011	13-JUL-2009 15:00	SG23_0.0-0.02		✓		

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	: **ES0910408**	Page	: 1 of 10
Amendment	: **1**		
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	: S3012805 - Port Kembla Outer Harbour	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 15-JUL-2009
Sampler	: KP/CD	Issue Date	: 05-AUG-2009
Site	: PORT KEMBLA		
		No. of samples received	: 7
Quote number	: SY/330/09 V3	No. of samples analysed	: 6

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

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: LCS recovery for Zn falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**
- **EG093: Work order ES910408 #2 - High V results have been confirmed by redigestion and re-analysis.**

Analytical Results

Sub-Matrix: **ELUTRIATE**

Compound	CAS Number	LOR	Unit	Client sample ID: SG10_0.0-0.7	SG12_0.0-0.04	SG16_0.0-0.05	SG28_0.0-0.01	SG23_0.0-0.02
				Client sampling date / time: 17-JUL-2009 12:00	17-JUL-2009 12:00	17-JUL-2009 12:00	17-JUL-2009 12:00	23-JUL-2009 12:00
				ES0910408-001	ES0910408-002	ES0910408-003	ES0910408-004	ES0910408-006
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	**3.2**	**0.6**	**1.4**	<0.5	<0.5
Arsenic	7440-38-2	0.5	µg/L	**12.7**	**13.2**	**18.3**	**2.2**	**6.6**
Cadmium	7440-43-9	0.2	µg/L	**0.4**	**0.5**	<0.2	**0.3**	<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	**11**	<1
Lead	7439-92-1	0.2	µg/L	**0.8**	**0.4**	**0.4**	**0.7**	**0.3**
Nickel	7440-02-0	0.5	µg/L	**2.6**	**0.7**	**1.5**	**0.8**	**1.4**
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	**1.6**	**17.9**	**2.0**	**3.8**	**23.6**
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	SG10_0.0-0.7	SG12_0.0-0.04	SG16_0.0-0.05	SG28_0.0-0.01	SG23_0.0-0.02
				Client sampling date / time	17-JUL-2009 12:00	17-JUL-2009 12:00	17-JUL-2009 12:00	17-JUL-2009 12:00	23-JUL-2009 12:00
Compound	*CAS Number*	*LOR*	*Unit*		ES0910408-001	ES0910408-002	ES0910408-003	ES0910408-004	ES0910408-006
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**87.6**	**84.8**	**91.2**	**89.8**	**81.4**
Anthracene-d10	1719-06-8	0.1	%		**102**	**95.0**	**98.8**	**104**	**88.9**
4-Terphenyl-d14	1718-51-0	0.1	%		**106**	**96.9**	**100**	**106**	**91.9**

Analytical Results

Sub-Matrix: ELUTRIATE				Client sample ID	ELUTRIATE WATER	----	----	----	----
				Client sampling date / time	17-JUL-2009 12:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES0910408-007	----	----	----	----
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		**2.1**	----	----	----	----
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		**1.3**	----	----	----	----
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	17-JUL-2009 12:00	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*		**ES0910408-007**	**----**	**----**	**----**	**----**
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**89.4**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**93.5**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**95.7**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL			Client sample ID	SG10_0.0-0.7	SG12_0.0-0.04	SG16_0.0-0.05	SG28_0.0-0.01	SG23_0.0-0.02
			Client sampling date / time	13-JUL-2009 15:00	13-JUL-2009 15:00	13-JUL-2009 15:00	13-JUL-2009 15:00	13-JUL-2009 15:00
Compound	CAS Number	LOR	Unit	ES0910408-001	ES0910408-002	ES0910408-003	ES0910408-004	ES0910408-006
EN68: Seawater Elutriate Testing Procedure								
Seawater Sampling Date	----	0.1	--	13/07/09	13/07/09	13/07/09	13/07/09	13/07/09

Analytical Results

Sub-Matrix: SOIL				Client sample ID	ELUTRIATE WATER	----	----	----	----
				Client sampling date / time	13-JUL-2009 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES0910408-007	----	----	----	----
EN68: Seawater Elutriate Testing Procedure									
Seawater Sampling Date	----	0.1	--		**13/07/09**	----	----	----	----

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	: **ES0910408**	Page	: 1 of 9
Amendment	: **1**		
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	: S3012805 - Port Kembla Outer Harbour	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: PORT KEMBLA		
C-O-C number	: ----	Date Samples Received	: 15-JUL-2009
Sampler	: KP/CD	Issue Date	: 05-AUG-2009
Order number	: ----		
		No. of samples received	: 7
Quote number	: SY/330/09 V3	No. of samples analysed	: 6

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

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: 1044586)									
ES0910387-001	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	0.0002	0.0002	0.0	No Limit
ES0910431-001	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	0.0002	0.0003	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1049207)									
ES0910408-006	SG23_0.0-0.02	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: 1047996)									
ES0910405-022	Anonymous	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	2.4	2.4	0.0	0% - 50%
		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	0.3	0.4	0.0	No Limit
		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	2.1	1.8	13.6	No Limit
		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	1.9	1.9	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
ES0910408-004	SG28_0.0-0.01	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	0.3	0.3	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	0.7	0.4	51.8	No Limit
		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	2.2	2.3	0.0	No Limit
		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	0.8	0.7	0.0	No Limit
		EG093A-T: Vanadium	7440-62-2	0.5	µg/L	3.8	3.7	0.0	No Limit
		EG093A-T: Copper	7440-50-8	1	µg/L	11	11	0.0	0% - 50%
		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: 1047997)									
ES0910405-022	Anonymous	EG093B-T: Selenium	7782-49-2	2	µg/L	<2	<2	0.0	No Limit
ES0910408-004	SG28_0.0-0.01	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: 1049222)									
ES0910206-001	Anonymous	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: 1049222) - continued									
ES0910206-001	Anonymous	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	17.0	17.5	2.9	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	1.4	1.4	0.0	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	18	14	24.2	No Limit
EG093T: Total Metals in Saline Water by ORC-ICPMS (QC Lot: 1049223)									
ES0910206-001	Anonymous	EG093B-T: Selenium	7782-49-2	2	µg/L	<2	<2	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1045076)									
ES0910405-022	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: **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: 1044586)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	101	81	119
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1049207)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	102	81	119
EG093T: Total Metals in Saline Water by ORC-ICPMS (QCLot: 1047996)								
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	90.4	89	125
EG093A-T: Cadmium	7440-43-9	0.2	µg/L	<0.2	10 µg/L	87.7	78	112
EG093A-T: Chromium	7440-47-3	0.5	µg/L	<0.5	10 µg/L	87.4	86	126
EG093A-T: Cobalt	7440-48-4	0.2	µg/L	<0.2	10 µg/L	90.9	90	126
EG093A-T: Copper	7440-50-8	1	µg/L	<1	10 µg/L	88.2	87	123
EG093A-T: Lead	7439-92-1	0.2	µg/L	<0.2	10 µg/L	92.4	89	121
EG093A-T: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	91.8	85	125
EG093A-T: Silver	7440-22-4	0.1	µg/L	<0.1	1 µg/L	74.2	70	130
EG093A-T: Vanadium	7440-62-2	0.5	µg/L	<0.5	10 µg/L	91.5	87	121
EG093A-T: Zinc	7440-66-6	5	µg/L	<5	10 µg/L	# 79.2	82	128
EG093T: Total Metals in Saline Water by ORC-ICPMS (QCLot: 1047997)								
EG093B-T: Selenium	7782-49-2	2	µg/L	<2	10 µg/L	105	75	130
EG093T: Total Metals in Saline Water by ORC-ICPMS (QCLot: 1049222)								
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	105	89	125
EG093A-T: Cadmium	7440-43-9	0.2	µg/L	<0.2	10 µg/L	93.4	78	112
EG093A-T: Chromium	7440-47-3	0.5	µg/L	<0.5	10 µg/L	98.8	86	126
EG093A-T: Cobalt	7440-48-4	0.2	µg/L	<0.2	10 µg/L	102	90	126
EG093A-T: Copper	7440-50-8	1	µg/L	<1	10 µg/L	110	87	123
EG093A-T: Lead	7439-92-1	0.2	µg/L	<0.2	10 µg/L	106	89	121
EG093A-T: Nickel	7440-02-0	0.5	µg/L	<0.5	10 µg/L	102	85	125
EG093A-T: Silver	7440-22-4	0.1	µg/L	<0.1	1 µg/L	105	70	130
EG093A-T: Vanadium	7440-62-2	0.5	µg/L	<0.5	10 µg/L	103	87	121
EG093A-T: Zinc	7440-66-6	5	µg/L	<5	10 µg/L	98.6	82	128
EG093T: Total Metals in Saline Water by ORC-ICPMS (QCLot: 1049223)								
EG093B-T: Selenium	7782-49-2	2	µg/L	<2	10 µg/L	101	75	130
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1045076)								
EP132: 3-Methylcholanthrene	56-49-5	0.10	µg/L	<0.1	2 µg/L	100	65.8	121
EP132: 2-Methylnaphthalene	91-57-6	0.10	µg/L	<0.1	2 µg/L	102	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: 1045076) - continued								
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.10	µg/L	<0.1	2 µg/L	99.0	11.6	146
EP132: Acenaphthene	83-32-9	0.10	µg/L	<0.1	2 µg/L	103	73.2	111
EP132: Acenaphthylene	208-96-8	0.10	µg/L	<0.1	2 µg/L	102	72.4	112
EP132: Anthracene	120-12-7	0.10	µg/L	<0.1	2 µg/L	98.1	73.4	113
EP132: Benz(a)anthracene	56-55-3	0.10	µg/L	<0.1	2 µg/L	97.8	73.6	114
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	103	75.2	117
EP132: Benzo(b)fluoranthene	205-99-2	0.10	µg/L	<0.1	2 µg/L	94.4	71.4	119
EP132: Benzo(e)pyrene	192-97-2	0.10	µg/L	<0.1	2 µg/L	106	75.3	118
EP132: Benzo(g.h.i)perylene	191-24-2	0.10	µg/L	<0.1	2 µg/L	103	66.6	121
EP132: Benzo(k)fluoranthene	207-08-9	0.10	µg/L	<0.1	2 µg/L	103	74.8	118
EP132: Chrysene	218-01-9	0.10	µg/L	<0.1	2 µg/L	104	69.6	120
EP132: Coronene	191-07-1	0.10	µg/L	<0.1	2 µg/L	98.9	47.4	131
EP132: Dibenz(a.h)anthracene	53-70-3	0.10	µg/L	<0.1	2 µg/L	102	71.5	117
EP132: Fluoranthene	206-44-0	0.10	µg/L	<0.1	2 µg/L	99.1	74.8	117
EP132: Fluorene	86-73-7	0.10	µg/L	<0.1	2 µg/L	103	72.9	114
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L	<0.1	2 µg/L	103	67.8	119
EP132: N-2-Fluorenyl Acetamide	53-96-3	0.10	µg/L	<0.1	2 µg/L	65.3	53.6	131
EP132: Naphthalene	91-20-3	0.10	µg/L	<0.1	2 µg/L	103	68.3	116
EP132: Perylene	198-55-0	0.10	µg/L	<0.1	2 µg/L	107	68	122
EP132: Phenanthrene	85-01-8	0.10	µg/L	<0.1	2 µg/L	101	74.8	112
EP132: Pyrene	129-00-0	0.10	µg/L	<0.1	2 µg/L	100	75.1	117
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1048184)								
EP132: 3-Methylcholanthrene	56-49-5	0.10	µg/L	<0.1	2 µg/L	85.4	65.8	121
EP132: 2-Methylnaphthalene	91-57-6	0.10	µg/L	<0.1	2 µg/L	78.9	67.7	112
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.10	µg/L	<0.1	2 µg/L	89.2	11.6	146
EP132: Acenaphthene	83-32-9	0.10	µg/L	<0.1	2 µg/L	83.7	73.2	111
EP132: Acenaphthylene	208-96-8	0.10	µg/L	<0.1	2 µg/L	83.2	72.4	112
EP132: Anthracene	120-12-7	0.10	µg/L	<0.1	2 µg/L	85.9	73.4	113
EP132: Benz(a)anthracene	56-55-3	0.10	µg/L	<0.1	2 µg/L	88.2	73.6	114
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	84.8	75.2	117
EP132: Benzo(b)fluoranthene	205-99-2	0.10	µg/L	<0.1	2 µg/L	93.8	71.4	119
EP132: Benzo(e)pyrene	192-97-2	0.10	µg/L	<0.1	2 µg/L	86.6	75.3	118
EP132: Benzo(g.h.i)perylene	191-24-2	0.10	µg/L	<0.1	2 µg/L	82.2	66.6	121
EP132: Benzo(k)fluoranthene	207-08-9	0.10	µg/L	<0.1	2 µg/L	80.1	74.8	118
EP132: Chrysene	218-01-9	0.10	µg/L	<0.1	2 µg/L	84.5	69.6	120
EP132: Coronene	191-07-1	0.10	µg/L	<0.1	2 µg/L	79.4	47.4	131
EP132: Dibenz(a.h)anthracene	53-70-3	0.10	µg/L	<0.1	2 µg/L	83.4	71.5	117
EP132: Fluoranthene	206-44-0	0.10	µg/L	<0.1	2 µg/L	85.2	74.8	117
EP132: Fluorene	86-73-7	0.10	µg/L	<0.1	2 µg/L	83.8	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: 1048184) - continued								
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L	<0.1	2 µg/L	84.3	67.8	119
EP132: N-2-Fluorenyl Acetamide	53-96-3	0.10	µg/L	<0.1	20 µg/L	# 46.5	53.6	131
EP132: Naphthalene	91-20-3	0.10	µg/L	<0.1	2 µg/L	80.2	68.3	116
EP132: Perylene	198-55-0	0.10	µg/L	<0.1	2 µg/L	86.0	68	122
EP132: Phenanthrene	85-01-8	0.10	µg/L	<0.1	2 µg/L	85.9	74.8	112
EP132: Pyrene	129-00-0	0.10	µg/L	<0.1	2 µg/L	85.0	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: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1044586)							
ES0910408-001	SG10_0.0-0.7	EG035T: Mercury	7439-97-6	0.010 mg/L	98.0	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1049207)							
ES0910848-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	120	70	130
EG093T: Total Metals in Saline Water by ORC-ICPMS (QCLot: 1047996)							
ES0910405-022	Anonymous	EG093A-T: Arsenic	7440-38-2	50 µg/L	89.7	70	130
		EG093A-T: Cadmium	7440-43-9	12.5 µg/L	86.3	70	130
		EG093A-T: Chromium	7440-47-3	50 µg/L	89.6	70	130
		EG093A-T: Cobalt	7440-48-4	50 µg/L	93.6	70	130
		EG093A-T: Copper	7440-50-8	50 µg/L	88.1	70	130
		EG093A-T: Lead	7439-92-1	50 µg/L	88.3	70	130
		EG093A-T: Nickel	7440-02-0	50 µg/L	92.1	70	130
		EG093A-T: Vanadium	7440-62-2	50 µg/L	89.0	70	130
		EG093A-T: Zinc	7440-66-6	50 µg/L	76.6	70	130
EG093T: Total Metals in Saline Water by ORC-ICPMS (QCLot: 1049222)							
ES0910206-001	Anonymous	EG093A-T: Arsenic	7440-38-2	50 µg/L	118	70	130
		EG093A-T: Cadmium	7440-43-9	12.5 µg/L	98.5	70	130
		EG093A-T: Chromium	7440-47-3	50 µg/L	112	70	130
		EG093A-T: Cobalt	7440-48-4	50 µg/L	113	70	130
		EG093A-T: Copper	7440-50-8	50 µg/L	112	70	130
		EG093A-T: Lead	7439-92-1	50 µg/L	105	70	130
		EG093A-T: Nickel	7440-02-0	50 µg/L	110	70	130
		EG093A-T: Vanadium	7440-62-2	50 µg/L	109	70	130
		EG093A-T: Zinc	7440-66-6	50 µg/L	74.2	70	130
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1045076)							
ES0910405-022	Anonymous	EP132: 3-Methylcholanthrene	56-49-5	2 µg/L	102	59	115
		EP132: 2-Methylnaphthalene	91-57-6	2 µg/L	105	46	120
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	2 µg/L	75.7	21	135
		EP132: Acenaphthene	83-32-9	2 µg/L	109	62	114
		EP132: Acenaphthylene	208-96-8	2 µg/L	108	61	119
		EP132: Anthracene	120-12-7	2 µg/L	107	68	116
		EP132: Benz(a)anthracene	56-55-3	2 µg/L	113	67	122
		EP132: Benzo(a)pyrene	50-32-8	2 µg/L	106	72	114
		EP132: Benzo(b)fluoranthene	205-99-2	2 µg/L	94.5	69	119
		EP132: Benzo(e)pyrene	192-97-2	2 µg/L	107	71	119

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1045076) - continued							
ES0910405-022	Anonymous	EP132: Benzo(g.h.i)perylene	191-24-2	2 µg/L	107	49	133
		EP132: Benzo(k)fluoranthene	207-08-9	2 µg/L	100	71	124
		EP132: Chrysene	218-01-9	2 µg/L	107	70	118
		EP132: Coronene	191-07-1	2 µg/L	111	29	138
		EP132: Dibenz(a.h)anthracene	53-70-3	2 µg/L	109	60	122
		EP132: Fluoranthene	206-44-0	2 µg/L	107	65	121
		EP132: Fluorene	86-73-7	2 µg/L	107	63	118
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	2 µg/L	107	57	123
		EP132: N-2-Fluorenyl Acetamide	53-96-3	20 µg/L	110	29	212
		EP132: Naphthalene	91-20-3	2 µg/L	109	53	115
		EP132: Perylene	198-55-0	2 µg/L	105	71	118
		EP132: Phenanthrene	85-01-8	2 µg/L	106	67	120
		EP132: Pyrene	129-00-0	2 µg/L	108	70	117

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES0910408**	Page	: 1 of 5
Amendment	: **1**		
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
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Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S3012805 - Port Kembla Outer Harbour	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: PORT KEMBLA		
C-O-C number	: ----	Date Samples Received	: 15-JUL-2009
Sampler	: KP/CD	Issue Date	: 05-AUG-2009
Order number	: ----		
		No. of samples received	: 7
Quote number	: SY/330/09 V3	No. of samples analysed	: 6

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
EG035T: Total Recoverable Mercury by FIMS								
Clear HDPE (U-T ORC) - UHP Nitric Acid; Unfiltered								
SG10_0.0-0.7, SG16_0.0-0.05, ELUTRIATE WATER	SG12_0.0-0.04, SG28_0.0-0.01,	**17-JUL-2009**	**----**	----	----	**22-JUL-2009**	14-AUG-2009	✓
Clear HDPE (U-T ORC) - UHP Nitric Acid; Unfiltered								
SG23_0.0-0.02		**23-JUL-2009**	**----**	----	----	**24-JUL-2009**	20-AUG-2009	✓
EG093T: Total Metals in Saline Water by ORC-ICPMS								
Clear HDPE (U-T ORC) - UHP Nitric Acid; Unfiltered								
SG10_0.0-0.7, SG16_0.0-0.05, ELUTRIATE WATER	SG12_0.0-0.04, SG28_0.0-0.01,	**17-JUL-2009**	**23-JUL-2009**	13-JAN-2010	✓	**23-JUL-2009**	13-JAN-2010	✓
Clear HDPE (U-T ORC) - UHP Nitric Acid; Unfiltered								
SG23_0.0-0.02		**23-JUL-2009**	**24-JUL-2009**	19-JAN-2010	✓	**24-JUL-2009**	19-JAN-2010	✓
EN68: Seawater Elutriate Testing Procedure								
LabSplit: Leach for organics and other tests								
SG10_0.0-0.7, SG16_0.0-0.05, ELUTRIATE WATER	SG12_0.0-0.04, SG28_0.0-0.01,	**13-JUL-2009**	**---**	---	----	**17-JUL-2009**	27-JUL-2009	✓
LabSplit: Leach for organics and other tests								
SG23_0.0-0.02		**13-JUL-2009**	**---**	---	----	**23-JUL-2009**	27-JUL-2009	✓
EP132B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved								
SG10_0.0-0.7, SG16_0.0-0.05, ELUTRIATE WATER	SG12_0.0-0.04, SG28_0.0-0.01,	**17-JUL-2009**	**20-JUL-2009**	24-JUL-2009	✓	**22-JUL-2009**	31-AUG-2009	✓
Amber Glass Bottle - Unpreserved								
SG23_0.0-0.02		**23-JUL-2009**	**23-JUL-2009**	30-JUL-2009	✓	**24-JUL-2009**	01-SEP-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: **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
Total Mercury by FIMS	EG035T	3	22	**13.6**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals in Saline Water Suite A by ORC-ICPMS	EG093A-T	3	19	**15.8**	**9.5**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals in Saline Water -Suite B by ORC-ICPMS	EG093B-T	3	19	**15.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	2	28	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	22	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals in Saline Water Suite A by ORC-ICPMS	EG093A-T	2	19	**10.5**	**4.8**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals in Saline Water -Suite B by ORC-ICPMS	EG093B-T	2	19	**10.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	2	28	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	22	**9.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals in Saline Water Suite A by ORC-ICPMS	EG093A-T	2	19	**10.5**	**4.8**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals in Saline Water -Suite B by ORC-ICPMS	EG093B-T	2	19	**10.5**	**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
Total Mercury by FIMS	EG035T	2	22	**9.1**	**5.0**	✓	ALS QCS3 requirement
Total Metals in Saline Water Suite A by ORC-ICPMS	EG093A-T	2	19	**10.5**	**4.8**	✓	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
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. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by 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) (Appdx. 2)
Total Metals in Saline Water Suite A by ORC-ICPMS	EG093A-T	SOIL	APHA 21st ed., 3125; USEPA SW846 - 6020 Samples are 0.45 um filtered prior to analysis. The ORC-ICPMS technique removes interfering species through a series of chemical reactions prior to ion detection. Ions are passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to measurement by a discrete dynode ion detector. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Metals in Saline Water -Suite B by ORC-ICPMS	EG093B-T	SOIL	APHA 21st ed., 3125; USEPA SW846 - 6020 Samples are 0.45 um filtered prior to analysis. The ORC-ICPMS technique removes interfering species through a series of chemical reactions prior to ion detection. Ions are passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to measurement by a discrete dynode ion detector. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	SOIL	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
Digestion for Total Recoverable Metals - ORC	EN25-ORC	SOIL	Modified USEPA SW846-3005. This is an Ultrapure Nitric acid digestion procedure used to prepare surface and ground water samples for analysis by ORC- ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Seawater Elutriate Testing Procedure	* EN68a	SOIL	USEPA Evaluation of Dredged Material Proposed for Ocean Disposal - Testing Guide, 1991, EPA-503/8-91/001, USEPA and US Army Corps of Engineers. ANZECC Interim Ocean Disposal Guidelines, December, 1998 This Procedure outlines the preparation of leachate designed to simulate release of contaminants from sediment during the disposal of dredged material. Release can occur by physical processes or a variety of chemical changes such as oxidation of metal sulphides and release of contaminants adsorbed to particles or organic matter.
Sep. Funnel Extraction /Acetylation of Phenolic Compounds	ORG14-AC	SOIL	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: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EG093T: Total Metals in Saline Water by ORC-ICPMS	1204681-003	----	**Zinc**	7440-66-6	79.2 %	82-128%	**Recovery less than lower control limit**
EP132B: Polynuclear Aromatic Hydrocarbons	1205006-002	----	**N-2-Fluorenyl Acetamide**	53-96-3	46.5 %	53.6-131%	**Recovery less than lower control limit**

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

Regular Sample Surrogates

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

Outliers : Analysis Holding Time Compliance

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

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

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

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

ALS Sydney: 277-289 Woodpark Road, Smithfield, NSW 2164. Phone (02) 8784 8555; Facsimile (02 8784 8500. Email Samples.Sydney@alsenviro.com

CHAIN OF CUSTODY DOCUMENTATION

ALS Laboratory Group

CLIENT: AECOM
ADDRESS / OFFICE: GORDON
PROJECT MANAGER (PM): CHRIS DONNETTI
PROJECT ID: 53017805
SITE: PORT KEMBLA. P.O. NO.:
RESULTS REQUIRED (Date): QUOTE NO.: SY-330-093

SAMPLER: KP/CD
MOBILE: 0415803884.
PHONE 02 - 84848915
EMAIL REPORT TO: Christiaan.donnetti@aecom.com
EMAIL INVOICE TO: (if different to report)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DIPOSAL:

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

Eluviates only

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Metals (M13)	TOC	PAH (ultra trace)	BTEX/TPH	SPOCAS	ELUT. METALS	ELUT. PAH	CYANIDE	TBT	PHENOLS	OCP (UT)	PCB (UT)
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	SG9_0.0-0.7	S	13/7				✓											
1	SG10_0.0-0.7	S	"				✓	✓				✓	✓					
	SG11_0.0-0.7	S	"				✓											
2	SG12_0.0-0.04	S	"				✓	✓	✓		✓	✓	✓	✓	✓			
	SG13_0.0-0.05	S	"				✓											
	SG14_0.0-0.03	S	"				✓				✓							
	SG15_0.0-0.11	S	"				✓											
3	SG16_0.0-0.03	S					✓	✓	✓	✓	✓	✓	✓			✓	✓	✓
	SG17_0.0-0.06	S					✓	✓	✓	✓						✓	✓	✓
	SG18_0.0-0.04	S					✓											
	SG19_0.0-0.01	S					✓	✓	✓	✓						✓	✓	✓
	SG20_0.0-0.04	S					✓											

Environmental Division
Sydney
Work Order
ES0910408

Telephone : +61-2-8784 8555

CONTRACT WORK
VO: ES0910408
LAB: ALS Brisbane
DATE: 15/7/9
SPLIT: TBT/TOC: ES0910407
SPOCAS: ES0910406
ALS SYD BATCH ONLY: ES0910405

RELINQUISHED BY	
Name:	
Of:	
Name:	
Of:	

RECEIVED BY		
Name: Frank	Date: 15/7/9	
Of: ALS	Time: 5pm	
Name:	Date:	
Of:	Time:	

METHOD OF SHIPMENT
Con' Note No:
Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

ALS LABORATORY GROUP - ENVIRONMENTAL DIVISION

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EP132B: Polynuclear Aromatic Hydrocarbons	1205006-002	----	**N-2-Fluorenyl Acetamide**	53-96-3	46.5 %	53.6-131%	**Recovery less than lower control limit**

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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

ALS Sydney: 277-289 Woodpark Road, Smithfield, NSW 2164. Phone (02) 8784 8555; Facsimile (02 8784 8500. Email Samples.Sydney@alsenviro.com

CHAIN OF CUSTODY DOCUMENTATION

ALS Laboratory Group

CLIENT: AECOM
ADDRESS / OFFICE: GORDON
PROJECT MANAGER (PM): CHRIS DONNETTI
PROJECT ID: 53017805
SITE: PORT KEMBLA. P.O. NO.:
RESULTS REQUIRED (Date): QUOTE NO.: SY-330-093

SAMPLER: KP/CD
MOBILE: 0415803884.
PHONE 02 - 84848915
EMAIL REPORT TO: Christiaan.donnetti@aecom.com
EMAIL INVOICE TO: (if different to report)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DIPOSAL:

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.

Eluviates only

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Metals (M13)	TOC	PAH (ultra trace)	BTEX/TPH	SPOCAS	ELUT. METALS	ELUT. PAH	CYANIDE	TBT	PHENOLS	OCP (UT)	PCB (UT)
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles												
	SG9_0.0-0.7	S	13/7				✓											
1	SG10_0.0-0.7	S	"				✓	✓				✓	✓					
	SG11_0.0-0.7	S	"				✓											
2	SG12_0.0-0.04	S	"				✓	✓	✓		✓	✓	✓	✓	✓			
	SG13_0.0-0.05	S	"				✓											
	SG14_0.0-0.03	S	"				✓				✓							
	SG15_0.0-0.11	S	"				✓											
3	SG16_0.0-0.03	S					✓	✓	✓	✓	✓	✓	✓			✓	✓	✓
	SG17_0.0-0.06	S					✓	✓	✓	✓						✓	✓	✓
	SG18_0.0-0.04	S					✓											
	SG19_0.0-0.01	S					✓	✓	✓	✓						✓	✓	✓
	SG20_0.0-0.04	S					✓											

Environmental Division
Sydney
Work Order
ES0910408

Telephone : +61-2-8784 8555

CONTRACT WORK
VO: ES0910408
LAB: ALS Brisbane
DATE: 15/7/9
SPLIT: TBT/TOC: ES0910407
SPOCAS: ES0910406
ALS SYD BATCH ONLY: ES0910405

RELINQUISHED BY	
Name:	
Of:	
Name:	
Of:	

RECEIVED BY		
Name: Frank	Date: 15/7/9	
Of: ALS	Time: 5pm	
Name:	Date:	
Of:	Time:	

METHOD OF SHIPMENT
Con' Note No:
Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

ALS LABORATORY GROUP - ENVIRONMENTAL DIVISION

ALS Sydney: 277-289 Woodpark Road, Smithfield, NSW 2164. Phone (02) 8784 8555; Facsimile (02 8784 8500. Email Samples.Sydney@alsenviro.com

CHAIN OF CUSTODY DOCUMENTATION

ALS Laboratory Group

CLIENT:
ADDRESS / OFFICE:
PROJECT MANAGER (PM):
PROJECT ID:
SITE: P.O. NO.:
RESULTS REQUIRED (Date): QUOTE NO.:

SAMPLER:
MOBILE:
PHONE
EMAIL REPORT TO:
EMAIL INVOICE TO: (if different to report)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

ANALYSIS REQUIRED Including SUITES (note - suite codes must be listed to attract suite prices)

Notes: e.g. Highly contaminated samples
e.g. "High PAHs expected".
Extra volume for QC or trace LORs etc;

ALS ID	SAMPLE ID	MATRIX	DATE	Time	CONTAINER INFORMATION Type / Code	Total bottles	Metals (M13)	TOC	PAH (UT)	BTEX/TPH	SPOCAS	ELUT METALS	ELUT PAH	CYANIDE	TRT	PHENOLS	OCP (UT)	PCB (UT)
	SG-21_0.0-0.02	S	13/7				✓											
4	SG-28_0.0-0.01	S	11				✓	✓	✓	✓		✓	✓					
	SG-30_0.0-0.01	S	11				✓	✓	✓	✓				✓	✓	✓	✓	✓
	PC44_0.0-0.06	S	11															
(5)	PC66_0.0-0.02	S	11															
Not received	PC9	S	11															
	DUP02	S	11				✓											
	DUP03	S	11				✓											
	HS-01	W	11															
	HS-H-01	W	11															
	HS-H-02	W	11															
	HS-H-02	W	11															

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name:	Date:	Name: Frank	Date: 15/7/19	Con' Note No:
Of:	Time:	Of: ALS	Time: 5pm	
Name:	Date:	Name:	Date:	Transport Co:
Of:	Time:	Of:	Time:	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserveed Plastic; AG = Amber Glass Unpreserved; V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bad for Acid Sulphate Soils; B = Unpreserved Bag.

Extra: PCS_0.0-0.02

(6) SG23_0.0-0.02

(7) Elutriate water

ALS LABORATORY GROUP - ENVIRONMENTAL DIVISION

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES0910408**		
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	: S3012805 - Port Kembla Outer Harbour	Page	: 1 of 3
Order number	: ----		
C-O-C number	: ----	Quote number	: ES2009HLAENV0352 (SY/330/09 V3)
Site	: PORT KEMBLA		
Sampler	: KP/CD	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 15-JUL-2009	Issue Date	: 16-JUL-2009 10:41
Client Requested Due Date	: 24-JUL-2009	Scheduled Reporting Date	: **24-JUL-2009**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 3.0'C - Ice present
No. of coolers/boxes	: 4 HARD	No. of samples received	: 7
Sercurity Seal	: 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 id SG23_0.0-0.2 was received extra and placed on hold, please confrim**
- **This batch for ELUTRIATE only and split from ES0910405 , ES0910406 (SPOCAS) & ES0910407 (TBT/TOC)**
- **Sample id PC9 not received, Sample id PC66_0.0-0.2 placed on hold, please confrim**
- 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*	(On Hold) SOIL No analysis requested	SOIL - EG035T Total Mercury by FIMS	SOIL - EG093A-T Total metals in Saline Water Suite A by ORC-ICPMS	SOIL - EG093B-T Total Metals in Saline Water -Suite B by ORC-ICPMS	SOIL - EP132(PAH) Ultra Trace Polynuclear Aromatic Compounds
ES0910408-001	15-JUL-2009 10:00	SG10_0.0-0.7		✓	✓	✓	✓
ES0910408-002	15-JUL-2009 10:00	SG12_0.0-0.04		✓	✓	✓	✓
ES0910408-003	15-JUL-2009 10:00	SG16_0.0-0.5		✓	✓	✓	✓
ES0910408-004	15-JUL-2009 10:00	SG28_0.0-0.01		✓	✓	✓	✓
ES0910408-005	13-JUL-2009 15:00	PC66_0.0-0.02	✓				
ES0910408-006	13-JUL-2009 15:00	SG23_0.0-0.02	✓				
ES0910408-007	15-JUL-2009 10:00	ELUTRIATE WATER		✓	✓	✓	✓

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	: **ES0910561**	Page	: 1 of 13
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 - PKOH	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 17-JUL-2009
Sampler	: KP	Issue Date	: 30-JUL-2009
Site	: ----		
		No. of samples received	: 41
Quote number	: SY/330/09 V3	No. of samples analysed	: 41

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*
Kim McCabe	Senior Inorganic Chemist	Inorganics
Matt Frost	Organic Instrument Chemist	Organics
Matthew Goodwin	Senior Organic Chemist	Organics
Stephen Hislop	Senior Inorganic Chemist	Inorganics
Stephen Hislop	Senior Inorganic Chemist	Stafford Minerals - AY

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

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC3_0.0-0.2	VC3_1.2-1.3	VC5_0.0-0.2	VC5_0.5-0.6	VC5_1.6-1.7
				Client sampling date / time	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910561-001	ES0910561-002	ES0910561-003	ES0910561-004	ES0910561-005
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		37.2	----	53.0	----	37.0
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	0.02	%		----	2.72	----	0.56	----
EP090: Organotin Compounds									
Tributyltin	56573-85-4	0.5	µgSn/kg		2.0	----	3.3	----	1.2
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		99.3	----	87.3	----	64.3

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC5_2.5-2.6	VC1_0.0-0.2	VC1_1.3-1.4	VC2_0.3-0.4	VC2_0.7-0.8
				Client sampling date / time	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910561-006	ES0910561-007	ES0910561-008	ES0910561-009	ES0910561-010
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		----	28.1	----	21.6	----
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	0.02	%		1.22	----	4.44	----	1.86
EP090: Organotin Compounds									
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	----	0.7	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	42.3	----	37.0	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	VC2_2.7-2.8	VC2_3.7-3.8	VC11_0.2-0.3	VC11_0.5-0.6	VC11_1.1-1.2
				Client sampling date / time	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00
					ES0910561-011	ES0910561-012	ES0910561-013	ES0910561-014	ES0910561-015
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		**26.6**	----	**30.0**	----	**22.9**
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	0.02	%		----	**0.75**	----	**1.50**	----
EP090: Organotin Compounds									
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	<0.5	----	<0.5
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**69.3**	----	**70.4**	----	**74.7**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC11_2.5-2.6	VC12_0.2-0.3	VC12_2.1-2.2	VC9_0.3-0.4	VC9_0.7-0.8
				Client sampling date / time	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910561-016	ES0910561-017	ES0910561-018	ES0910561-019	ES0910561-020
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		----	22.2	----	20.7	----
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	0.02	%		0.26	----	0.03	----	1.24
EP090: Organotin Compounds									
Tributyltin	56573-85-4	0.5	µgSn/kg		----	0.7	----	2.0	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	64.6	----	44.3	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC9_2.8-2.9	VC6_0.5-0.6	VC6_0.7-0.8	VC8_0.5-0.6	VC8_2.3-2.4
				Client sampling date / time	15-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910561-021	ES0910561-022	ES0910561-023	ES0910561-024	ES0910561-025
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		----	----	21.8	----	----
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	0.02	%		3.19	0.18	----	1.47	1.16
EP090: Organotin Compounds									
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	0.8	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	66.3	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC8_2.7-2.8	VC7_0.2-0.3	VC7_0.7-0.8	VC7_0.9-1.0	VC4_0.7-0.8
				Client sampling date / time	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910561-026	ES0910561-027	ES0910561-028	ES0910561-029	ES0910561-030
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		24.6	13.3	----	----	----
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	0.02	%		----	----	1.47	1.55	2.52
EP090: Organotin Compounds									
Tributyltin	56573-85-4	0.5	µgSn/kg		3.3	0.8	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		51.2	71.4	----	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC4_1.2-1.3	VC4_1.7-1.8	DUP25	DUP21	DUP29
				Client sampling date / time	16-JUL-2009 15:00	16-JUL-2009 15:00	14-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910561-031	ES0910561-032	ES0910561-033	ES0910561-034	ES0910561-035
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		21.1	----	----	----	----
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	0.02	%		----	0.11	0.73	1.06	1.41
EP090: Organotin Compounds									
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		84.7	----	----	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	DUP28	DUP27	PC23_0.0-0.06	SG23_0.0-0.03	SG24_0.0-0.01
				Client sampling date / time	16-JUL-2009 15:00	16-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910561-036	ES0910561-037	ES0910561-038	ES0910561-039	ES0910561-040
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		----	----	51.4	----	19.4
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	0.02	%		1.74	1.29	4.78	0.44	0.53
EP090: Organotin Compounds									
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	3.1	----	<0.5
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	39.8	----	49.0

Analytical Results

Sub-Matrix: **SOIL**				Client sample ID	SG26_0.0-0.02	----	----	----	----
				Client sampling date / time	14-JUL-2009 15:00	----	----	----	----
Compound	*CAS Number*	*LOR*	*Unit*		**ES0910561-041**	**----**	**----**	**----**	**----**
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	0.02	%		**0.34**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP090S: Organotin Surrogate			
Tripropyltin	---	34	108

QUALITY CONTROL REPORT

Work Order	: **ES0910561**	Page	: 1 of 5
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 - PKOH	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-JUL-2009
Sampler	: KP	Issue Date	: 30-JUL-2009
Order number	: ----		
		No. of samples received	: 41
Quote number	: SY/330/09 V3	No. of samples analysed	: 41

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*
Kim McCabe	Senior Inorganic Chemist	Inorganics
Matt Frost	Organic Instrument Chemist	Organics
Matthew Goodwin	Senior Organic Chemist	Organics
Stephen Hislop	Senior Inorganic Chemist	Inorganics
Stephen Hislop	Senior Inorganic Chemist	Stafford Minerals - AY

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: 1046876)									
ES0910561-007	VC1_0.0-0.2	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	28.1	25.2	11.0	0% - 20%
EA055: Moisture Content (QC Lot: 1047097)									
EB0911479-008	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	8.2	8.0	2.8	No Limit
EB0911479-015	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	8.5	10.0	16.4	0% - 50%
EA055: Moisture Content (QC Lot: 1047101)									
EB0911419-008	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	<1.0	<1.0	0.0	No Limit
ES0910561-026	VC8_2.7-2.8	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	24.6	25.9	5.4	0% - 20%
EP005: Total Organic Carbon (TOC) (QC Lot: 1050838)									
ES0910561-002	VC3_1.2-1.3	EP005: Total Organic Carbon	---	0.02	%	2.72	2.97	8.7	0% - 20%
ES0910561-021	VC9_2.8-2.9	EP005: Total Organic Carbon	---	0.02	%	3.19	3.17	0.7	0% - 20%
EP005: Total Organic Carbon (TOC) (QC Lot: 1050839)									
ES0910561-035	DUP29	EP005: Total Organic Carbon	---	0.02	%	1.41	1.42	0.9	0% - 20%
EP090: Organotin Compounds (QC Lot: 1047214)									
ES0910561-040	TRIP10	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
ES0910561-009	VC2_0.3-0.4	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	0.7	1.1	41.8	No Limit
EP090: Organotin Compounds (QC Lot: 1050961)									
ES0910561-027	VC7_0.2-0.3	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	0.8	<0.5	51.8	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
EP005: Total Organic Carbon (TOC) (QCLot: 1050838)								
EP005: Total Organic Carbon	----	0.02	%	<0.02	100 %	99.1	70	130
EP005: Total Organic Carbon (TOC) (QCLot: 1050839)								
EP005: Total Organic Carbon	----	0.02	%	<0.02	100 %	99.1	70	130
EP090: Organotin Compounds (QCLot: 1047214)								
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	12.5 µgSn/kg	107	28	129
EP090: Organotin Compounds (QCLot: 1050961)								
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	12.5 µgSn/kg	69.4	28	129

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
EP090: Organotin Compounds (QCLot: 1047214)							
EB0911142-003	Anonymous	EP090: Tributyltin	56573-85-4	12.5 µgSn/kg	# Not Determined	20	130
EP090: Organotin Compounds (QCLot: 1050961)							
ES0910561-031	VC4_1.2-1.3	EP090: Tributyltin	56573-85-4	12.5 µgSn/kg	107	20	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES0910561**	Page	: 1 of 6
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 - PKOH	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-JUL-2009
Sampler	: KP	Issue Date	: 30-JUL-2009
Order number	: ----		
		No. of samples received	: 41
Quote number	: SY/330/09 V3	No. of samples analysed	: 41

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								
VC3_0.0-0.2,	VC5_0.0-0.2,	**14-JUL-2009**	**----**	----	----	**22-JUL-2009**	21-JUL-2009	✗
VC5_1.6-1.7,	VC1_0.0-0.2,							
PC23_0.0-0.06,	SG24_0.0-0.01							
Soil Glass Jar - Unpreserved								
VC2_0.3-0.4,	VC2_2.7-2.8,	**15-JUL-2009**	**----**	----	----	**22-JUL-2009**	22-JUL-2009	✓
VC11_0.2-0.3,	VC11_1.1-1.2,							
VC12_0.2-0.3,	VC9_0.3-0.4							
Soil Glass Jar - Unpreserved								
VC6_0.7-0.8,	VC8_2.7-2.8,	**16-JUL-2009**	**----**	----	----	**22-JUL-2009**	23-JUL-2009	✓
VC7_0.2-0.3,	VC4_1.2-1.3							
EP005: Total Organic Carbon (TOC)								
Soil Glass Jar - Unpreserved								
VC3_1.2-1.3,	VC5_0.5-0.6,	**14-JUL-2009**	**28-JUL-2009**	11-AUG-2009	✓	**28-JUL-2009**	11-AUG-2009	✓
VC5_2.5-2.6,	VC1_1.3-1.4,							
DUP25,	PC23_0.0-0.06,							
SG23_0.0-0.03,	SG24_0.0-0.01,							
SG26_0.0-0.02								
Soil Glass Jar - Unpreserved								
VC2_0.7-0.8,	VC2_3.7-3.8,	**15-JUL-2009**	**28-JUL-2009**	12-AUG-2009	✓	**28-JUL-2009**	12-AUG-2009	✓
VC11_0.5-0.6,	VC11_2.5-2.6,							
VC12_2.1-2.2,	VC9_0.7-0.8,							
VC9_2.8-2.9,	DUP21,							
DUP29								
Soil Glass Jar - Unpreserved								
VC6_0.5-0.6,	VC8_0.5-0.6,	**16-JUL-2009**	**28-JUL-2009**	13-AUG-2009	✓	**28-JUL-2009**	13-AUG-2009	✓
VC8_2.3-2.4,	VC7_0.7-0.8,							
VC7_0.9-1.0,	VC4_0.7-0.8,							
VC4_1.7-1.8,	DUP28,							
DUP27								

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
EP090: Organotin Compounds								
Soil Glass Jar - Unpreserved								
VC3_0.0-0.2,	VC5_0.0-0.2,	**14-JUL-2009**	**23-JUL-2009**	28-JUL-2009	✓	**27-JUL-2009**	01-SEP-2009	✓
VC5_1.6-1.7,	VC1_0.0-0.2,							
PC23_0.0-0.06,	SG24_0.0-0.01							
Soil Glass Jar - Unpreserved								
VC2_0.3-0.4,	VC2_2.7-2.8,	**15-JUL-2009**	**23-JUL-2009**	29-JUL-2009	✓	**27-JUL-2009**	01-SEP-2009	✓
VC11_0.2-0.3,	VC11_1.1-1.2,							
VC12_0.2-0.3,	VC9_0.3-0.4							
Soil Glass Jar - Unpreserved								
VC6_0.7-0.8,	VC8_2.7-2.8	**16-JUL-2009**	**23-JUL-2009**	30-JUL-2009	✓	**27-JUL-2009**	01-SEP-2009	✓
Soil Glass Jar - Unpreserved								
VC7_0.2-0.3,	VC4_1.2-1.3	**16-JUL-2009**	**27-JUL-2009**	30-JUL-2009	✓	**29-JUL-2009**	05-SEP-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	5	39	**12.8**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	3	21	**14.3**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	3	27	**11.1**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Organotin Analysis	EP090	2	21	**9.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	2	27	**7.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Organotin Analysis	EP090	2	21	**9.5**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP005	2	27	**7.4**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Organotin Analysis	EP090	2	21	**9.5**	**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 Organic Carbon	EP005	SOIL	In-house. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.

Preparation Methods	Method	Matrix	Method Descriptions
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated 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
Matrix Spike (MS) Recoveries							
EP090: Organotin Compounds	EB0911142-003	Anonymous	**Tributyltin**	56573-85-4	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 Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**

Regular Sample Surrogates

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

Outliers : Analysis Holding Time Compliance

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

Matrix: **SOIL**

Method / Container / Client Sample ID(s)		Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA055: Moisture Content							
Soil Glass Jar - Unpreserved							
VC3_0.0-0.2,	VC5_0.0-0.2,	----	----	----	22-JUL-2009	21-JUL-2009	**1**
VC5_1.6-1.7,	VC1_0.0-0.2,						
PC23_0.0-0.06,	SG24_0.0-0.01						

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.**

TBT / TOC only

Chain of Custody

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Environmental Division
Sydney
Work Order
ES0910561

Telephone : +61-2-8784 8555

Laboratory Details
Lab. Name: ALS
Lab. Address: 277-289 WOODPARK RD, SMITHFIELD NSW
Contact Name:
Lab. Ref:
Tel: (02) 8784 8555
Fax (02) 8784 8500
Preliminary Report by:
Final Report by: SY1330/09
Lab Quote No:

AECOM
AECOM Project No: S20178O5
Project Name: PARC-OUTER HARBOUR
PO No.

FORMAT REQUIRED

24hr 48hr ____days)

s to be excluded from extractions?
samples to be reported as per NEPM 5.1.1?
s: ____

Hardcopy ☑ Email : SEE ABOVE

Yes (tick)

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	Other: HOLD
1	VC3-0.0-0.2	14/07/09	X					X			
	VC3_0.5-0.6										
2	VC3_1.2-1.3										
	VC3_1.8-1.9										
3	VC5_0.0-0.2										
4	VC5_0.5-0.6										
5	VC5_1.6-1.7										
6	VC5_2.5-2.6										
7	VC1_0.0-0.2										
	VC1_0.5-0.6										
8	VC1_1.3-1.4										
	VC1_2.4-2.5	↓	↓					↓			

Analysis Request (cont.): Other: HOLD

Analysis Request (cont.): Other: VARIOUS COMBINATIONS OF SUITE A (CLAY) STRENGTH, TOC, PAH/Alkylated PAH, BTEX, TPH, SPOCAS, Ecotoxicity Metals, Arsenic Speciation, Phenols, TBT, Organochlorine Pesticides, OP Pesticides, Total PCBs, TCLP Metals, TCLP PAH

CHAIN OF CUSTODY WORK
WO: ES0910561
ALS Batch
DATE: 17-7-9
SPLIT SPOCAS: ES0910563
Elutriate: ES0910564
ALS Batch: ES0910592

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg, Sn, Ag, Co, Se, V

Comments:

Lab Report No.

Entry ID

Relinquished by:		Signed:	Date:	Relinquished by: KATE DEAHM	Signed: Date: 17/7/09
Recieved by: Frank		Signed:	Date: 17/7/9 5:30	Recieved by:	Signed: Date:

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Chain of Custody

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	E-mail: Christiaan.Donnelli@aecom.com; Kate.Pagram@aecom.com
Sampled By: KATE PAGRAM	AECOM Project No: S20F805

Laboratory Details

Lab. Name: ALS	Tel: (02) 8784 8555
Lab. Address: 277-289 WOODPARK RD, SMITHFIELD NSW	Fax: (02) 8784 8500
Contact Name:	Preliminary Report by:
Lab. Ref:	Final Report by:
	Lab Quote No:

Project Name: PEPC - OUTER HARBOUR PO No. 8833009

Specifications: ESDAT FORMAT REQUIRED

	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: SEE ABOVE	

Lab. ID	Sample ID	Sampling Date	Matrix: soil	Matrix: water	Matrix: other	Preservation: filtred	Preservation: acid	Preservation: ice	Preservation: other	Container (No. & type)	Analysis Request: METALS (M13)	TOC	BTEX/TPH (with TRACE)	BTEX/TPH	SOCAS	Eluttriate Metals	Eluttriate PAHs	Chromium VI	Sulphides	Phenols	OCP	Total PCBs	TCLP Metals	TCLP PAH	Other: HOLD
9	VC2_0.3-0.4	15/07/09	X					X		SEE ABOVE	X							X							
10	VC2_0.7-0.8		|					|			X	X	X		X			X							
11	VC2_2.7-2.8		|					|			X		X					X					X		
12	VC2_3.7-3.8		|					|			X	X	X			X									
13	VC11_0.2-0.3		|					|			X							X		X	X				
14	VC11_0.5-0.6		|					|			X	X	X			X									
15	VC11_1.1-1.2		|					|			X		X					X							
16	VC11_2.5-2.6		|					|			X	X	X		X		X								
17	VC12_0.2-0.3		|					|			X					X		X							
	VC12_1.0-1.1		|					|			X		X												
18	VC12_2.1-2.2		|					|			X	X	X				X		X						
	VC12_3.2-3.3		↓					↓				X		X		X										

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg, Sn, Ag, Co, Se, V

Comments:

Lab Report No.: Esky ID:

Relinquished by:		Signed:		Date:	Relinquished by: KATE PAGRAM	Signed:	Date: 17/7/09
Recieved by: Frank		Signed:		Date: 17/7/09 5:30pm	Recieved by:	Signed:	Date:

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AECOM Project No: S20F1805

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Lab. Ref:
Tel: (02) 8784 8555
Fax: (02) 8784 8500
Preliminary Report by:
Final Report by:
Lab Quote No:

Project Name: PYE-OUTER HARBOUR
PO No. 8933009

Specifications: ESDAT FORMAT REQUIRED

	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: SEE ABOVE	

Analysis Request

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container [No. & type]	METALS (CMS)	TOC	PAH (ultra-trace)	BTEX / TPH	SOCAS	Elutriate Metals	Elutriate PAHs	Cyanide	OPBT	Phenols	BCP	Total PCBs	TCLP Metals	TCLP PAH	Other: HOLD
19	VC9_0.3-0.4	15/07/09	X					X		SEE PREVIOUS	X		X					X	X						
20	VC9_0.7-0.8	↓	↓					↓			X	X	X										X		
21	VC9_2.8-2.9										X	X		X		X								X	
	VC9_3.5-3.6	↓									X						X								
	VC6_0.0-0.1	16/07/09									X			X	X										
	VC6_0.2-0.3										X														
22	VC6_0.5-0.6										X	X	X			X						X	X		
23	VC6_0.7-0.8										X		X		X		X		X					X	
	VC8_0.2-0.3										X			X						X		X			
24	VC8_0.5-0.6										X	X	X										X		
25	VC8_2.3-2.4										X	X	X											X	
26	VC8_2.7-2.8	↓	↓					↓			X		X		X				X						

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg, Sb, Ag, Co, Se, V

Comments:

Lab Report No.

Esky ID

Relinquished by:		Signed:		Date:	Relinquished by: KATE PIGRAM	Signed: KPigram	Date: 17/07/09
Recieved by: Frank		Signed:		Date: 17/7/09 5:20	Recieved by:	Signed:	Date:

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Chain of Custody

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Sampled By: KATE PAGRAM
AECOM Project No: S2077805

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Contact Name:
Lab. Ref:
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Fax: (02) 8784 8500
Preliminary Report by:
Final Report by:
Lab Quote No:
Project Name: PVC-OUTER HARBOUR
PO No. SY320091

Specifications: ESDAT FORMAT REQUIRED

	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 : SEE ABOVE	

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	other	Preservation: filt'ed	acid	ice	other	Container (No. & type)	Analysis Request: METALS (CMI3)	TOC	BTEX (Ultra-trace)	BTEX/TPH	SVOCAS	Extractable Metals	Extractable PAHs	Organics DBT	Phenols	OCP	Total PCBs	TCLP Metals	TCLP PAH	Other: HOLD
	VC7_0.1-0.2	16/07/09	X					X			X		X											
27	VC7_0.2-0.3										X		X					X						
28	VC7_0.7-0.8										X	X	X						X	X	X	X	X	
29	VC7_0.9-1.0										X	X	X		X									
	VC7_0.3-0.4									PREVIOUS	X		X	X										
	VC4_0.2-0.3										X			X	X									
30	VC4_0.7-0.8										X	X	X											
31	VC4_1.2-1.3										X		X					X				X	X	
32	VC4_1.7-1.8	↓								SEE	X	X	X											
33	DUP25	14/07/09									X	X	X	X										
34	DUP21	15/07/09									X	X	X		X	X								
35	DUP29	↓	↓					↓			X	X	X											

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg, Sb, Ag, Co, Se, V

Comments:

Lab Report No.

Esky ID

Relinquished by:		Signed:		Date:	
Recieved by: Frank		Signed:		Date: 17/7/9 5:39	
Relinquished by: KATE PAGRAM		Signed:		Date: 17/07/09	
Recieved by:		Signed:		Date:	

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Sampled By: KATE PAGRAM
AECOM Project No: S2017805

Laboratory Details
Lab. Name: ALS
Lab. Address: 277-289 Woodpark Rd, Smithfield NSW
Contact Name:
Lab. Ref:
Tel: (02) 8784 8555
Fax (02) 8784 8500
Preliminary Report by:
Final Report by:
Lab Quote No:

Project Name: PRAC - OUTER HARBOUR
PO No. 8932009

Specifications: ESDAT FORMAT REQUIRED

	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: SEE ABOVE	

Lab. ID	Sample ID	Sampling Date	Matrix: soil	water	other	Preservation: filtered	acid	ice	other	Container (No. & type)	Analysis Request: METALS (M13)	TOC	PAH/Ultra-Trace	BTEX/TPH	SOCAS	Eluviate Metals	Eluviate PAHs	Organo chlor Pest	TBT	Phenols	BAP	Total PCBs	TCLP Metals	TCLP PAH	Other: HOLD
36	DUP28	16/07/09	X					X		VARIOUS	X	X	X												
37	DUP27	16/07/09	X					X			X	X	X							X	X	X			
	TRIP17	14/07/09	|					|																	
	TRIP16	15/07/09	|					|																	
	TRIP15	16/07/09	↓					↓																		
	RB01	13/07/09		X				|				X													
	RB02	14/07/09		|				|				X													
	RB03	15/07/09		↓					↓				X													
	RB04	16/07/09		↓					↓	1 x amber bottle			X													
Extra samples: (36)	PC13_0.0-0.07																									
(38)	PC23_0.0-0.06																									
(39)	SG23_0.0-0.03																									

PLEASE FORWARD TO ALS BRISBANE WITH SEPARATE COC

* Metals Required (Delete elements not required): As Cd Cr Cu Ni Pb Zn Hg, Sn, Ag, Co, Se, V

Comments:

Lab Report No.

Esky ID

Relinquished by: Signed: Date:
Recieved by: Frank Signed: Date: 17/7/09 5:30

Relinquished by: KATE PAGRAM Signed: Date: 17/07/09
Recieved by: Signed: Date:

Printed copies of this docu[illegible] it are uncontrolled

Extra samples (cont'):
(40) SG24_0.0-0.01

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES0910561**		
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 V3)
Site	: ----		
Sampler	: KP	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 17-JUL-2009	Issue Date	: 22-JUL-2009 10:50
Client Requested Due Date	: 29-JUL-2009	Scheduled Reporting Date	: **29-JUL-2009**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 3.2'C - Ice present
No. of coolers/boxes	: 6 HARD	No. of samples received	: 41
Sercurity Seal	: Intact.	No. of samples analysed	: 41

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.**
- **Received extra sample #38-41 added analysis as per Kate Pigram.**
- **This batch is for TBT and TOC only split into ES0910562, ES0910563 and ES0910564.**
- 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 - EP005 (solids) Total Organic Carbon (TOC) soils	SOIL - EA055-103 Moisture Content	SOIL - EP090 (solids) Organotins
ES0910561-001	14-JUL-2009 15:00	VC3_0.0-0.2		✓	✓
ES0910561-002	14-JUL-2009 15:00	VC3_1.2-1.3	✓		
ES0910561-003	14-JUL-2009 15:00	VC5_0.0-0.2		✓	✓
ES0910561-004	14-JUL-2009 15:00	VC5_0.5-0.6	✓		
ES0910561-005	14-JUL-2009 15:00	VC5_1.6-1.7		✓	✓
ES0910561-006	14-JUL-2009 15:00	VC5_2.5-2.6	✓		
ES0910561-007	14-JUL-2009 15:00	VC1_0.0-0.2		✓	✓
ES0910561-008	14-JUL-2009 15:00	VC1_1.3-1.4	✓		
ES0910561-009	15-JUL-2009 15:00	VC2_0.3-0.4		✓	✓
ES0910561-010	15-JUL-2009 15:00	VC2_0.7-0.8	✓		
ES0910561-011	15-JUL-2009 15:00	VC2_2.7-2.8		✓	✓
ES0910561-012	15-JUL-2009 15:00	VC2_3.7-3.8	✓		
ES0910561-013	15-JUL-2009 15:00	VC11_0.2-0.3		✓	✓
ES0910561-014	15-JUL-2009 15:00	VC11_0.5-0.6	✓		
ES0910561-015	15-JUL-2009 15:00	VC11_1.1-1.2		✓	✓
ES0910561-016	15-JUL-2009 15:00	VC11_2.5-2.6	✓		
ES0910561-017	15-JUL-2009 15:00	VC12_0.2-0.3		✓	✓
ES0910561-018	15-JUL-2009 15:00	VC12_2.1-2.2	✓		
ES0910561-019	15-JUL-2009 15:00	VC9_0.3-0.4		✓	✓
ES0910561-020	15-JUL-2009 15:00	VC9_0.7-0.8	✓		
ES0910561-021	15-JUL-2009 15:00	VC9_2.8-2.9	✓		
ES0910561-022	16-JUL-2009 15:00	VC6_0.5-0.6	✓		
ES0910561-023	16-JUL-2009 15:00	VC6_0.7-0.8		✓	✓
ES0910561-024	16-JUL-2009 15:00	VC8_0.5-0.6	✓		
ES0910561-025	16-JUL-2009 15:00	VC8_2.3-2.4	✓		
ES0910561-026	16-JUL-2009 15:00	VC8_2.7-2.8		✓	✓
ES0910561-027	16-JUL-2009 15:00	VC7_0.2-0.3		✓	✓
ES0910561-028	16-JUL-2009 15:00	VC7_0.7-0.8	✓		
ES0910561-029	16-JUL-2009 15:00	VC7_0.9-1.0	✓		
ES0910561-030	16-JUL-2009 15:00	VC4_0.7-0.8	✓		
ES0910561-031	16-JUL-2009 15:00	VC4_1.2-1.3		✓	✓
ES0910561-032	16-JUL-2009 15:00	VC4_1.7-1.8	✓		
ES0910561-033	14-JUL-2009 15:00	DUP25	✓		
ES0910561-034	15-JUL-2009 15:00	DUP21	✓		
ES0910561-035	15-JUL-2009 15:00	DUP29	✓		

			SOIL - EP005 (solids) Total Organic Carbon (TOC) soils	SOIL - EA055-103 Moisture Content	SOIL - EP090 (solids) Organotins
ES0910561-036	16-JUL-2009 15:00	DUP28	✓		
ES0910561-037	16-JUL-2009 15:00	DUP27	✓		
ES0910561-038	14-JUL-2009 15:00	PC23_0.0-0.06	✓	✓	✓
ES0910561-039	14-JUL-2009 15:00	SG23_0.0-0.03	✓		
ES0910561-040	14-JUL-2009 15:00	SG24_0.0-0.01	✓	✓	✓
ES0910561-041	14-JUL-2009 15:00	SG26_0.0-0.02	✓		

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

MS KATE PIGRAM

- *AU Certificate of Analysis - NATA (COA)	Email	kpigram@aecom.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	kpigram@aecom.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	kpigram@aecom.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	kpigram@aecom.com
- A4 - AU Tax Invoice (INV)	Email	kpigram@aecom.com
- Default - Chain of Custody (COC)	Email	kpigram@aecom.com
- EDI Format - ENMRG (ENMRG)	Email	kpigram@aecom.com
- EDI Format - ESDAT (ESDAT)	Email	kpigram@aecom.com
- EDI Format - HLAPro (HLAPro)	Email	kpigram@aecom.com
- EDI Format - XTab (XTAB)	Email	kpigram@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	: **ES0910562**	Page	: 1 of 42
Amendment	: **1**		
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 - PKOH	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 17-JUL-2009
Sampler	: KP	Issue Date	: 30-JUL-2009
Site	: PRAC-OUTER HARBOUR		
		No. of samples received	: 59
Quote number	: SY/330/09 V3	No. of samples analysed	: 59

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
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Victor Kedicioglu	Business Manager - NSW	Inorganics
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

- **EG020T: Poor precision was obtained for Vanadium on sample ES0910562#21, for Cadmium and Chromium on sample ES0910562#11and Chromium and Zinc on sample ES0910562#1 due to sample heterogeneity. Results have been confirmed by re-extraction and reanalysis.**
- **This report has been amended as a result of misinterpretation of sample identification numbers (IDs). All analysis results are as per the previous report**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC3_0.0-0.2	VC3_0.5-0.6	VC3_1.2-1.3	VC3_1.8-1.9	VC5_0.0-0.2
				Client sampling date / time	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910562-001	ES0910562-002	ES0910562-003	ES0910562-004	ES0910562-005
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	---	1.0	%		36.8	50.7	27.2	27.7	35.7
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	2.53	3.97	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		9.62	57.2	58.0	<1.00	11.4
Cadmium	7440-43-9	0.1	mg/kg		0.3	3.2	1.2	<0.1	0.2
Chromium	7440-47-3	1.0	mg/kg		35.4	216	50.2	7.9	114
Copper	7440-50-8	1.0	mg/kg		122	1340	489	80.4	64.3
Cobalt	7440-48-4	0.5	mg/kg		6.4	13.2	6.6	3.1	5.1
Lead	7439-92-1	1.0	mg/kg		123	766	897	7.2	46.8
Nickel	7440-02-0	1.0	mg/kg		11.2	30.7	19.3	2.6	11.9
Selenium	7782-49-2	0.1	mg/kg		1.5	13.9	8.5	0.9	0.8
Silver	7440-22-4	0.1	mg/kg		0.5	6.8	1.8	<0.1	0.3
Vanadium	7440-62-2	2.0	mg/kg		116	116	64.2	63.0	953
Zinc	7440-66-6	1.0	mg/kg		208	1700	942	15.5	214
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.2	2.4	1.3	<0.1	<0.1
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		---	---	<0.5	---	---
2-Chlorophenol	95-57-8	0.5	mg/kg		---	---	<0.5	---	---
2-Methylphenol	95-48-7	0.5	mg/kg		---	---	<0.5	---	---
3- & 4-Methylphenol	1319-77-3	1.0	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		---	780	---	<100	---
C29 - C36 Fraction	---	100	mg/kg		---	790	---	<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: VC3_0.0-0.2	VC3_0.5-0.6	VC3_1.2-1.3	VC3_1.8-1.9	VC5_0.0-0.2
				Client sampling date / time: 14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00
				ES0910562-001	ES0910562-002	ES0910562-003	ES0910562-004	ES0910562-005
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	----	<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: VC3_0.0-0.2	VC3_0.5-0.6	VC3_1.2-1.3	VC3_1.8-1.9	VC5_0.0-0.2
				Client sampling date / time: 14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00
				ES0910562-001	ES0910562-002	ES0910562-003	ES0910562-004	ES0910562-005
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	----	----	<10	----	----
2-Methylnaphthalene	91-57-6	10	µg/kg	----	----	240	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	----	----	<10	----	----
Acenaphthene	83-32-9	10	µg/kg	----	----	50	----	----
Acenaphthylene	208-96-8	10	µg/kg	----	----	200	----	----
Anthracene	120-12-7	10	µg/kg	----	----	180	----	----
Benz(a)anthracene	56-55-3	10	µg/kg	----	----	370	----	----
Benzo(a)pyrene	50-32-8	10	µg/kg	----	----	430	----	----
Benzo(b)fluoranthene	205-99-2	10	µg/kg	----	----	410	----	----
Benzo(e)pyrene	192-97-2	10	µg/kg	----	----	250	----	----
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	----	----	280	----	----
Benzo(k)fluoranthene	207-08-9	10	µg/kg	----	----	200	----	----
Chrysene	218-01-9	10	µg/kg	----	----	340	----	----
Coronene	191-07-1	10	µg/kg	----	----	80	----	----
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	----	----	70	----	----
Fluoranthene	206-44-0	10	µg/kg	----	----	620	----	----
Fluorene	86-73-7	10	µg/kg	----	----	170	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	----	----	240	----	----
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	----	----	<100	----	----
Naphthalene	91-20-3	10	µg/kg	----	----	1470	----	----
Perylene	198-55-0	10	µg/kg	----	----	110	----	----
Phenanthrene	85-01-8	10	µg/kg	----	----	520	----	----
Pyrene	129-00-0	10	µg/kg	----	----	580	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	89.4	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	72.7	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	56.2	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	76.4	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	92.0	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	94.8	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	92.5	----	93.7	----
Toluene-D8	2037-26-5	0.1	%	----	97.7	----	90.8	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	86.7	----	84.5	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	60.0

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC3_0.0-0.2	VC3_0.5-0.6	VC3_1.2-1.3	VC3_1.8-1.9	VC5_0.0-0.2
				Client sampling date / time	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910562-001	ES0910562-002	ES0910562-003	ES0910562-004	ES0910562-005
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		---	---	**44.6**	---	**55.6**
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		---	---	**101**	---	---
Anthracene-d10	1719-06-8	0.1	%		---	---	**99.6**	---	---
4-Terphenyl-d14	1718-51-0	0.1	%		---	---	**89.5**	---	---

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC5_0.5-0.6	VC5_1.6-1.7	VC5_2.5-2.6	VC1_0.0-0.2	VC1_0.5-0.6
				Client sampling date / time	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910562-006	ES0910562-007	ES0910562-008	ES0910562-009	ES0910562-010
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	---	1.0	%		27.0	43.4	30.4	26.8	23.6
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	0.59	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		3.85	6.69	7.34	6.70	<1.00
Cadmium	7440-43-9	0.1	mg/kg		0.2	0.2	0.5	0.6	<0.1
Chromium	7440-47-3	1.0	mg/kg		209	98.4	265	81.0	21.7
Copper	7440-50-8	1.0	mg/kg		25.7	37.2	56.9	23.0	46.6
Cobalt	7440-48-4	0.5	mg/kg		2.5	3.1	4.3	5.1	1.9
Lead	7439-92-1	1.0	mg/kg		21.5	34.4	69.0	59.8	9.3
Nickel	7440-02-0	1.0	mg/kg		10.8	11.2	20.0	10.4	3.9
Selenium	7782-49-2	0.1	mg/kg		0.5	0.6	1.2	0.6	0.6
Silver	7440-22-4	0.1	mg/kg		0.1	0.2	0.3	0.4	0.1
Vanadium	7440-62-2	2.0	mg/kg		1770	773	2620	300	25.3
Zinc	7440-66-6	1.0	mg/kg		138	164	298	412	30.1
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	0.1	<0.1	<0.1
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		---	<0.5	---	<0.5	---
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				Client sample ID	VC5_0.5-0.6	VC5_1.6-1.7	VC5_2.5-2.6	VC1_0.0-0.2	VC1_0.5-0.6
				Client sampling date / time	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910562-006	ES0910562-007	ES0910562-008	ES0910562-009	ES0910562-010
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
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	----
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	10	µg/kg		<10	<10	<10	----	----
2-Methylnaphthalene	91-57-6	10	µg/kg		70	280	300	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg		<10	<10	<10	----	----
Acenaphthene	83-32-9	10	µg/kg		20	60	60	----	----
Acenaphthylene	208-96-8	10	µg/kg		90	260	310	----	----
Anthracene	120-12-7	10	µg/kg		80	210	240	----	----
Benz(a)anthracene	56-55-3	10	µg/kg		310	480	360	----	----
Benzo(a)pyrene	50-32-8	10	µg/kg		290	500	420	----	----
Benzo(b)fluoranthene	205-99-2	10	µg/kg		350	450	540	----	----
Benzo(e)pyrene	192-97-2	10	µg/kg		180	320	370	----	----
Benzo(g.h.i)perylene	191-24-2	10	µg/kg		190	320	350	----	----
Benzo(k)fluoranthene	207-08-9	10	µg/kg		110	240	280	----	----
Chrysene	218-01-9	10	µg/kg		280	470	370	----	----
Coronene	191-07-1	10	µg/kg		60	110	100	----	----
Dibenz(a.h)anthracene	53-70-3	10	µg/kg		50	90	90	----	----
Fluoranthene	206-44-0	10	µg/kg		530	730	860	----	----
Fluorene	86-73-7	10	µg/kg		60	210	240	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg		180	300	320	----	----
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg		<100	<100	<100	----	----
Naphthalene	91-20-3	10	µg/kg		580	2180	2600	----	----
Perylene	198-55-0	10	µg/kg		80	140	170	----	----
Phenanthrene	85-01-8	10	µg/kg		310	560	650	----	----
Pyrene	129-00-0	10	µg/kg		440	650	800	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		----	86.9	----	75.2	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC5_0.5-0.6	VC5_1.6-1.7	VC5_2.5-2.6	VC1_0.0-0.2	VC1_0.5-0.6
				Client sampling date / time	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00	14-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910562-006	ES0910562-007	ES0910562-008	ES0910562-009	ES0910562-010
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2-Chlorophenol-D4	93951-73-6	0.1	%		----	67.2	----	73.8	----
2.4.6-Tribromophenol	118-79-6	0.1	%		----	57.1	----	65.6	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	71.8	----	72.8	----
Anthracene-d10	1719-06-8	0.1	%		----	85.5	----	91.6	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	99.7	----	90.9	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		88.1	----	----	----	93.6
Toluene-D8	2037-26-5	0.1	%		97.8	----	----	----	89.9
4-Bromofluorobenzene	460-00-4	0.1	%		113	----	----	----	88.0
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	37.9	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		84.0	106	93.0	----	----
Anthracene-d10	1719-06-8	0.1	%		87.8	107	95.7	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		86.9	102	89.7	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC1_1.3-1.4	VC1_2.4-2.5	VC2_0.3-0.4	VC2_0.7-0.8	VC2_2.7-2.8
				Client sampling date / time	14-JUL-2009 15:00	14-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910562-011	ES0910562-012	ES0910562-013	ES0910562-014	ES0910562-015
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	---	1.0	%		32.4	26.5	20.6	18.4	30.8
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		0.63	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		14.7	19.7	4.40	4.01	<1.00
Cadmium	7440-43-9	0.1	mg/kg		9.3	<0.1	0.5	0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		539	33.1	51.5	17.0	15.2
Copper	7440-50-8	1.0	mg/kg		76.0	12.5	20.9	10.4	30.2
Cobalt	7440-48-4	0.5	mg/kg		9.4	4.5	3.4	5.5	2.2
Lead	7439-92-1	1.0	mg/kg		202	7.4	44.7	12.2	7.4
Nickel	7440-02-0	1.0	mg/kg		22.2	6.6	6.9	8.5	2.9
Selenium	7782-49-2	0.1	mg/kg		1.0	0.8	0.4	0.3	0.5
Silver	7440-22-4	0.1	mg/kg		0.4	<0.1	0.1	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		94.8	177	25.0	27.9	18.8
Zinc	7440-66-6	1.0	mg/kg		1310	33.6	318	85.8	16.5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.4	<0.1	<0.1	<0.1	<0.1
EN33: TCLP Leach									
Initial pH	---	0.1	pH Unit		---	---	---	---	8.7
After HCl pH	---	0.1	pH Unit		---	---	---	---	1.8
Extraction Fluid Number	---	1	-		---	---	---	---	1
Final pH	---	0.1	pH Unit		---	---	---	---	4.7
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	---	---	---
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	---	---	---
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	10	µg/kg		<10	---	---	<10	<10
2-Methylnaphthalene	91-57-6	10	µg/kg		2710	---	---	240	40
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg		<10	---	---	<10	<10
Acenaphthene	83-32-9	10	µg/kg		500	---	---	40	<10

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC1_1.3-1.4	VC1_2.4-2.5	VC2_0.3-0.4	VC2_0.7-0.8	VC2_2.7-2.8
				Client sampling date / time	14-JUL-2009 15:00	14-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910562-011	ES0910562-012	ES0910562-013	ES0910562-014	ES0910562-015
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Acenaphthylene	208-96-8	10	µg/kg		2180	----	----	260	30
Anthracene	120-12-7	10	µg/kg		1270	----	----	160	20
Benz(a)anthracene	56-55-3	10	µg/kg		1760	----	----	320	30
Benzo(a)pyrene	50-32-8	10	µg/kg		2480	----	----	330	30
Benzo(b)fluoranthene	205-99-2	10	µg/kg		3060	----	----	420	40
Benzo(e)pyrene	192-97-2	10	µg/kg		1580	----	----	240	20
Benzo(g.h.i)perylene	191-24-2	10	µg/kg		1730	----	----	240	20
Benzo(k)fluoranthene	207-08-9	10	µg/kg		870	----	----	160	20
Chrysene	218-01-9	10	µg/kg		1680	----	----	300	30
Coronene	191-07-1	10	µg/kg		540	----	----	50	<10
Dibenz(a.h)anthracene	53-70-3	10	µg/kg		380	----	----	60	<10
Fluoranthene	206-44-0	10	µg/kg		3930	----	----	520	70
Fluorene	86-73-7	10	µg/kg		1490	----	----	170	30
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg		1460	----	----	230	20
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg		<100	----	----	<100	<100
Naphthalene	91-20-3	10	µg/kg		41100	----	----	2600	560
Perylene	198-55-0	10	µg/kg		810	----	----	130	10
Phenanthrene	85-01-8	10	µg/kg		4220	----	----	420	80
Pyrene	129-00-0	10	µg/kg		4420	----	----	460	70
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	112	----	----	----
Toluene-D8	2037-26-5	0.1	%		----	117	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	109	----	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		71.1	----	----	87.4	89.8
Anthracene-d10	1719-06-8	0.1	%		65.4	----	----	88.3	92.8
4-Terphenyl-d14	1718-51-0	0.1	%		63.2	----	----	82.7	93.9

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: VC2_3.7-3.8	VC11_0.2-0.3	VC11_0.5-0.6	VC11_1.1-1.2	VC11_2.5-2.6
				Client sampling date / time: 15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00
				ES0910562-016	ES0910562-017	ES0910562-018	ES0910562-019	ES0910562-020
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**20.4**	**34.3**	**23.2**	**28.8**	**26.2**
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg	<1.00	**7.66**	**6.28**	**9.92**	**7.38**
Cadmium	7440-43-9	0.1	mg/kg	<0.1	**0.2**	**0.2**	**0.1**	<0.1
Chromium	7440-47-3	1.0	mg/kg	**12.9**	**265**	**109**	**84.8**	**6.6**
Copper	7440-50-8	1.0	mg/kg	**13.4**	**19.0**	**16.5**	**15.2**	**5.3**
Cobalt	7440-48-4	0.5	mg/kg	**2.6**	**4.7**	**3.9**	**7.2**	**1.0**
Lead	7439-92-1	1.0	mg/kg	**8.3**	**48.5**	**30.3**	**21.5**	**6.0**
Nickel	7440-02-0	1.0	mg/kg	**7.5**	**9.2**	**8.8**	**10.7**	**1.5**
Selenium	7782-49-2	0.1	mg/kg	**0.3**	**0.9**	**0.6**	**0.5**	**0.2**
Silver	7440-22-4	0.1	mg/kg	<0.1	**0.2**	**0.1**	**0.1**	<0.1
Vanadium	7440-62-2	2.0	mg/kg	**24.4**	**1430**	**613**	**503**	**9.4**
Zinc	7440-66-6	1.0	mg/kg	**21.6**	**281**	**184**	**140**	**13.8**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
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	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: VC2_3.7-3.8	VC11_0.2-0.3	VC11_0.5-0.6	VC11_1.1-1.2	VC11_2.5-2.6
				Client sampling date / time: 15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00
				ES0910562-016	ES0910562-017	ES0910562-018	ES0910562-019	ES0910562-020
EP131A: Organochlorine Pesticides - Continued								
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	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	<10	----	<10	<10	<10
2-Methylnaphthalene	91-57-6	10	µg/kg	<10	----	**160**	**60**	<10
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	----	<10	<10	<10
Acenaphthene	83-32-9	10	µg/kg	<10	----	**30**	**10**	<10
Acenaphthylene	208-96-8	10	µg/kg	<10	----	**160**	**70**	<10
Anthracene	120-12-7	10	µg/kg	<10	----	**110**	**50**	<10
Benz(a)anthracene	56-55-3	10	µg/kg	<10	----	**250**	**110**	<10
Benzo(a)pyrene	50-32-8	10	µg/kg	**10**	----	**250**	**110**	<10
Benzo(b)fluoranthene	205-99-2	10	µg/kg	**20**	----	**300**	**150**	<10
Benzo(e)pyrene	192-97-2	10	µg/kg	<10	----	**160**	**80**	<10
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	<10	----	**130**	**60**	<10
Benzo(k)fluoranthene	207-08-9	10	µg/kg	<10	----	**100**	**50**	<10
Chrysene	218-01-9	10	µg/kg	**10**	----	**240**	**110**	<10
Coronene	191-07-1	10	µg/kg	<10	----	**30**	**20**	<10
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	<10	----	**40**	**20**	<10
Fluoranthene	206-44-0	10	µg/kg	**20**	----	**420**	**230**	<10
Fluorene	86-73-7	10	µg/kg	<10	----	**110**	**50**	<10
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	<10	----	**130**	**60**	<10
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	----	<100	<100	<100
Naphthalene	91-20-3	10	µg/kg	**80**	----	**1720**	**610**	**40**
Perylene	198-55-0	10	µg/kg	<10	----	**80**	**40**	<10
Phenanthrene	85-01-8	10	µg/kg	**20**	----	**310**	**200**	**10**
Pyrene	129-00-0	10	µg/kg	**20**	----	**380**	**220**	<10
EP131S: OC Pesticide Surrogate								

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC2_3.7-3.8	VC11_0.2-0.3	VC11_0.5-0.6	VC11_1.1-1.2	VC11_2.5-2.6
				Client sampling date / time	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910562-016	ES0910562-017	ES0910562-018	ES0910562-019	ES0910562-020
EP131S: OC Pesticide Surrogate - Continued									
Dibromo-DDE	21655-73-2	0.1	%		---	50.9	---	---	---
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		---	54.1	---	---	---
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		82.2	---	64.1	74.2	77.9
Anthracene-d10	1719-06-8	0.1	%		88.2	---	68.7	89.6	85.8
4-Terphenyl-d14	1718-51-0	0.1	%		90.5	---	66.4	88.6	87.7

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: VC12_0.2-0.3	VC12_1.0-1.1	VC12_2.1-2.2	VC12_3.2-3.3	VC9_0.3-0.4
				Client sampling date / time: 15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00
				ES0910562-021	ES0910562-022	ES0910562-023	ES0910562-024	ES0910562-025
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	---	1.0	%	22.1	10.2	17.9	23.9	32.8
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	0.58	<0.50	<0.50	<0.50	0.71
Arsenic	7440-38-2	1.00	mg/kg	21.7	6.75	6.09	5.42	11.5
Cadmium	7440-43-9	0.1	mg/kg	0.2	<0.1	<0.1	<0.1	2.1
Chromium	7440-47-3	1.0	mg/kg	20.7	2.8	5.4	4.4	368
Copper	7440-50-8	1.0	mg/kg	87.0	7.8	1.2	1.3	58.6
Cobalt	7440-48-4	0.5	mg/kg	2.7	0.6	0.8	0.8	8.1
Lead	7439-92-1	1.0	mg/kg	88.4	2.2	1.4	3.9	237
Nickel	7440-02-0	1.0	mg/kg	10.3	1.7	1.1	1.2	18.9
Selenium	7782-49-2	0.1	mg/kg	0.8	<0.1	0.1	0.2	1.2
Silver	7440-22-4	0.1	mg/kg	0.3	<0.1	<0.1	<0.1	0.5
Vanadium	7440-62-2	2.0	mg/kg	68.0	6.7	8.5	7.7	1310
Zinc	7440-66-6	1.0	mg/kg	302	5.4	4.5	4.6	1560
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.2	<0.1	<0.1	<0.1	0.2
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
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	----	<10	<10	<10	<10
2-Methylnaphthalene	91-57-6	10	µg/kg	----	<10	<10	<10	3160
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	----	<10	<10	<10	<10
Acenaphthene	83-32-9	10	µg/kg	----	<10	<10	<10	520
Acenaphthylene	208-96-8	10	µg/kg	----	<10	<10	<10	2570
Anthracene	120-12-7	10	µg/kg	----	<10	<10	<10	1670
Benz(a)anthracene	56-55-3	10	µg/kg	----	<10	<10	<10	2080
Benzo(a)pyrene	50-32-8	10	µg/kg	----	<10	<10	<10	2490

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC12_0.2-0.3	VC12_1.0-1.1	VC12_2.1-2.2	VC12_3.2-3.3	VC9_0.3-0.4
				Client sampling date / time	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910562-021	ES0910562-022	ES0910562-023	ES0910562-024	ES0910562-025
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(b)fluoranthene	205-99-2	10	µg/kg		---	<10	<10	<10	3030
Benzo(e)pyrene	192-97-2	10	µg/kg		---	<10	<10	<10	1540
Benzo(g.h.i)perylene	191-24-2	10	µg/kg		---	<10	<10	<10	1550
Benzo(k)fluoranthene	207-08-9	10	µg/kg		---	<10	<10	<10	880
Chrysene	218-01-9	10	µg/kg		---	<10	<10	<10	1910
Coronene	191-07-1	10	µg/kg		---	<10	<10	<10	650
Dibenz(a.h)anthracene	53-70-3	10	µg/kg		---	<10	<10	<10	390
Fluoranthene	206-44-0	10	µg/kg		---	<10	<10	<10	4990
Fluorene	86-73-7	10	µg/kg		---	<10	<10	<10	1960
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg		---	<10	<10	<10	1410
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg		---	<100	<100	<100	<100
Naphthalene	91-20-3	10	µg/kg		---	<10	<10	<10	44300
Perylene	198-55-0	10	µg/kg		---	<10	<10	<10	720
Phenanthrene	85-01-8	10	µg/kg		---	<10	<10	10	5740
Pyrene	129-00-0	10	µg/kg		---	<10	<10	<10	4850
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		---	----	94.2	----	84.7
2-Chlorophenol-D4	93951-73-6	0.1	%		---	----	76.9	----	71.3
2.4.6-Tribromophenol	118-79-6	0.1	%		---	----	62.6	----	58.2
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		---	----	74.6	----	72.3
Anthracene-d10	1719-06-8	0.1	%		---	----	87.7	----	87.7
4-Terphenyl-d14	1718-51-0	0.1	%		---	----	99.4	----	87.5
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		---	91.1	63.2	70.0	94.4
Anthracene-d10	1719-06-8	0.1	%		---	99.4	84.1	76.7	87.8
4-Terphenyl-d14	1718-51-0	0.1	%		---	103	84.8	79.4	86.4

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: VC9_0.7-0.8	VC9_2.8-2.9	VC9_3.5-3.6	VC6_0.0-0.1	VC6_0.2-0.3
				Client sampling date / time: 15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
				ES0910562-026	ES0910562-027	ES0910562-028	ES0910562-029	ES0910562-030
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	35.2	22.7	33.3	20.2	12.3
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg	8.66	8.63	10.1	2.39	1.90
Cadmium	7440-43-9	0.1	mg/kg	1.1	0.8	<0.1	0.2	<0.1
Chromium	7440-47-3	1.0	mg/kg	188	53.9	16.8	301	338
Copper	7440-50-8	1.0	mg/kg	37.3	70.3	16.3	14.0	13.6
Cobalt	7440-48-4	0.5	mg/kg	6.8	4.4	8.4	1.9	1.9
Lead	7439-92-1	1.0	mg/kg	74.2	76.6	10.5	8.7	7.6
Nickel	7440-02-0	1.0	mg/kg	13.4	11.0	9.9	10.5	8.0
Selenium	7782-49-2	0.1	mg/kg	0.8	0.7	0.6	0.8	0.5
Silver	7440-22-4	0.1	mg/kg	0.2	0.3	<0.1	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg	1200	59.3	52.0	2800	3060
Zinc	7440-66-6	1.0	mg/kg	491	312	37.0	71.4	39.8
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.1	0.2	<0.1	<0.1	<0.1
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	8.9	10.5	----	----	----
After HCl pH	----	0.1	pH Unit	5.4	1.5	----	----	----
Extraction Fluid Number	----	1	-	2	1	----	----	----
Final pH	----	0.1	pH Unit	4.4	4.9	----	----	----
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	----	430	----	<100	----
C29 - C36 Fraction	----	100	mg/kg	----	330	----	<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	----	----	----	----
2-Methylnaphthalene	91-57-6	10	µg/kg	1970	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	----	----	----	----
Acenaphthene	83-32-9	10	µg/kg	420	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: VC9_0.7-0.8	VC9_2.8-2.9	VC9_3.5-3.6	VC6_0.0-0.1	VC6_0.2-0.3
				Client sampling date / time: 15-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
				ES0910562-026	ES0910562-027	ES0910562-028	ES0910562-029	ES0910562-030
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
Acenaphthylene	208-96-8	10	µg/kg	**1540**	----	----	----	----
Anthracene	120-12-7	10	µg/kg	**1110**	----	----	----	----
Benz(a)anthracene	56-55-3	10	µg/kg	**1400**	----	----	----	----
Benzo(a)pyrene	50-32-8	10	µg/kg	**1870**	----	----	----	----
Benzo(b)fluoranthene	205-99-2	10	µg/kg	**2240**	----	----	----	----
Benzo(e)pyrene	192-97-2	10	µg/kg	**1210**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	**1200**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	10	µg/kg	**720**	----	----	----	----
Chrysene	218-01-9	10	µg/kg	**1390**	----	----	----	----
Coronene	191-07-1	10	µg/kg	**460**	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	**340**	----	----	----	----
Fluoranthene	206-44-0	10	µg/kg	**3400**	----	----	----	----
Fluorene	86-73-7	10	µg/kg	**1230**	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	**1070**	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	----	----	----	----
Naphthalene	91-20-3	10	µg/kg	**22800**	----	----	----	----
Perylene	198-55-0	10	µg/kg	**540**	----	----	----	----
Phenanthrene	85-01-8	10	µg/kg	**3830**	----	----	----	----
Pyrene	129-00-0	10	µg/kg	**3340**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**117**	----	**92.8**	----
Toluene-D8	2037-26-5	0.1	%	----	**120**	----	**92.6**	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	**109**	----	**87.1**	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**89.6**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**85.0**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**89.0**	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: VC6_0.5-0.6	VC6_0.7-0.8	VC8_0.2-0.3	VC8_0.5-0.6	VC8_2.3-2.4
				Client sampling date / time: 16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
				ES0910562-031	ES0910562-032	ES0910562-033	ES0910562-034	ES0910562-035
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	19.3	27.8	32.7	25.6	42.0
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg	3.00	1.28	8.20	6.00	13.5
Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.1	0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg	204	130	120	89.1	25.0
Copper	7440-50-8	1.0	mg/kg	9.6	13.9	16.8	15.2	24.1
Cobalt	7440-48-4	0.5	mg/kg	1.4	1.3	5.7	4.1	12.7
Lead	7439-92-1	1.0	mg/kg	6.7	14.4	25.2	16.3	13.6
Nickel	7440-02-0	1.0	mg/kg	5.7	4.7	8.4	7.2	15.4
Selenium	7782-49-2	0.1	mg/kg	0.6	0.4	0.7	0.8	0.9
Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	<0.1	0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg	2370	116	524	767	99.2
Zinc	7440-66-6	1.0	mg/kg	42.4	48.4	141	107	46.2
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	9.4	9.7	----	10.2	9.2
After HCl pH	----	0.1	pH Unit	1.6	1.6	----	1.6	1.6
Extraction Fluid Number	----	1	-	1	1	----	1	1
Final pH	----	0.1	pH Unit	5.9	6.0	----	5.6	4.8
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	----	----
C10 - C14 Fraction	----	50	mg/kg	----	----	<50	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC6_0.5-0.6	VC6_0.7-0.8	VC8_0.2-0.3	VC8_0.5-0.6	VC8_2.3-2.4
				Client sampling date / time	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910562-031	ES0910562-032	ES0910562-033	ES0910562-034	ES0910562-035
EP080/071: Total Petroleum Hydrocarbons - Continued									
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	----	----
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	----	----
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	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	10	µg/kg		<10	<10	----	<10	<10
2-Methylnaphthalene	91-57-6	10	µg/kg		**20**	**30**	----	**300**	**10**
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg		<10	<10	----	<10	<10
Acenaphthene	83-32-9	10	µg/kg		<10	<10	----	**60**	<10
Acenaphthylene	208-96-8	10	µg/kg		**10**	**20**	----	**180**	<10
Anthracene	120-12-7	10	µg/kg		**10**	**20**	----	**130**	<10
Benz(a)anthracene	56-55-3	10	µg/kg		**20**	**30**	----	**230**	**10**
Benzo(a)pyrene	50-32-8	10	µg/kg		**20**	**40**	----	**230**	**20**
Benzo(b)fluoranthene	205-99-2	10	µg/kg		**30**	**50**	----	**280**	**30**
Benzo(e)pyrene	192-97-2	10	µg/kg		**10**	**30**	----	**170**	**20**
Benzo(g.h.i)perylene	191-24-2	10	µg/kg		**10**	**20**	----	**140**	**10**
Benzo(k)fluoranthene	207-08-9	10	µg/kg		<10	**20**	----	**110**	<10
Chrysene	218-01-9	10	µg/kg		**20**	**40**	----	**240**	**20**
Coronene	191-07-1	10	µg/kg		<10	<10	----	**40**	<10
Dibenz(a.h)anthracene	53-70-3	10	µg/kg		<10	<10	----	**40**	<10
Fluoranthene	206-44-0	10	µg/kg		**50**	**70**	----	**410**	**30**
Fluorene	86-73-7	10	µg/kg		**10**	**20**	----	**130**	<10
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg		**10**	**20**	----	**130**	<10
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg		<100	<100	----	<100	<100
Naphthalene	91-20-3	10	µg/kg		**140**	**250**	----	**3150**	**140**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC6_0.5-0.6	VC6_0.7-0.8	VC8_0.2-0.3	VC8_0.5-0.6	VC8_2.3-2.4
				Client sampling date / time	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910562-031	ES0910562-032	ES0910562-033	ES0910562-034	ES0910562-035
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Perylene	198-55-0	10	µg/kg		<10	**10**	----	**70**	<10
Phenanthrene	85-01-8	10	µg/kg		**50**	**70**	----	**490**	**30**
Pyrene	129-00-0	10	µg/kg		**40**	**60**	----	**360**	**30**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		----	----	**77.4**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		----	----	**75.0**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		----	----	**53.4**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	----	**71.4**	----	----
Anthracene-d10	1719-06-8	0.1	%		----	----	**88.6**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	----	**104**	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**91.2**	----	----
Toluene-D8	2037-26-5	0.1	%		----	----	**94.5**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**88.2**	----	----
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**44.8**	----	**45.7**	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**84.2**	**84.2**	----	**103**	**71.7**
Anthracene-d10	1719-06-8	0.1	%		**86.9**	**92.7**	----	**101**	**79.4**
4-Terphenyl-d14	1718-51-0	0.1	%		**87.8**	**94.2**	----	**97.1**	**79.7**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: VC8_2.7-2.8	VC7_0.1-0.2	VC7_0.2-0.3	VC7_0.7-0.8	VC7_0.9-1.0
				Client sampling date / time: 16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
				ES0910562-036	ES0910562-037	ES0910562-038	ES0910562-039	ES0910562-040
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	27.8	18.4	12.3	18.6	34.1
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	0.77	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg	12.7	1.89	4.14	8.93	15.8
Cadmium	7440-43-9	0.1	mg/kg	2.4	0.2	0.6	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg	336	22.0	37.4	12.6	23.2
Copper	7440-50-8	1.0	mg/kg	64.8	7.7	18.4	12.1	24.8
Cobalt	7440-48-4	0.5	mg/kg	9.2	1.2	3.5	4.9	10.1
Lead	7439-92-1	1.0	mg/kg	258	12.4	41.3	6.6	12.2
Nickel	7440-02-0	1.0	mg/kg	19.5	2.4	5.9	7.4	14.1
Selenium	7782-49-2	0.1	mg/kg	1.3	0.5	0.9	0.6	0.9
Silver	7440-22-4	0.1	mg/kg	0.5	0.2	0.2	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg	837	69.1	62.0	44.0	71.7
Zinc	7440-66-6	1.0	mg/kg	1880	96.3	306	29.3	38.7
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.2	<0.1	<0.1	<0.1	<0.1
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	----	----	8.9	----
After HCl pH	----	0.1	pH Unit	----	----	----	1.7	----
Extraction Fluid Number	----	1	-	----	----	----	1	----
Final pH	----	0.1	pH Unit	----	----	----	4.8	----
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	----	----	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC8_2.7-2.8	VC7_0.1-0.2	VC7_0.2-0.3	VC7_0.7-0.8	VC7_0.9-1.0
				Client sampling date / time	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910562-036	ES0910562-037	ES0910562-038	ES0910562-039	ES0910562-040
EP080/071: Total Petroleum Hydrocarbons - Continued									
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	----	----	----
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	----
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	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC8_2.7-2.8	VC7_0.1-0.2	VC7_0.2-0.3	VC7_0.7-0.8	VC7_0.9-1.0
				Client sampling date / time	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910562-036	ES0910562-037	ES0910562-038	ES0910562-039	ES0910562-040
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
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	----
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	10	µg/kg		<10	----	<10	<10	<10
2-Methylnaphthalene	91-57-6	10	µg/kg		**3950**	----	**280**	<10	<10
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg		<10	----	<10	<10	<10
Acenaphthene	83-32-9	10	µg/kg		**850**	----	**300**	<10	<10
Acenaphthylene	208-96-8	10	µg/kg		**3530**	----	**280**	<10	<10
Anthracene	120-12-7	10	µg/kg		**2640**	----	**530**	<10	<10
Benz(a)anthracene	56-55-3	10	µg/kg		**3780**	----	**1000**	<10	<10
Benzo(a)pyrene	50-32-8	10	µg/kg		**3810**	----	**860**	**10**	<10
Benzo(b)fluoranthene	205-99-2	10	µg/kg		**3740**	----	**960**	**10**	<10
Benzo(e)pyrene	192-97-2	10	µg/kg		**2350**	----	**530**	<10	<10
Benzo(g.h.i)perylene	191-24-2	10	µg/kg		**2880**	----	**630**	<10	<10
Benzo(k)fluoranthene	207-08-9	10	µg/kg		**1300**	----	**390**	<10	<10
Chrysene	218-01-9	10	µg/kg		**3510**	----	**920**	<10	<10
Coronene	191-07-1	10	µg/kg		**1280**	----	**170**	<10	<10
Dibenz(a.h)anthracene	53-70-3	10	µg/kg		**660**	----	**150**	<10	<10
Fluoranthene	206-44-0	10	µg/kg		**10200**	----	**2840**	**20**	<10
Fluorene	86-73-7	10	µg/kg		**3090**	----	**310**	<10	<10
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg		**2510**	----	**580**	<10	<10
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg		<100	----	<100	<100	<100
Naphthalene	91-20-3	10	µg/kg		**81700**	----	**3740**	**100**	**10**
Perylene	198-55-0	10	µg/kg		**1200**	----	**290**	**10**	**20**
Phenanthrene	85-01-8	10	µg/kg		**8520**	----	**2040**	**20**	<10
Pyrene	129-00-0	10	µg/kg		**8520**	----	**2400**	**30**	**10**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		----	----	----	**85.6**	----
2-Chlorophenol-D4	93951-73-6	0.1	%		----	----	----	**73.3**	----
2.4.6-Tribromophenol	118-79-6	0.1	%		----	----	----	**62.5**	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	----	----	**75.7**	----
Anthracene-d10	1719-06-8	0.1	%		----	----	----	**92.7**	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	----	----	**104**	----
EP080S: TPH(V)/BTEX Surrogates									

Analytical Results

Sub-Matrix: SOIL				Client sample ID	VC8_2.7-2.8	VC7_0.1-0.2	VC7_0.2-0.3	VC7_0.7-0.8	VC7_0.9-1.0
				Client sampling date / time	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
Compound	*CAS Number*	*LOR*	*Unit*		ES0910562-036	ES0910562-037	ES0910562-038	ES0910562-039	ES0910562-040
EP080S: TPH(V)/BTEX Surrogates - Continued									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		---	**107**	---	---	---
Toluene-D8	2037-26-5	0.1	%		---	**112**	---	---	---
4-Bromofluorobenzene	460-00-4	0.1	%		---	**101**	---	---	---
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		---	---	---	**50.6**	---
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		---	---	---	**45.7**	---
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**86.5**	---	**68.7**	**56.2**	**66.1**
Anthracene-d10	1719-06-8	0.1	%		**72.6**	---	**70.6**	**63.9**	**80.2**
4-Terphenyl-d14	1718-51-0	0.1	%		**63.1**	---	**64.2**	**63.8**	**79.3**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: VC7_0.3-0.4	VC4_0.2-0.3	VC4_0.7-0.8	VC4_1.2-1.3	VC4_1.7-1.8
				Client sampling date / time: 16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
				ES0910562-041	ES0910562-042	ES0910562-043	ES0910562-044	ES0910562-045
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	29.2	45.9	39.3	21.7	21.5
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	<0.50	1.89	2.61	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg	11.9	42.4	97.5	5.21	8.78
Cadmium	7440-43-9	0.1	mg/kg	0.2	1.2	2.2	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg	22.8	135	88.6	6.1	14.9
Copper	7440-50-8	1.0	mg/kg	23.2	919	583	4.2	33.7
Cobalt	7440-48-4	0.5	mg/kg	10.9	19.4	11.4	1.2	15.2
Lead	7439-92-1	1.0	mg/kg	21.1	616	891	1.8	10.7
Nickel	7440-02-0	1.0	mg/kg	14.5	39.5	21.3	1.6	10.9
Selenium	7782-49-2	0.1	mg/kg	0.7	6.3	6.7	0.2	0.7
Silver	7440-22-4	0.1	mg/kg	<0.1	3.3	1.9	0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg	56.2	100	94.6	16.2	169
Zinc	7440-66-6	1.0	mg/kg	112	2310	1390	5.6	29.9
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	1.0	1.1	<0.1	<0.1
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	----	----	9.6	----
After HCl pH	----	0.1	pH Unit	----	----	----	5.1	----
Extraction Fluid Number	----	1	-	----	----	----	2	----
Final pH	----	0.1	pH Unit	----	----	----	5.6	----
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	410	----	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	320	----	----	----
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	<10	<10
2-Methylnaphthalene	91-57-6	10	µg/kg	630	----	410	<10	<10
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	----	<10	<10	<10
Acenaphthene	83-32-9	10	µg/kg	130	----	90	<10	<10

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: VC7_0.3-0.4	VC4_0.2-0.3	VC4_0.7-0.8	VC4_1.2-1.3	VC4_1.7-1.8
				Client sampling date / time: 16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
				ES0910562-041	ES0910562-042	ES0910562-043	ES0910562-044	ES0910562-045
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
Acenaphthylene	208-96-8	10	µg/kg	**510**	----	**480**	<10	<10
Anthracene	120-12-7	10	µg/kg	**320**	----	**350**	<10	<10
Benz(a)anthracene	56-55-3	10	µg/kg	**290**	----	**540**	<10	<10
Benzo(a)pyrene	50-32-8	10	µg/kg	**360**	----	**500**	<10	<10
Benzo(b)fluoranthene	205-99-2	10	µg/kg	**410**	----	**600**	<10	<10
Benzo(e)pyrene	192-97-2	10	µg/kg	**230**	----	**360**	<10	<10
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	**190**	----	**320**	<10	<10
Benzo(k)fluoranthene	207-08-9	10	µg/kg	**150**	----	**260**	<10	<10
Chrysene	218-01-9	10	µg/kg	**270**	----	**520**	<10	<10
Coronene	191-07-1	10	µg/kg	**60**	----	**90**	<10	<10
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	**50**	----	**90**	<10	<10
Fluoranthene	206-44-0	10	µg/kg	**790**	----	**900**	<10	<10
Fluorene	86-73-7	10	µg/kg	**380**	----	**370**	<10	<10
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	**180**	----	**300**	<10	<10
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	----	<100	<100	<100
Naphthalene	91-20-3	10	µg/kg	**8680**	----	**4050**	<10	<10
Perylene	198-55-0	10	µg/kg	**130**	----	**160**	<10	<10
Phenanthrene	85-01-8	10	µg/kg	**1110**	----	**900**	<10	<10
Pyrene	129-00-0	10	µg/kg	**850**	----	**790**	<10	<10
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**86.2**	**82.7**	----	----	----
Toluene-D8	2037-26-5	0.1	%	**90.6**	**86.5**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**82.7**	**78.6**	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**75.5**	----	**68.6**	**66.7**	**66.3**
Anthracene-d10	1719-06-8	0.1	%	**77.7**	----	**70.5**	**69.0**	**72.0**
4-Terphenyl-d14	1718-51-0	0.1	%	**73.0**	----	**63.3**	**73.4**	**76.4**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	DUP25	DUP21	DUP29	DUP28	DUP27
				Client sampling date / time	14-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910562-046	ES0910562-047	ES0910562-048	ES0910562-049	ES0910562-050
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	---	1.0	%		29.4	26.3	28.1	19.6	24.2
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		4.96	5.85	7.86	5.98	6.28
Cadmium	7440-43-9	0.1	mg/kg		0.2	0.7	1.9	0.2	0.5
Chromium	7440-47-3	1.0	mg/kg		196	37.5	220	47.6	29.7
Copper	7440-50-8	1.0	mg/kg		53.6	20.3	36.6	17.5	16.6
Cobalt	7440-48-4	0.5	mg/kg		2.9	6.2	6.0	4.8	4.4
Lead	7439-92-1	1.0	mg/kg		31.3	36.2	114	29.2	38.5
Nickel	7440-02-0	1.0	mg/kg		11.4	10.2	12.4	7.4	6.9
Selenium	7782-49-2	0.1	mg/kg		0.6	0.4	0.8	0.7	1.0
Silver	7440-22-4	0.1	mg/kg		0.2	0.1	0.2	0.1	0.2
Vanadium	7440-62-2	2.0	mg/kg		1970	30.5	618	250	43.3
Zinc	7440-66-6	1.0	mg/kg		177	228	729	197	247
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	0.1	0.1	<0.1	<0.1
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		---	---	---	---	<0.5
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	---	---	---	---
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: DUP25	DUP21	DUP29	DUP28	DUP27
				Client sampling date / time: 14-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
				ES0910562-046	ES0910562-047	ES0910562-048	ES0910562-049	ES0910562-050
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
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: DUP25	DUP21	DUP29	DUP28	DUP27
				Client sampling date / time: 14-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
				ES0910562-046	ES0910562-047	ES0910562-048	ES0910562-049	ES0910562-050
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	10	µg/kg	<10	<10	<10	<10	<10
2-Methylnaphthalene	91-57-6	10	µg/kg	**80**	**520**	**1490**	**280**	**60**
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	<10	<10	<10	<10
Acenaphthene	83-32-9	10	µg/kg	**20**	**120**	**320**	**60**	**20**
Acenaphthylene	208-96-8	10	µg/kg	**60**	**440**	**1220**	**200**	**60**
Anthracene	120-12-7	10	µg/kg	**60**	**350**	**850**	**130**	**40**
Benz(a)anthracene	56-55-3	10	µg/kg	**130**	**440**	**1130**	**210**	**60**
Benzo(a)pyrene	50-32-8	10	µg/kg	**150**	**750**	**1480**	**220**	**70**
Benzo(b)fluoranthene	205-99-2	10	µg/kg	**170**	**860**	**1650**	**280**	**90**
Benzo(e)pyrene	192-97-2	10	µg/kg	**100**	**450**	**930**	**150**	**40**
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	**90**	**600**	**1150**	**100**	**30**
Benzo(k)fluoranthene	207-08-9	10	µg/kg	**70**	**240**	**620**	**110**	**40**
Chrysene	218-01-9	10	µg/kg	**140**	**440**	**1080**	**210**	**60**
Coronene	191-07-1	10	µg/kg	**40**	**350**	**640**	**20**	<10
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	**30**	**130**	**220**	**30**	<10
Fluoranthene	206-44-0	10	µg/kg	**270**	**1000**	**2840**	**420**	**180**
Fluorene	86-73-7	10	µg/kg	**50**	**350**	**960**	**140**	**50**
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	**90**	**530**	**1000**	**90**	**30**
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	<100	<100	<100	<100
Naphthalene	91-20-3	10	µg/kg	**930**	**6040**	**18600**	**3170**	**650**
Perylene	198-55-0	10	µg/kg	**50**	**300**	**440**	**70**	**20**
Phenanthrene	85-01-8	10	µg/kg	**230**	**1120**	**2880**	**450**	**210**
Pyrene	129-00-0	10	µg/kg	**240**	**1040**	**2810**	**380**	**180**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	----	----	----	**87.0**
2-Chlorophenol-D4	93951-73-6	0.1	%	----	----	----	----	**72.6**
2.4.6-Tribromophenol	118-79-6	0.1	%	----	----	----	----	**63.3**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	**75.0**
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	**91.7**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	**106**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**110**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	**115**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**106**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	**44.5**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	DUP25	DUP21	DUP29	DUP28	DUP27
				Client sampling date / time	14-JUL-2009 15:00	15-JUL-2009 15:00	15-JUL-2009 15:00	16-JUL-2009 15:00	16-JUL-2009 15:00
Compound	CAS Number	LOR	Unit		ES0910562-046	ES0910562-047	ES0910562-048	ES0910562-049	ES0910562-050
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		---	---	---	---	**43.8**
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**85.0**	**77.0**	**77.5**	**60.7**	**40.2**
Anthracene-d10	1719-06-8	0.1	%		**88.9**	**79.6**	**78.1**	**62.4**	**45.4**
4-Terphenyl-d14	1718-51-0	0.1	%		**80.2**	**73.9**	**82.0**	**62.7**	**43.8**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	PC13_0.0-0.07	PC23_0.0-0.06	SG23_0.0-0.03	SG24_0.0-0.01	SG26_0.0-0.02
				Client sampling date / time	[17-JUL-2009]	[17-JUL-2009]	[17-JUL-2009]	[17-JUL-2009]	[17-JUL-2009]
Compound	CAS Number	LOR	Unit		ES0910562-055	ES0910562-056	ES0910562-057	ES0910562-058	ES0910562-059
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	---	1.0	%		53.2	50.1	24.2	22.6	22.5
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		0.57	0.56	<0.50	0.78	0.70
Arsenic	7440-38-2	1.00	mg/kg		22.3	20.9	7.79	31.4	29.8
Cadmium	7440-43-9	0.1	mg/kg		0.5	0.3	0.1	0.1	0.1
Chromium	7440-47-3	1.0	mg/kg		65.6	74.3	14.0	24.2	45.6
Copper	7440-50-8	1.0	mg/kg		286	286	101	50.2	50.1
Cobalt	7440-48-4	0.5	mg/kg		9.0	8.8	4.0	2.5	2.9
Lead	7439-92-1	1.0	mg/kg		166	164	65.1	122	110
Nickel	7440-02-0	1.0	mg/kg		15.1	15.7	6.2	11.9	13.3
Selenium	7782-49-2	0.1	mg/kg		1.5	1.5	0.8	0.5	0.4
Silver	7440-22-4	0.1	mg/kg		0.8	0.8	0.3	<0.1	0.1
Vanadium	7440-62-2	2.0	mg/kg		82.1	87.7	27.0	43.7	219
Zinc	7440-66-6	1.0	mg/kg		473	490	120	497	514
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.3	0.3	0.1	<0.1	<0.1
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		<0.8	---	---	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.8	---	---	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.8	---	---	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg		<1.6	---	---	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.8	---	---	<0.5	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.8	---	---	<0.5	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.8	---	---	<0.5	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.8	---	---	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		<0.8	---	---	<0.5	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.8	---	---	<0.5	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.8	---	---	<0.5	<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	<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: PC13_0.0-0.07	PC23_0.0-0.06	SG23_0.0-0.03	SG24_0.0-0.01	SG26_0.0-0.02
				Client sampling date / time: [17-JUL-2009]	[17-JUL-2009]	[17-JUL-2009]	[17-JUL-2009]	[17-JUL-2009]
				ES0910562-055	ES0910562-056	ES0910562-057	ES0910562-058	ES0910562-059
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	---	---	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
^ DDT (total)	---	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
gamma-BHC	58-89-9	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
Methoxychlor	72-43-5	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
cis-Chlordane	5103-71-9	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
trans-Chlordane	5103-74-2	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
^ Total Chlordane (sum)	---	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
Oxychlordane	27304-13-8	0.50	µg/kg	<0.50	---	---	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)								
^ Total Polychlorinated biphenyls	---	5.0	µg/kg	<5.0	---	---	<5.0	<5.0
Aroclor 1016	12974-11-2	5.0	µg/kg	<5.0	---	---	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	---	---	<5.0	<5.0
Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	---	---	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	---	---	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	---	---	<5.0	<5.0

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: PC13_0.0-0.07	PC23_0.0-0.06	SG23_0.0-0.03	SG24_0.0-0.01	SG26_0.0-0.02
				Client sampling date / time: [17-JUL-2009]	[17-JUL-2009]	[17-JUL-2009]	[17-JUL-2009]	[17-JUL-2009]
				ES0910562-055	ES0910562-056	ES0910562-057	ES0910562-058	ES0910562-059
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued								
Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	----	----	<5.0	<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	----	**560**	----	<10	<10
7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	----	<10	----	<10	<10
Acenaphthene	83-32-9	10	µg/kg	----	**120**	----	<10	<10
Acenaphthylene	208-96-8	10	µg/kg	----	**430**	----	<10	<10
Anthracene	120-12-7	10	µg/kg	----	**480**	----	<10	<10
Benz(a)anthracene	56-55-3	10	µg/kg	----	**830**	----	<10	**10**
Benzo(a)pyrene	50-32-8	10	µg/kg	----	**990**	----	<10	**10**
Benzo(b)fluoranthene	205-99-2	10	µg/kg	----	**1120**	----	<10	**20**
Benzo(e)pyrene	192-97-2	10	µg/kg	----	**590**	----	<10	<10
Benzo(g.h.i)perylene	191-24-2	10	µg/kg	----	**710**	----	<10	<10
Benzo(k)fluoranthene	207-08-9	10	µg/kg	----	**550**	----	<10	<10
Chrysene	218-01-9	10	µg/kg	----	**690**	----	<10	**10**
Coronene	191-07-1	10	µg/kg	----	**190**	----	<10	<10
Dibenz(a.h)anthracene	53-70-3	10	µg/kg	----	**170**	----	<10	<10
Fluoranthene	206-44-0	10	µg/kg	----	**1900**	----	**10**	**30**
Fluorene	86-73-7	10	µg/kg	----	**390**	----	<10	<10
Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	----	**580**	----	<10	<10
N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	----	<100	----	<100	<100
Naphthalene	91-20-3	10	µg/kg	----	**6200**	----	**10**	**20**
Perylene	198-55-0	10	µg/kg	----	**290**	----	<10	<10
Phenanthrene	85-01-8	10	µg/kg	----	**1440**	----	**10**	**20**
Pyrene	129-00-0	10	µg/kg	----	**1540**	----	**10**	**20**
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**76.6**	----	----	**87.4**	**75.2**
2-Chlorophenol-D4	93951-73-6	0.1	%	**80.7**	----	----	**85.9**	**79.7**
2.4.6-Tribromophenol	118-79-6	0.1	%	**61.8**	----	----	**67.6**	**58.0**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**81.9**	----	----	**87.3**	**78.5**
Anthracene-d10	1719-06-8	0.1	%	**94.7**	----	----	**101**	**89.9**
4-Terphenyl-d14	1718-51-0	0.1	%	**93.9**	----	----	**113**	**104**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**83.6**	----	**90.9**	**91.2**
Toluene-D8	2037-26-5	0.1	%	----	**91.8**	----	**98.1**	**95.1**
4-Bromofluorobenzene	460-00-4	0.1	%	----	**84.8**	----	**94.2**	**94.8**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	PC13_0.0-0.07	PC23_0.0-0.06	SG23_0.0-0.03	SG24_0.0-0.01	SG26_0.0-0.02
				Client sampling date / time	[17-JUL-2009]	[17-JUL-2009]	[17-JUL-2009]	[17-JUL-2009]	[17-JUL-2009]
Compound	*CAS Number*	*LOR*	*Unit*		ES0910562-055	ES0910562-056	ES0910562-057	ES0910562-058	ES0910562-059
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		**66.5**	----	----	**65.1**	**66.7**
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**61.3**	----	----	**64.3**	**67.5**
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	**67.0**	----	**58.3**	**73.8**
Anthracene-d10	1719-06-8	0.1	%		----	**77.1**	----	**68.3**	**88.8**
4-Terphenyl-d14	1718-51-0	0.1	%		----	**59.2**	----	**62.2**	**81.5**

Analytical Results

Sub-Matrix: TCLP LEACHATE				Client sample ID	VC2_2.7-2.8	VC9_0.7-0.8	VC9_2.8-2.9	VC6_0.5-0.6	VC6_0.7-0.8
				Client sampling date / time	21-JUL-2009 12:00	21-JUL-2009 12:00	21-JUL-2009 12:00	22-JUL-2009 12:00	21-JUL-2009 12:00
Compound	CAS Number	LOR	Unit		ES0910562-015	ES0910562-026	ES0910562-027	ES0910562-031	ES0910562-032
EG005C: Leachable Metals by ICPAES									
Antimony	7440-36-0	0.1	mg/L		---	<0.1	---	<0.1	---
Arsenic	7440-38-2	0.1	mg/L		---	<0.1	---	<0.1	---
Cadmium	7440-43-9	0.05	mg/L		---	<0.05	---	<0.05	---
Chromium	7440-47-3	0.1	mg/L		---	**0.6**	---	<0.1	---
Cobalt	7440-48-4	0.1	mg/L		---	<0.1	---	<0.1	---
Copper	7440-50-8	0.1	mg/L		---	<0.1	---	<0.1	---
Lead	7439-92-1	0.1	mg/L		---	<0.1	---	<0.1	---
Nickel	7440-02-0	0.1	mg/L		---	<0.1	---	<0.1	---
Selenium	7782-49-2	0.05	mg/L		---	<0.05	---	<0.05	---
Silver	7440-22-4	0.1	mg/L		---	<0.1	---	<0.1	---
Vanadium	7440-62-2	0.1	mg/L		---	**1.2**	---	<0.1	---
Zinc	7440-66-6	0.1	mg/L		---	**0.3**	---	<0.1	---
EG035C: Leachable Mercury by FIMS									
Mercury	7439-97-6	0.0010	mg/L		---	<0.0010	---	<0.0010	---
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L		<0.1	---	<0.1	---	<0.1
2-Methylnaphthalene	91-57-6	0.1	µg/L		<0.1	---	<0.1	---	<0.1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L		<0.1	---	<0.1	---	<0.1
Acenaphthene	83-32-9	0.1	µg/L		<0.1	---	<0.1	---	<0.1
Acenaphthylene	208-96-8	0.1	µg/L		<0.1	---	<0.1	---	<0.1
Anthracene	120-12-7	0.1	µg/L		<0.1	---	<0.1	---	<0.1
Benz(a)anthracene	56-55-3	0.1	µg/L		<0.1	---	<0.1	---	<0.1
Benzo(a)pyrene	50-32-8	0.05	µg/L		<0.05	---	<0.05	---	<0.05
Benzo(b)fluoranthene	205-99-2	0.1	µg/L		<0.1	---	<0.1	---	<0.1
Benzo(e)pyrene	192-97-2	0.1	µg/L		<0.1	---	<0.1	---	<0.1
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L		<0.1	---	<0.1	---	<0.1
Benzo(k)fluoranthene	207-08-9	0.1	µg/L		<0.1	---	<0.1	---	<0.1
Chrysene	218-01-9	0.1	µg/L		<0.1	---	<0.1	---	<0.1
Coronene	191-07-1	0.1	µg/L		<0.1	---	<0.1	---	<0.1
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L		<0.1	---	<0.1	---	<0.1
Fluoranthene	206-44-0	0.1	µg/L		<0.1	---	**0.3**	---	<0.1
Fluorene	86-73-7	0.1	µg/L		<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
N-2-Fluorenyl Acetamide	53-96-3	0.1	µg/L		<0.1	---	<0.1	---	<0.1
Naphthalene	91-20-3	0.1	µg/L		**0.3**	---	**0.8**	---	**0.2**
Perylene	198-55-0	0.1	µg/L		<0.1	---	<0.1	---	<0.1
Phenanthrene	85-01-8	0.1	µg/L		<0.1	---	**0.3**	---	<0.1
Pyrene	129-00-0	0.1	µg/L		<0.1	---	**0.4**	---	<0.1

Analytical Results

Sub-Matrix: TCLP LEACHATE				Client sample ID	VC2_2.7-2.8	VC9_0.7-0.8	VC9_2.8-2.9	VC6_0.5-0.6	VC6_0.7-0.8
				Client sampling date / time	21-JUL-2009 12:00	21-JUL-2009 12:00	21-JUL-2009 12:00	22-JUL-2009 12:00	21-JUL-2009 12:00
Compound	CAS Number	LOR	Unit		ES0910562-015	ES0910562-026	ES0910562-027	ES0910562-031	ES0910562-032
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**86.8**	----	**88.1**	----	**93.5**
Anthracene-d10	1719-06-8	0.1	%		**98.6**	----	**108**	----	**112**
4-Terphenyl-d14	1718-51-0	0.1	%		**96.2**	----	**101**	----	**107**

Analytical Results

Sub-Matrix: TCLP LEACHATE				Client sample ID	VC8_0.5-0.6	VC8_2.3-2.4	VC7_0.7-0.8	VC4_1.2-1.3	----
				Client sampling date / time	21-JUL-2009 12:00	21-JUL-2009 12:00	21-JUL-2009 12:00	21-JUL-2009 12:00	----
Compound	CAS Number	LOR	Unit		ES0910562-034	ES0910562-035	ES0910562-039	ES0910562-044	----
EG005C: Leachable Metals by ICPAES									
Antimony	7440-36-0	0.1	mg/L		<0.1	----	<0.1	<0.1	----
Arsenic	7440-38-2	0.1	mg/L		<0.1	----	<0.1	<0.1	----
Cadmium	7440-43-9	0.05	mg/L		<0.05	----	<0.05	<0.05	----
Chromium	7440-47-3	0.1	mg/L		<0.1	----	<0.1	<0.1	----
Cobalt	7440-48-4	0.1	mg/L		<0.1	----	<0.1	<0.1	----
Copper	7440-50-8	0.1	mg/L		<0.1	----	<0.1	<0.1	----
Lead	7439-92-1	0.1	mg/L		<0.1	----	<0.1	<0.1	----
Nickel	7440-02-0	0.1	mg/L		<0.1	----	<0.1	<0.1	----
Selenium	7782-49-2	0.05	mg/L		<0.05	----	<0.05	<0.05	----
Silver	7440-22-4	0.1	mg/L		<0.1	----	<0.1	<0.1	----
Vanadium	7440-62-2	0.1	mg/L		**0.1**	----	<0.1	<0.1	----
Zinc	7440-66-6	0.1	mg/L		**0.2**	----	**0.3**	**0.1**	----
EG035C: Leachable Mercury by FIMS									
Mercury	7439-97-6	0.0010	mg/L		<0.0010	----	<0.0010	<0.0010	----
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L		----	<0.1	<0.1	<0.1	----
2-Methylnaphthalene	91-57-6	0.1	µg/L		----	<0.1	<0.1	<0.1	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Acenaphthene	83-32-9	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Acenaphthylene	208-96-8	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Anthracene	120-12-7	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Benz(a)anthracene	56-55-3	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Benzo(a)pyrene	50-32-8	0.05	µg/L		----	<0.05	<0.05	<0.05	----
Benzo(b)fluoranthene	205-99-2	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Benzo(e)pyrene	192-97-2	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Benzo(k)fluoranthene	207-08-9	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Chrysene	218-01-9	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Coronene	191-07-1	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Fluoranthene	206-44-0	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Fluorene	86-73-7	0.1	µg/L		----	<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	----
N-2-Fluorenyl Acetamide	53-96-3	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Naphthalene	91-20-3	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Perylene	198-55-0	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Phenanthrene	85-01-8	0.1	µg/L		----	<0.1	<0.1	<0.1	----
Pyrene	129-00-0	0.1	µg/L		----	<0.1	<0.1	<0.1	----

Analytical Results

Sub-Matrix: TCLP LEACHATE				Client sample ID	VC8_0.5-0.6	VC8_2.3-2.4	VC7_0.7-0.8	VC4_1.2-1.3	----
				Client sampling date / time	21-JUL-2009 12:00	21-JUL-2009 12:00	21-JUL-2009 12:00	21-JUL-2009 12:00	----
Compound	CAS Number	LOR	Unit		ES0910562-034	ES0910562-035	ES0910562-039	ES0910562-044	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		---	**87.2**	**84.2**	**90.8**	----
Anthracene-d10	1719-06-8	0.1	%		---	**99.0**	**93.6**	**104**	----
4-Terphenyl-d14	1718-51-0	0.1	%		---	**93.9**	**89.0**	**100**	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	RB01	RB02	RB03	RB04	----
				Client sampling date / time	13-JUL-2009 15:00	14-JUL-2009 15:00	15-JUL-2009 15:00	16-JUL-2009 15:00	----
Compound	CAS Number	LOR	Unit		ES0910562-051	ES0910562-052	ES0910562-053	ES0910562-054	----
EP132B: Polynuclear Aromatic Hydrocarbons									
3-Methylcholanthrene	56-49-5	0.1	µg/L		<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	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	----
Acenaphthene	83-32-9	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	----
Acenaphthylene	208-96-8	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	----
Anthracene	120-12-7	0.1	µg/L		<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	----
Benzo(a)pyrene	50-32-8	0.05	µg/L		<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	----
Benzo(e)pyrene	192-97-2	0.1	µg/L		<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	----
Benzo(k)fluoranthene	207-08-9	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	----
Chrysene	218-01-9	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	----
Coronene	191-07-1	0.1	µg/L		<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	----
Fluoranthene	206-44-0	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	----
Fluorene	86-73-7	0.1	µg/L		<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	----
N-2-Fluorenyl Acetamide	53-96-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	----
Naphthalene	91-20-3	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	----
Perylene	198-55-0	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	----
Phenanthrene	85-01-8	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	----
Pyrene	129-00-0	0.1	µg/L		<0.1	<0.1	<0.1	<0.1	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**82.0**	**92.6**	**76.5**	**78.1**	----
Anthracene-d10	1719-06-8	0.1	%		**94.1**	**100**	**81.9**	**85.0**	----
4-Terphenyl-d14	1718-51-0	0.1	%		**96.4**	**101**	**83.1**	**86.0**	----

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: TCLP LEACHATE		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

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	: **ES0910562**	Page	: 1 of 28
Amendment	: **1**		
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
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Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S3017805 - PKOH	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: PRAC-OUTER HARBOUR		
C-O-C number	: ----	Date Samples Received	: 17-JUL-2009
Sampler	: KP	Issue Date	: 30-JUL-2009
Order number	: ----		
		No. of samples received	: 59
Quote number	: SY/330/09 V3	No. of samples analysed	: 59

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
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Victor Kedicioglu	Business Manager - NSW	Inorganics
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: **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: 1044606)									
ES0910562-001	VC3_0.0-0.2	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	36.8	42.4	14.2	0% - 20%
ES0910562-010	VC1_0.5-0.6	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	23.6	23.4	1.1	0% - 20%
EA055: Moisture Content (QC Lot: 1044607)									
ES0910562-021	VC12_0.2-0.3	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	22.1	22.8	2.8	0% - 20%
ES0910562-047	DUP21	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	26.3	24.0	9.1	0% - 20%
EA055: Moisture Content (QC Lot: 1044930)									
ES0910459-042	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	6.6	6.1	8.6	No Limit
ES0910562-036	VC8_2.7-2.8	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	27.8	33.2	17.9	0% - 20%
EA055: Moisture Content (QC Lot: 1044931)									
ES0910562-050	DUP27	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	24.2	25.1	3.6	0% - 20%
EA055: Moisture Content (QC Lot: 1044937)									
EB0911265-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	20.8	20.0	4.0	0% - 20%
ES0910466-090	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	---	1.0	%	11.0	10.8	1.6	0% - 50%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 1045958)									
ES0910562-001	VC3_0.0-0.2	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	0.3	0.3	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	1.5	0.9	49.4	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.5	0.4	40.1	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	6.4	5.0	24.8	0% - 50%
		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	35.4	27.8	# 24.1	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	122	86.2	# 34.2	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	123	139	12.1	0% - 20%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	11.2	9.9	12.3	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	208	160	# 26.2	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	9.62	8.35	14.1	No Limit
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	116	138	17.2	0% - 20%
ES0910562-011	VC1_1.3-1.4	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	9.3	5.9	# 45.2	0% - 20%
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	1.0	1.1	0.0	0% - 50%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.4	0.5	23.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	9.4	9.6	1.8	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	0.63	0.66	4.8	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	539	433	# 21.9	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	76.0	84.2	10.2	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	202	247	19.8	0% - 20%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	22.2	23.5	5.8	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: 1045958) - continued									
ES0910562-011	VC1_1.3-1.4	EG020-SD: Zinc	7440-66-6	1.0	mg/kg	1310	1550	17.2	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	14.7	16.4	11.1	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	94.8	101	6.2	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 1045960)									
ES0910562-021	VC12_0.2-0.3	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	0.2	0.3	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.8	0.9	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.3	0.3	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	2.7	3.0	10.0	No Limit
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	0.58	0.74	23.8	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	20.7	22.6	8.7	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	87.0	102	15.8	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	88.4	104	16.3	0% - 20%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	10.3	11.8	13.4	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	302	337	10.9	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	21.7	25.4	15.8	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	68.0	85.6	# 22.8	0% - 20%
ES0910562-032	VC6_0.7-0.8	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.4	0.5	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	1.3	1.9	35.6	No Limit
		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	130	111	16.0	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	13.9	14.3	2.6	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	14.4	12.1	17.4	0% - 50%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	4.7	6.0	24.1	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	48.4	52.1	7.4	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	1.28	4.40	110	No Limit
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	116	100	14.2	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 1046029)									
ES0910562-041	VC7_0.3-0.4	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	0.2	0.3	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.7	0.6	15.5	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	0.2	71.4	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	10.9	12.5	14.2	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	22.8	22.6	0.6	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	23.2	25.3	8.6	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	21.1	20.6	2.2	0% - 20%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	14.5	16.4	12.3	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	112	112	0.5	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: 1046029) - continued									
ES0910562-041	VC7_0.3-0.4	EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	11.9	13.7	13.9	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	56.2	54.5	3.0	0% - 20%
ES0910562-049	DUP28	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	0.2	0.2	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.7	0.5	21.4	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	4.8	5.4	13.1	0% - 50%
		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	47.6	61.8	# 25.9	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	17.5	15.5	12.2	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	29.2	28.8	1.4	0% - 20%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	7.4	12.0	48.0	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	197	184	6.4	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	5.98	6.94	14.8	No Limit
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	250	539	# 73.1	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1045957)									
ES0910562-001	VC3_0.0-0.2	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.1	72.3	No Limit
ES0910562-011	VC1_1.3-1.4	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.4	0.4	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1045959)									
ES0910562-021	VC12_0.2-0.3	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.1	0.0	No Limit
ES0910562-032	VC6_0.7-0.8	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1046028)									
ES0910562-041	VC7_0.3-0.4	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES0910562-049	DUP28	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: 1045174)									
ES0910434-005	Anonymous	EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1044496)									
ES0910562-033	VC8_0.2-0.3	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
EP075(SIM)A: Phenolic Compounds (QC Lot: 1044863)									

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: 1044863) - continued									
ES0910434-005	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	1.3	<1.0	26.3	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: 1044472)									
ES0910562-002	VC3_0.5-0.6	EP080: C6 - C9 Fraction	---	10	mg/kg	<10	<10	0.0	No Limit
ES0910562-041	VC7_0.3-0.4	EP080: C6 - C9 Fraction	---	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1044495)									
ES0910562-033	VC8_0.2-0.3	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
ES0910562-041	VC7_0.3-0.4	EP071: C15 - C28 Fraction	---	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	---	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	---	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1044809)									
ES0910434-005	Anonymous	EP080: C6 - C9 Fraction	---	10	mg/kg	<10	<10	0.0	No Limit
ES0910591-002	Anonymous	EP080: C6 - C9 Fraction	---	10	mg/kg	191	210	9.5	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1044862)									
ES0910434-005	Anonymous	EP071: C15 - C28 Fraction	---	100	mg/kg	4870	4900	0.6	0% - 20%
		EP071: C29 - C36 Fraction	---	100	mg/kg	3990	3850	3.6	0% - 20%
		EP071: C10 - C14 Fraction	---	50	mg/kg	120	130	0.0	No Limit
ES0910591-002	Anonymous	EP071: C15 - C28 Fraction	---	100	mg/kg	290	250	14.5	No Limit
		EP071: C29 - C36 Fraction	---	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	---	50	mg/kg	120	100	15.4	No Limit
EP080: BTEX (QC Lot: 1044472)									
ES0910562-002	VC3_0.5-0.6	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

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: BTEX (QC Lot: 1044472) - continued									
ES0910562-041	VC7_0.3-0.4	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
EP080: BTEX (QC Lot: 1044809)									
ES0910434-005	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES0910591-002	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	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: 1044476)									
ES0910562-005	VC5_0.0-0.2	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

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: 1044476) - continued									
ES0910562-005	VC5_0.0-0.2	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
EP131A: Organochlorine Pesticides (QC Lot: 1046178)									
ES0910562-055	PC13_0.0-0.07	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: 1044475)									
ES0910562-005	VC5_0.0-0.2	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
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 1046179)									

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: 1046179) - continued									
ES0910562-055	PC13_0.0-0.07	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: 1044500)									
ES0910562-023	VC12_2.1-2.2	EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	<10	0.0	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	<10	<10	0.0	No Limit
		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	<10	<10	0.0	No Limit
		EP132: Acenaphthylene	208-96-8	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Anthracene	120-12-7	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benz(a)anthracene	56-55-3	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(b)fluoranthene	205-99-2	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Chrysene	218-01-9	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Coronene	191-07-1	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Fluoranthene	206-44-0	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Fluorene	86-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Naphthalene	91-20-3	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Perylene	198-55-0	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Phenanthrene	85-01-8	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Pyrene	129-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	<100	0.0	No Limit
ES0910562-020	VC11_2.5-2.6	EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	<10	0.0	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	<10	<10	0.0	No Limit
		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	<10	<10	0.0	No Limit
		EP132: Acenaphthylene	208-96-8	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Anthracene	120-12-7	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benz(a)anthracene	56-55-3	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1044500) - continued									
ES0910562-020	VC11_2.5-2.6	EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(b)fluoranthene	205-99-2	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Chrysene	218-01-9	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Coronene	191-07-1	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Fluoranthene	206-44-0	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Fluorene	86-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Naphthalene	91-20-3	10	µg/kg	40	50	0.0	No Limit
		EP132: Perylene	198-55-0	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Phenanthrene	85-01-8	10	µg/kg	10	10	0.0	No Limit
		EP132: Pyrene	129-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	<100	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1044503)									
ES0910562-044	VC4_1.2-1.3	EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	<10	0.0	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	<10	<10	0.0	No Limit
		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	<10	<10	0.0	No Limit
		EP132: Acenaphthylene	208-96-8	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Anthracene	120-12-7	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benz(a)anthracene	56-55-3	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(b)fluoranthene	205-99-2	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Chrysene	218-01-9	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Coronene	191-07-1	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Fluoranthene	206-44-0	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Fluorene	86-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Naphthalene	91-20-3	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Perylene	198-55-0	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Phenanthrene	85-01-8	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Pyrene	129-00-0	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1044503) - continued									
ES0910562-044	VC4_1.2-1.3	EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	<100	0.0	No Limit
ES0910562-045	VC4_1.7-1.8	EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	<10	0.0	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	<10	<10	0.0	No Limit
		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	<10	<10	0.0	No Limit
		EP132: Acenaphthylene	208-96-8	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Anthracene	120-12-7	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benz(a)anthracene	56-55-3	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(b)fluoranthene	205-99-2	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Chrysene	218-01-9	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Coronene	191-07-1	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Fluoranthene	206-44-0	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Fluorene	86-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Naphthalene	91-20-3	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Perylene	198-55-0	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Phenanthrene	85-01-8	10	µg/kg	<10	<10	0.0	No Limit
		EP132: Pyrene	129-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	<100	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1046180)									
ES0910562-046	DUP25	EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	<10	0.0	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	80	80	0.0	No Limit
		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	20	20	0.0	No Limit
		EP132: Acenaphthylene	208-96-8	10	µg/kg	60	60	0.0	No Limit
		EP132: Anthracene	120-12-7	10	µg/kg	60	50	0.0	No Limit
		EP132: Benz(a)anthracene	56-55-3	10	µg/kg	130	100	27.1	0% - 50%
		EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	150	110	25.6	0% - 50%
		EP132: Benzo(b)fluoranthene	205-99-2	10	µg/kg	170	140	23.2	0% - 50%
		EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	100	80	24.6	No Limit
		EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	90	70	28.2	No Limit
		EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	70	60	0.0	No Limit
		EP132: Chrysene	218-01-9	10	µg/kg	140	110	24.1	0% - 50%
		EP132: Coronene	191-07-1	10	µg/kg	40	30	33.4	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 (%)*
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1046180) - continued									
ES0910562-046	DUP25	EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	30	20	48.4	No Limit
		EP132: Fluoranthene	206-44-0	10	µg/kg	270	220	17.4	0% - 20%
		EP132: Fluorene	86-73-7	10	µg/kg	50	50	0.0	No Limit
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	90	60	29.6	No Limit
		EP132: Naphthalene	91-20-3	10	µg/kg	930	920	1.5	0% - 20%
		EP132: Perylene	198-55-0	10	µg/kg	50	30	33.3	No Limit
		EP132: Phenanthrene	85-01-8	10	µg/kg	230	220	5.5	0% - 20%
		EP132: Pyrene	129-00-0	10	µg/kg	240	200	17.6	0% - 20%
		EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	<100	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 (%)*
EG005C: Leachable Metals by ICPAES (QC Lot: 1045458)									
ES0910529-001	Anonymous	EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Selenium	7782-49-2	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Antimony	7440-36-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Silver	7440-22-4	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	0.2	0.2	0.0	No Limit
EG005C: Leachable Metals by ICPAES (QC Lot: 1046779)									
ES0910562-031	VC6_0.5-0.6	EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Selenium	7782-49-2	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Antimony	7440-36-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Silver	7440-22-4	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES0910617-003	Anonymous	EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG005C: Selenium	7782-49-2	0.05	mg/L	<0.05	<0.05	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 (%)*
EG005C: Leachable Metals by ICPAES (QC Lot: 1046779) - continued									
ES0910617-003	Anonymous	EG005C: Antimony	7440-36-0	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Lead	7439-92-1	0.1	mg/L	8.5	8.8	2.8	0% - 20%
		EG005C: Nickel	7440-02-0	0.1	mg/L	0.1	0.1	0.0	No Limit
		EG005C: Silver	7440-22-4	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	<0.1	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	89.0	91.6	2.8	0% - 20%
EG035C: Leachable Mercury by FIMS (QC Lot: 1047833)									
ES0910529-001	Anonymous	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
ES0910629-001	Anonymous	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	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: 1045958)								
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	106	70	130
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	2.76 mg/kg	94.6	70	130
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	60.9 mg/kg	106	70	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	54.7 mg/kg	93.7	70	130
EG020-SD: Cobalt	7440-48-4	10	mg/kg	<10.0	24.5 mg/kg	103	70	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	54.8 mg/kg	92.3	70	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55.2 mg/kg	98.6	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	98.5	70	130
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	34 mg/kg	99.9	70	130
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	104 mg/kg	91.8	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 1045960)								
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	110	70	130
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	2.76 mg/kg	99.9	70	130
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	60.9 mg/kg	113	70	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	54.7 mg/kg	98.6	70	130
EG020-SD: Cobalt	7440-48-4	10	mg/kg	<10.0	24.5 mg/kg	107	70	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	54.8 mg/kg	98.8	70	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55.2 mg/kg	105	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	106	70	130
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	34 mg/kg	110	70	130
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	104 mg/kg	96.1	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 1046029)								
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	109	70	130
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	2.76 mg/kg	98.8	70	130
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	60.9 mg/kg	108	70	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	54.7 mg/kg	98.8	70	130
EG020-SD: Cobalt	7440-48-4	10	mg/kg	<10.0	24.5 mg/kg	108	70	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	54.8 mg/kg	101	70	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55.2 mg/kg	103	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: 1046029) - 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	107	70	130
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	34 mg/kg	104	70	130
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	104 mg/kg	97.3	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1045957)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	101	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1045959)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	85.5	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1046028)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	87.6	67	118
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1045174)								
EK026G: Total Cyanide	57-12-5	1	mg/kg	<1	50 mg/kg	79.4	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1044496)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	97.0	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	107	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	107	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	103	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	86.2	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	104	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	102	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	106	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	106	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	94.6	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	92.8	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	19.5	1.23	91.6
EP075(SIM)A: Phenolic Compounds (QCLot: 1044863)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	103	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	107	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	108	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	109	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	107	60.3	117
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	103	74.5	119
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	94.8	71.6	113
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	98.8	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	101	76.4	114
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	85.0	62.2	115
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	81.4	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	22.0	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: 1044472)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	77.4	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1044495)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	109	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	96.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	99.0	72.6	117
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1044809)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	92.2	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1044862)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	99.0	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	105	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	101	72.6	117
EP080: BTEX (QCLot: 1044472)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	88.9	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	87.0	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	93.2	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	89.0	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	93.2	66.7	123
EP080: BTEX (QCLot: 1044809)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	94.5	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	90.7	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	84.8	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	90.4	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	85.0	66.7	123
EP131A: Organochlorine Pesticides (QCLot: 1044476)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	100	31.7	140
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	34.9	24.5	150
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	61.1	36.9	139
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	86.1	38.2	137
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	75.3	42.5	141
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	96.8	34.8	140
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	109	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	109	43.2	134
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	93.0	23.7	139
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	98.3	35.8	138
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	91.4	7.45	158

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: 1044476) - continued								
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	108	21.6	162
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	73.8	19.3	131
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	80.0	17.9	141
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	110	31	153
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	107	34.3	138
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	33.4	18.6	146
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	56.3	30.7	145
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	96.4	15	157
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	102	22.3	145
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	89.1	42.4	139
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Organochlorine Pesticides (QCLot: 1046178)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	88.4	31.7	140
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	104	24.5	150
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	99.9	36.9	139
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	67.9	38.2	137
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	127	42.5	141
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	86.5	34.8	140
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	74.3	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	96.5	43.2	134
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	96.9	23.7	139
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	91.7	35.8	138
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	86.0	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	93.4	21.6	162
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	74.4	19.3	131
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	73.8	17.9	141
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	90.9	31	153
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	90.1	34.3	138
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	90.1	18.6	146
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	95.5	30.7	145
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	82.2	15	157
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	91.9	22.3	145
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	73.8	42.4	139
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 1044475)								
EP131B: Total Polychlorinated biphenyls	----	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: 1044475) - continued								
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	84.0	61.3	121
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 1046179)								
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	84.4	61.3	121
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1044500)								
EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	100 µg/kg	102	34.8	123
EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	<10	100 µg/kg	106	66.6	122
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	100 µg/kg	118	6.88	147
EP132: Acenaphthene	83-32-9	10	µg/kg	<10	100 µg/kg	104	62.9	124
EP132: Acenaphthylene	208-96-8	10	µg/kg	<10	100 µg/kg	94.0	58.2	117
EP132: Anthracene	120-12-7	10	µg/kg	<10	100 µg/kg	102	61.4	117
EP132: Benz(a)anthracene	56-55-3	10	µg/kg	<10	100 µg/kg	114	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	112	68.6	126
EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	<10	100 µg/kg	110	70	129
EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	<10	100 µg/kg	107	52.4	135
EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	<10	100 µg/kg	107	70.4	126
EP132: Chrysene	218-01-9	10	µg/kg	<10	100 µg/kg	115	67.5	126
EP132: Coronene	191-07-1	10	µg/kg	<10	100 µg/kg	108	34.7	141
EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	<10	100 µg/kg	109	61.7	129
EP132: Fluoranthene	206-44-0	10	µg/kg	<10	100 µg/kg	114	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	108	56.6	131
EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	1000 µg/kg	53.3	50	138
EP132: Naphthalene	91-20-3	10	µg/kg	<10	100 µg/kg	100	63.2	120
EP132: Perylene	198-55-0	10	µg/kg	<10	100 µg/kg	102	58.6	119
EP132: Phenanthrene	85-01-8	10	µg/kg	<10	100 µg/kg	114	65.4	124

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
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1044500) - continued								
EP132: Pyrene	129-00-0	10	µg/kg	<10	100 µg/kg	114	67.9	127
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1044503)								
EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	100 µg/kg	86.5	34.8	123
EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	<10	100 µg/kg	110	66.6	122
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	100 µg/kg	105	6.88	147
EP132: Acenaphthene	83-32-9	10	µg/kg	<10	100 µg/kg	95.0	62.9	124
EP132: Acenaphthylene	208-96-8	10	µg/kg	<10	100 µg/kg	89.7	58.2	117
EP132: Anthracene	120-12-7	10	µg/kg	<10	100 µg/kg	94.5	61.4	117
EP132: Benz(a)anthracene	56-55-3	10	µg/kg	<10	100 µg/kg	101	65.7	125
EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	<10	100 µg/kg	96.4	60.7	119
EP132: Benzo(b)fluoranthene	205-99-2	10	µg/kg	<10	100 µg/kg	99.8	68.6	126
EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	<10	100 µg/kg	104	70	129
EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	<10	100 µg/kg	101	52.4	135
EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	<10	100 µg/kg	105	70.4	126
EP132: Chrysene	218-01-9	10	µg/kg	<10	100 µg/kg	104	67.5	126
EP132: Coronene	191-07-1	10	µg/kg	<10	100 µg/kg	99.7	34.7	141
EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	<10	100 µg/kg	102	61.7	129
EP132: Fluoranthene	206-44-0	10	µg/kg	<10	100 µg/kg	102	68.7	126
EP132: Fluorene	86-73-7	10	µg/kg	<10	100 µg/kg	98.3	66.7	123
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	<10	100 µg/kg	103	56.6	131
EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	1000 µg/kg	114	50	138
EP132: Naphthalene	91-20-3	10	µg/kg	<10	100 µg/kg	93.6	63.2	120
EP132: Perylene	198-55-0	10	µg/kg	<10	100 µg/kg	92.6	58.6	119
EP132: Phenanthrene	85-01-8	10	µg/kg	<10	100 µg/kg	98.5	65.4	124
EP132: Pyrene	129-00-0	10	µg/kg	<10	100 µg/kg	102	67.9	127
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1046180)								
EP132: 3-Methylcholanthrene	56-49-5	10	µg/kg	<10	100 µg/kg	84.0	34.8	123
EP132: 2-Methylnaphthalene	91-57-6	10	µg/kg	<10	100 µg/kg	96.8	66.6	122
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	10	µg/kg	<10	100 µg/kg	67.4	6.88	147
EP132: Acenaphthene	83-32-9	10	µg/kg	<10	100 µg/kg	83.5	62.9	124
EP132: Acenaphthylene	208-96-8	10	µg/kg	<10	100 µg/kg	65.0	58.2	117
EP132: Anthracene	120-12-7	10	µg/kg	<10	100 µg/kg	80.2	61.4	117
EP132: Benz(a)anthracene	56-55-3	10	µg/kg	<10	100 µg/kg	83.3	65.7	125
EP132: Benzo(a)pyrene	50-32-8	10	µg/kg	<10	100 µg/kg	76.4	60.7	119
EP132: Benzo(b)fluoranthene	205-99-2	10	µg/kg	<10	100 µg/kg	84.3	68.6	126
EP132: Benzo(e)pyrene	192-97-2	10	µg/kg	<10	100 µg/kg	90.6	70	129
EP132: Benzo(g.h.i)perylene	191-24-2	10	µg/kg	<10	100 µg/kg	74.2	52.4	135
EP132: Benzo(k)fluoranthene	207-08-9	10	µg/kg	<10	100 µg/kg	97.9	70.4	126
EP132: Chrysene	218-01-9	10	µg/kg	<10	100 µg/kg	91.2	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: 1046180) - continued								
EP132: Coronene	191-07-1	10	µg/kg	<10	100 µg/kg	66.7	34.7	141
EP132: Dibenz(a.h)anthracene	53-70-3	10	µg/kg	<10	100 µg/kg	79.0	61.7	129
EP132: Fluoranthene	206-44-0	10	µg/kg	<10	100 µg/kg	90.1	68.7	126
EP132: Fluorene	86-73-7	10	µg/kg	<10	100 µg/kg	85.3	66.7	123
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	10	µg/kg	<10	100 µg/kg	77.8	56.6	131
EP132: N-2-Fluorenyl Acetamide	53-96-3	100	µg/kg	<100	100 µg/kg	119	50	138
EP132: Naphthalene	91-20-3	10	µg/kg	<10	100 µg/kg	79.5	63.2	120
EP132: Perylene	198-55-0	10	µg/kg	<10	100 µg/kg	79.6	58.6	119
EP132: Phenanthrene	85-01-8	10	µg/kg	<10	100 µg/kg	90.2	65.4	124
EP132: Pyrene	129-00-0	10	µg/kg	<10	100 µg/kg	87.5	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
EG005C: Leachable Metals by ICPAES (QCLot: 1045458)								
EG005C: Antimony	7440-36-0	0.1	mg/L	<0.1	----	----	----	----
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	1 mg/L	96.9	89	119
EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	0.250 mg/L	103	89	121
EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	1 mg/L	100	89	119
EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	1 mg/L	100	87	119
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	1 mg/L	107	87	121
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	105	89	119
EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	1 mg/L	99.4	88	120
EG005C: Selenium	7782-49-2	0.05	mg/L	<0.05	----	----	----	----
EG005C: Silver	7440-22-4	0.1	mg/L	<0.1	----	----	----	----
EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	1 mg/L	110	87	119
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	1 mg/L	118	85	121
EG005C: Leachable Metals by ICPAES (QCLot: 1046779)								
EG005C: Antimony	7440-36-0	0.1	mg/L	<0.1	----	----	----	----
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	1 mg/L	102	89	119
EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	0.250 mg/L	107	89	121
EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	1 mg/L	100	89	119
EG005C: Cobalt	7440-48-4	0.1	mg/L	<0.1	1 mg/L	101	87	119
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	1 mg/L	105	87	121
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	110	89	119
EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	1 mg/L	100	88	120
EG005C: Selenium	7782-49-2	0.05	mg/L	<0.05	----	----	----	----
EG005C: Silver	7440-22-4	0.1	mg/L	<0.1	----	----	----	----
EG005C: Vanadium	7440-62-2	0.1	mg/L	<0.1	1 mg/L	103	87	119
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	1 mg/L	106	85	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
EG035C: Leachable Mercury by FIMS (QCLot: 1047833)								
EG035C: Mercury	7439-97-6	0.001	mg/L	<0.0010	0.010 mg/L	108	83	119
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1044860)								
EP132: 3-Methylcholanthrene	56-49-5	0.10	µg/L	<0.1	2 µg/L	115	65.8	121
EP132: 2-Methylnaphthalene	91-57-6	0.10	µg/L	<0.1	2 µg/L	99.9	67.7	112
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.10	µg/L	<0.1	2 µg/L	118	11.6	146
EP132: Acenaphthene	83-32-9	0.10	µg/L	<0.1	2 µg/L	107	73.2	111
EP132: Acenaphthylene	208-96-8	0.10	µg/L	<0.1	2 µg/L	# 112	72.4	112
EP132: Anthracene	120-12-7	0.10	µg/L	<0.1	2 µg/L	# 114	73.4	113
EP132: Benz(a)anthracene	56-55-3	0.10	µg/L	<0.1	2 µg/L	# 114	73.6	114
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	109	75.2	117
EP132: Benzo(b)fluoranthene	205-99-2	0.10	µg/L	<0.1	2 µg/L	99.9	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	108	66.6	121
EP132: Benzo(k)fluoranthene	207-08-9	0.10	µg/L	<0.1	2 µg/L	115	74.8	118
EP132: Chrysene	218-01-9	0.10	µg/L	<0.1	2 µg/L	111	69.6	120
EP132: Coronene	191-07-1	0.10	µg/L	<0.1	2 µg/L	107	47.4	131
EP132: Dibenz(a.h)anthracene	53-70-3	0.10	µg/L	<0.1	2 µg/L	110	71.5	117
EP132: Fluoranthene	206-44-0	0.10	µg/L	<0.1	2 µg/L	115	74.8	117
EP132: Fluorene	86-73-7	0.10	µg/L	<0.1	2 µg/L	114	72.9	114
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L	<0.1	2 µg/L	108	67.8	119
EP132: N-2-Fluorenyl Acetamide	53-96-3	0.10	µg/L	<0.1	40 µg/L	107	53.6	131
EP132: Naphthalene	91-20-3	0.10	µg/L	<0.1	2 µg/L	98.1	68.3	116
EP132: Perylene	198-55-0	0.10	µg/L	<0.1	2 µg/L	107	68	122
EP132: Phenanthrene	85-01-8	0.10	µg/L	<0.1	2 µg/L	# 113	74.8	112
EP132: Pyrene	129-00-0	0.10	µg/L	<0.1	2 µg/L	113	75.1	117
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1047299)								
EP132: 3-Methylcholanthrene	56-49-5	0.10	µg/L	<0.1	2 µg/L	110	65.8	121
EP132: 2-Methylnaphthalene	91-57-6	0.10	µg/L	<0.1	2 µg/L	95.4	67.7	112
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.10	µg/L	<0.1	2 µg/L	110	11.6	146
EP132: Acenaphthene	83-32-9	0.10	µg/L	<0.1	2 µg/L	102	73.2	111
EP132: Acenaphthylene	208-96-8	0.10	µg/L	<0.1	2 µg/L	103	72.4	112
EP132: Anthracene	120-12-7	0.10	µg/L	<0.1	2 µg/L	99.8	73.4	113
EP132: Benz(a)anthracene	56-55-3	0.10	µg/L	<0.1	2 µg/L	114	73.6	114
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	108	75.2	117
EP132: Benzo(b)fluoranthene	205-99-2	0.10	µg/L	<0.1	2 µg/L	112	71.4	119
EP132: Benzo(e)pyrene	192-97-2	0.10	µg/L	<0.1	2 µg/L	112	75.3	118
EP132: Benzo(g.h.i)perylene	191-24-2	0.10	µg/L	<0.1	2 µg/L	103	66.6	121
EP132: Benzo(k)fluoranthene	207-08-9	0.10	µg/L	<0.1	2 µg/L	106	74.8	118
EP132: Chrysene	218-01-9	0.10	µg/L	<0.1	2 µg/L	105	69.6	120

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: 1047299) - continued								
EP132: Coronene	191-07-1	0.10	µg/L	<0.1	2 µg/L	102	47.4	131
EP132: Dibenz(a.h)anthracene	53-70-3	0.10	µg/L	<0.1	2 µg/L	105	71.5	117
EP132: Fluoranthene	206-44-0	0.10	µg/L	<0.1	2 µg/L	108	74.8	117
EP132: Fluorene	86-73-7	0.10	µg/L	<0.1	2 µg/L	107	72.9	114
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.10	µg/L	<0.1	2 µg/L	104	67.8	119
EP132: N-2-Fluorenyl Acetamide	53-96-3	0.10	µg/L	<0.1	20 µg/L	91.2	53.6	131
EP132: Naphthalene	91-20-3	0.10	µg/L	<0.1	2 µg/L	97.4	68.3	116
EP132: Perylene	198-55-0	0.10	µg/L	<0.1	2 µg/L	107	68	122
EP132: Phenanthrene	85-01-8	0.10	µg/L	<0.1	2 µg/L	104	74.8	112
EP132: Pyrene	129-00-0	0.10	µg/L	<0.1	2 µg/L	106	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: 1045958)							
ES0910562-001	VC3_0.0-0.2	EG020-SD: Arsenic	7440-38-2	50 mg/kg	96.1	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	94.7	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	102	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	89.4	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	83.7	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	98.0	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	91.6	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 1045960)							
ES0910562-021	VC12_0.2-0.3	EG020-SD: Arsenic	7440-38-2	50 mg/kg	100	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	95.4	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	127	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	91.8	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	91.7	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	97.7	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	118	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 1046029)							
ES0910562-041	VC7_0.3-0.4	EG020-SD: Arsenic	7440-38-2	50 mg/kg	95.0	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	94.7	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	114	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	95.2	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	98.5	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	95.6	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	103	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1045957)							
ES0910562-001	VC3_0.0-0.2	EG035T: Mercury	7439-97-6	5 mg/kg	100	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1045959)							
ES0910562-021	VC12_0.2-0.3	EG035T: Mercury	7439-97-6	5 mg/kg	90.2	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1046028)							
ES0910562-041	VC7_0.3-0.4	EG035T: Mercury	7439-97-6	5 mg/kg	92.9	70	130
EK026G: Total Cyanide By Discrete Analyser (QCLot: 1045174)							
ES0910434-005	Anonymous	EK026G: Total Cyanide	57-12-5	50 mg/kg	98.3	70	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1044496)							
ES0910562-033	VC8_0.2-0.3	EP075(SIM): Phenol	108-95-2	10 mg/kg	90.8	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	101	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: 1044496) - continued							
ES0910562-033	VC8_0.2-0.3	EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	74.5	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	89.6	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	43.4	20	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1044863)							
ES0910434-005	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	76.8	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	80.9	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	85.3	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	92.9	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	62.7	20	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1044472)							
ES0910562-002	VC3_0.5-0.6	EP080: C6 - C9 Fraction	----	26 mg/kg	104	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1044495)							
ES0910562-033	VC8_0.2-0.3	EP071: C10 - C14 Fraction	----	640 mg/kg	103	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	94.8	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	90.3	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1044809)							
ES0910591-002	Anonymous	EP080: C6 - C9 Fraction	----	26 mg/kg	# Not Determined	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1044862)							
ES0910434-005	Anonymous	EP071: C10 - C14 Fraction	----	640 mg/kg	110	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	118	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	102	70	130
EP080: BTEX (QCLot: 1044472)							
ES0910562-002	VC3_0.5-0.6	EP080: Benzene	71-43-2	2.5 mg/kg	94.7	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	85.2	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	90.0	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	87.5	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	90.0	70	130
EP080: BTEX (QCLot: 1044809)							
ES0910591-002	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	76.2	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	82.3	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	80.7	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	84.9	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	77.0	70	130
EP131A: Organochlorine Pesticides (QCLot: 1044476)							
ES0910562-005	VC5_0.0-0.2	EP131A: Aldrin	309-00-2	5 µg/kg	63.7	31.7	140

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
					MS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 1044476) - continued							
ES0910562-005	VC5_0.0-0.2	EP131A: alpha-BHC	319-84-6	5 µg/kg	42.7	24.5	150
		EP131A: beta-BHC	319-85-7	5 µg/kg	65.7	36.9	139
		EP131A: delta-BHC	319-86-8	5 µg/kg	67.1	38.2	137
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	53.2	42.5	141
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	71.4	34.8	140
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	57.1	38	143
		EP131A: Dieldrin	60-57-1	5 µg/kg	66.5	43.2	134
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	73.4	23.7	139
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	59.6	35.8	138
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	58.2	7.45	158
		EP131A: Endrin	72-20-8	5 µg/kg	88.7	21.6	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	48.7	19.3	131
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	52.0	17.9	141
		EP131A: Heptachlor	76-44-8	5 µg/kg	64.0	31	153
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	66.6	34.3	138
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	43.4	18.6	146
		EP131A: gamma-BHC	58-89-9	5 µg/kg	49.1	30.7	145
		EP131A: Methoxychlor	72-43-5	5 µg/kg	39.6	15	157
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	63.5	22.3	145
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	56.7	42.4	139
EP131A: Organochlorine Pesticides (QCLot: 1046178)							
ES0910562-055	PC13_0.0-0.07	EP131A: Aldrin	309-00-2	5 µg/kg	95.7	31.7	140
		EP131A: alpha-BHC	319-84-6	5 µg/kg	99.8	24.5	150
		EP131A: beta-BHC	319-85-7	5 µg/kg	84.2	36.9	139
		EP131A: delta-BHC	319-86-8	5 µg/kg	68.6	38.2	137
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	116	42.5	141
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	74.1	34.8	140
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	86.3	38	143
		EP131A: Dieldrin	60-57-1	5 µg/kg	86.1	43.2	134
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	94.8	23.7	139
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	78.2	35.8	138
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	70.8	7.45	158
		EP131A: Endrin	72-20-8	5 µg/kg	76.4	21.6	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	92.1	19.3	131
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	86.0	17.9	141
		EP131A: Heptachlor	76-44-8	5 µg/kg	91.8	31	153
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	92.4	34.3	138
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	92.0	18.6	146
		EP131A: gamma-BHC	58-89-9	5 µg/kg	74.7	30.7	145

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*
EP131A: Organochlorine Pesticides (QCLot: 1046178) - continued							
ES0910562-055	PC13_0.0-0.07	EP131A: Methoxychlor	72-43-5	5 µg/kg	81.6	15	157
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	84.0	22.3	145
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	70.5	42.4	139
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 1044475)							
ES0910562-005	VC5_0.0-0.2	EP131B: Aroclor 1254	11097-69-1	50 µg/kg	91.6	61.3	121
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 1046179)							
ES0910562-055	PC13_0.0-0.07	EP131B: Aroclor 1254	11097-69-1	50 µg/kg	101	61.3	121
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1044500)							
ES0910562-023	VC12_2.1-2.2	EP132: 3-Methylcholanthrene	56-49-5	100 µg/kg	56.4	21	129
		EP132: 2-Methylnaphthalene	91-57-6	100 µg/kg	81.3	40	130
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	100 µg/kg	49.1	8	158
		EP132: Acenaphthene	83-32-9	100 µg/kg	73.5	38	127
		EP132: Acenaphthylene	208-96-8	100 µg/kg	66.4	35	122
		EP132: Anthracene	120-12-7	100 µg/kg	74.5	44	124
		EP132: Benz(a)anthracene	56-55-3	100 µg/kg	72.6	48	124
		EP132: Benzo(a)pyrene	50-32-8	100 µg/kg	74.2	44	123
		EP132: Benzo(b)fluoranthene	205-99-2	100 µg/kg	73.1	43	129
		EP132: Benzo(e)pyrene	192-97-2	100 µg/kg	74.6	46	130
		EP132: Benzo(g.h.i)perylene	191-24-2	100 µg/kg	61.3	43	129
		EP132: Benzo(k)fluoranthene	207-08-9	100 µg/kg	86.0	54	123
		EP132: Chrysene	218-01-9	100 µg/kg	78.3	55	122
		EP132: Coronene	191-07-1	100 µg/kg	50.1	33	134
		EP132: Dibenz(a.h)anthracene	53-70-3	100 µg/kg	62.6	46	129
		EP132: Fluoranthene	206-44-0	100 µg/kg	68.7	52	125
		EP132: Fluorene	86-73-7	100 µg/kg	72.8	45	121
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	100 µg/kg	62.1	41	132
		EP132: N-2-Fluorenyl Acetamide	53-96-3	100 µg/kg	107	28	152
		EP132: Naphthalene	91-20-3	100 µg/kg	72.1	34	130
		EP132: Perylene	198-55-0	100 µg/kg	73.1	38	124
		EP132: Phenanthrene	85-01-8	100 µg/kg	73.3	45	124
		EP132: Pyrene	129-00-0	100 µg/kg	67.2	51	129
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1044503)							
ES0910562-044	VC4_1.2-1.3	EP132: 3-Methylcholanthrene	56-49-5	100 µg/kg	69.8	21	129
		EP132: 2-Methylnaphthalene	91-57-6	100 µg/kg	85.0	40	130
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	100 µg/kg	72.5	8	158
		EP132: Acenaphthene	83-32-9	100 µg/kg	68.9	38	127
		EP132: Acenaphthylene	208-96-8	100 µg/kg	64.7	35	122
		EP132: Anthracene	120-12-7	100 µg/kg	70.2	44	124

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
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1044503) - continued							
ES0910562-044	VC4_1.2-1.3	EP132: Benz(a)anthracene	56-55-3	100 µg/kg	73.6	48	124
		EP132: Benzo(a)pyrene	50-32-8	100 µg/kg	74.3	44	123
		EP132: Benzo(b)fluoranthene	205-99-2	100 µg/kg	79.4	43	129
		EP132: Benzo(e)pyrene	192-97-2	100 µg/kg	76.0	46	130
		EP132: Benzo(g.h.i)perylene	191-24-2	100 µg/kg	76.7	43	129
		EP132: Benzo(k)fluoranthene	207-08-9	100 µg/kg	69.5	54	123
		EP132: Chrysene	218-01-9	100 µg/kg	74.8	55	122
		EP132: Coronene	191-07-1	100 µg/kg	77.8	33	134
		EP132: Dibenz(a.h)anthracene	53-70-3	100 µg/kg	82.1	46	129
		EP132: Fluoranthene	206-44-0	100 µg/kg	75.3	52	125
		EP132: Fluorene	86-73-7	100 µg/kg	70.4	45	121
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	100 µg/kg	79.6	41	132
		EP132: N-2-Fluorenyl Acetamide	53-96-3	100 µg/kg	98.0	28	152
		EP132: Naphthalene	91-20-3	100 µg/kg	66.1	34	130
		EP132: Perylene	198-55-0	100 µg/kg	73.8	38	124
		EP132: Phenanthrene	85-01-8	100 µg/kg	73.5	45	124
		EP132: Pyrene	129-00-0	100 µg/kg	76.0	51	129
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 1046180)							
ES0910562-046	DUP25	EP132: 3-Methylcholanthrene	56-49-5	100 µg/kg	62.0	21	129
		EP132: 2-Methylnaphthalene	91-57-6	100 µg/kg	75.1	40	130
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	100 µg/kg	65.9	8	158
		EP132: Acenaphthene	83-32-9	100 µg/kg	72.2	38	127
		EP132: Acenaphthylene	208-96-8	100 µg/kg	67.9	35	122
		EP132: Anthracene	120-12-7	100 µg/kg	72.1	44	124
		EP132: Benz(a)anthracene	56-55-3	100 µg/kg	58.2	48	124
		EP132: Benzo(a)pyrene	50-32-8	100 µg/kg	49.4	44	123
		EP132: Benzo(b)fluoranthene	205-99-2	100 µg/kg	55.4	43	129
		EP132: Benzo(e)pyrene	192-97-2	100 µg/kg	61.0	46	130
		EP132: Benzo(g.h.i)perylene	191-24-2	100 µg/kg	47.7	43	129
		EP132: Benzo(k)fluoranthene	207-08-9	100 µg/kg	60.6	54	123
		EP132: Chrysene	218-01-9	100 µg/kg	# 54.4	55	122
		EP132: Coronene	191-07-1	100 µg/kg	58.7	33	134
		EP132: Dibenz(a.h)anthracene	53-70-3	100 µg/kg	65.7	46	129
		EP132: Fluoranthene	206-44-0	100 µg/kg	# 37.9	52	125
		EP132: Fluorene	86-73-7	100 µg/kg	80.6	45	121
		EP132: Indeno(1.2.3.cd)pyrene	193-39-5	100 µg/kg	50.1	41	132
		EP132: N-2-Fluorenyl Acetamide	53-96-3	100 µg/kg	# Not Determined	28	152
		EP132: Naphthalene	91-20-3	100 µg/kg	# Not Determined	34	130
		EP132: Perylene	198-55-0	100 µg/kg	65.9	38	124

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: 1046180) - continued							
ES0910562-046	DUP25	EP132: Phenanthrene	85-01-8	100 µg/kg	67.8	45	124
		EP132: Pyrene	129-00-0	100 µg/kg	# 45.0	51	129

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005C: Leachable Metals by ICPAES (QCLot: 1045458)							
ES0910562-026	VC9_0.7-0.8	EG005C: Arsenic	7440-38-2	1 mg/L	95.2	70	130
		EG005C: Cadmium	7440-43-9	0.250 mg/L	91.2	70	130
		EG005C: Chromium	7440-47-3	1 mg/L	93.0	70	130
		EG005C: Cobalt	7440-48-4	1 mg/L	92.3	70	130
		EG005C: Copper	7440-50-8	1 mg/L	102	70	130
		EG005C: Lead	7439-92-1	1 mg/L	89.1	70	130
		EG005C: Nickel	7440-02-0	1 mg/L	92.9	70	130
		EG005C: Vanadium	7440-62-2	1 mg/L	106	70	130
		EG005C: Zinc	7440-66-6	1 mg/L	102	70	130
EG005C: Leachable Metals by ICPAES (QCLot: 1046779)							
ES0910562-034	VC8_0.5-0.6	EG005C: Arsenic	7440-38-2	1 mg/L	97.0	70	130
		EG005C: Cadmium	7440-43-9	0.250 mg/L	93.4	70	130
		EG005C: Chromium	7440-47-3	1 mg/L	89.1	70	130
		EG005C: Cobalt	7440-48-4	1 mg/L	88.4	70	130
		EG005C: Copper	7440-50-8	1 mg/L	103	70	130
		EG005C: Lead	7439-92-1	1 mg/L	95.6	70	130
		EG005C: Nickel	7440-02-0	1 mg/L	88.3	70	130
		EG005C: Vanadium	7440-62-2	1 mg/L	93.5	70	130
		EG005C: Zinc	7440-66-6	1 mg/L	89.9	70	130
EG035C: Leachable Mercury by FIMS (QCLot: 1047833)							
ES0910529-001	Anonymous	EG035C: Mercury	7439-97-6	0.1 mg/L	115	70	130

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES0910562**	Page	: 1 of 16
Amendment	: **1**		
Client	: ENSR AUSTRALIA PTY LIMITED	Laboratory	: Environmental Division Sydney
Contact	: MR CHRISTIANN DONNETTI	Contact	: Charlie Pierce
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Project	: S3017805 - PKOH	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: PRAC-OUTER HARBOUR		
C-O-C number	: ----	Date Samples Received	: 17-JUL-2009
Sampler	: KP	Issue Date	: 30-JUL-2009
Order number	: ----		
		No. of samples received	: 59
Quote number	: SY/330/09 V3	No. of samples analysed	: 59

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