

Appendix D

Laboratory Reports

"This page has been left blank intentionally"

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. NATA is a signatory to the APLAC mutual recognition arrangement for the mutual recognition of the equivalence of testing, calibration and inspection reports.

Quarantine Approved Premises criteria 5.1 for quarantine containment level 1 (QCI) facilities. Class five criteria cover premises utilised for research, analysis and testing of biological material, soil, animal, plant and human products.

CUSTOMER CENTRIC - ANALYTICAL CHEMISTS

FINAL CERTIFICATE OF ANALYSIS - ENVIRONMENTAL DIVISION

Laboratory Report No: E043667
Client Name: ENSR Aust Pty Ltd
Client Reference: PKPC - Drilling
Contact Name: Chris Donnetti
Chain of Custody No: na
Sample Matrix: SOIL

Cover Page 1 of 4
plus Sample Results

Date Received: 09/07/2009
Date Reported: 16/07/2009

This Final Certificate of Analysis consists of sample results, DQI's, method descriptions, laboratory definitions, and internationally recognised NATA accreditation and endorsement. The DQO compliance relates specifically to QA/QC results as performed as part of the sample analysis, and may provide an indication of sample result quality. Transfer of report ownership from Labmark to the client shall only occur once full & final payment has been settled and verified. All report copies may be retracted where full payment has not occurred within the agreed settlement period.

QUALITY ASSURANCE CRITERIA

Accuracy: matrix spike: 1 in first 5-20, then 1 every 20 samples
lcs, crm, method: 1 per analytical batch
surrogate spike: addition per target organic method

Precision: laboratory duplicate: 1 in first 5-10, then 1 every 10 samples

laboratory triplicate: re-extracted & reported when duplicate RPD values exceed acceptance criteria

Holding Times: soils, waters: Refer to LabMark Preservation & THT table
VOC's 14 days water / soil
VAC's 7 days water or 14 days acidified
VAC's 14 days soil
SVOC's 7 days water, 14 days soil
Pesticides 7 days water, 14 days soil
Metals 6 months general elements
Mercury 28 days

Confirmation: target organic analysis: GC/MS, or confirmatory column

Sensitivity: EQL: Typically 2-5 x Method Detection Limit (MDL)

QUALITY CONTROL

GLOBAL ACCEPTANCE CRITERIA (GAC)

Accuracy: spike, lcs, crm general analytes 70% - 130% recovery
surrogate: phenol analytes 50% - 130% recovery
organophosphorous pesticide analytes 60% - 130% recovery
phenoxy acid herbicides, organotin 50% - 130% recovery

anion/cation bal: +/- 10% (0-3 meq/l),
+/- 5% (>3 meq/l)
Precision: method blank: not detected >95% of the reported EQL
duplicate lab 0-30% (>10xEQL), 0-75% (5-10xEQL)
RPD (metals): 0-100% (<5xEQL)
duplicate lab 0-50% (>10xEQL), 0-75% (5-10xEQL)
RPD: 0-100% (<5xEQL)

QUALITY CONTROL

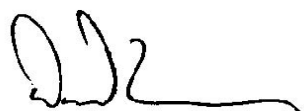
ANALYTE SPECIFIC ACCEPTANCE CRITERIA (ASAC)

Accuracy: spike, lcs, crm analyte specific recovery data
surrogate: <3xsd of historical mean

Uncertainty: spike, lcs: measurement calculated from historical analyte specific control charts

RESULT ANNOTATION

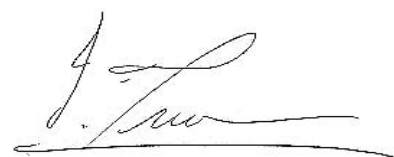
Data Quality Objective	s: matrix spike recovery	p: pending	bcs: batch specific lcs
Data Quality Indicator	d: laboratory duplicate	lcs: laboratory control sample	bmb: batch specific mb
Estimated Quantitation Limit	t: laboratory triplicate	crm: certified reference material	
not applicable	r: RPD relative % difference	mb: method blank	



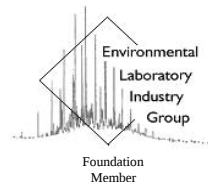
David Burns
Quality Control (Report signatory)
david.burns@labmark.com.au



Geoff Weir
Authorising Chemist (NATA signatory)
geoff.weir@labmark.com.au



Jeremy Truong
Authorising Chemist (NATA signatory)
jeremy.truong@labmark.com.au



Laboratory Report: E043667

Cover Page 2 of 4

NEPC GUIDELINE COMPLIANCE - DQO

1. GENERAL

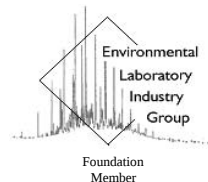
- A. Results relate specifically to samples as received. Sample results are not corrected for matrix spike, lcs, or surrogate recovery data.
- B. EQL's are matrix dependant and may be increased due to sample dilution or matrix interference.
- C. Laboratory QA/QC samples are specific to this project.
- D. Inter-laboratory proficiency results are available upon request. NATA accreditation details available at www.nata.asn.au.
- E. VOC spikes & surrogates added to samples during extraction, SVOC spikes & surrogates added prior to extraction.
- F. Recovery data outside GAC limits shall be investigated and compared to ASAC (historical mean +/- 3sd). If recovery data <20%, then the relevant results for that compound are considered not reliable.
- G. Recovery data (ms, surrogate, crm, lcs) outside ASAC limits shall initiate an investigative action. Anomalous QC data is examined in conjunction with other QC samples and a final decision whether to accept or reject results is provided by the professional judgement of the senior analyst. The USEPA-CLP National Functional Guidelines are referred to for specific recommendations.
- H. Extraction (preparation) date refers to the date that sample preparation was initiated. Note that certain methods not requiring sample preparation (eg. VOCs in water, etc) may report a common extraction and analysis date.
- I. LabMark shall maintain an official copy of this Certificate of Analysis for all traceable reference purposes.

2. CHAIN OF CUSTODY (COC) & SAMPLE RECEIPT NOTICE (SRN) REQUIREMENTS

- A. SRN issued to client upon sample receipt & login verification.
- B. Preservation & sampling date details specified on COC and SRN, unless noted.
- C. Sample Integrity & Validated Time of Sample Receipt (VTSR) Holding Times verified (preservation may extend holding time, refer to preservation chart).

3. NATA ACCREDITED METHODS

- A. NATA accreditation held for each in-house method and sample matrix type reported, unless noted below (Refer to subcontracted test reports for NATA accreditation status).
- B. NATA accredited in-house laboratory methods are referenced from NEPC, ASTM, modified USEPA / APHA documents. Corporate Accreditation No. 13542.
- C. Subcontracted analyses: Refer to Sample Receipt Notice and additional DQO comments.



Laboratory Report: E043667

Cover Page 3 of 4

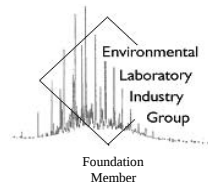
4. QAI/QC FREQUENCY COMPLIANCE TABLE SPECIFIC TO THIS REPORT

Matrix: **SOIL**

Page:	Method:	Totals:	#d	%d-ratio	#t	#s	%s-ratio
1	BTEX by P&T	1	0	0%	0	0	0%
1	Volatile TPH by P&T (vTPH)	1	0	0%	0	0	0%
2	Petroleum Hydrocarbons (TPH)	1	0	0%	0	0	0%
3	Polycyclic Aromatic Hydrocarbons (PAH)	1	0	0%	0	0	0%
4	Phenols by GC/MS	1	0	0%	0	0	0%
5	Organochlorine Pesticides (OC)	1	0	0%	0	0	0%
6	Organophosphorus Pesticides (OP)	1	0	0%	0	0	0%
7	Polychlorinated Biphenyls (PCB)	1	0	0%	0	0	0%
8	Acid extractable metals (M7)	1	0	0%	0	0	0%
9	Acid extractable metals - mercury	1	0	0%	0	0	0%
10	Moisture	1	--	--	--	--	--

GLOSSARY:

#d	number of discrete duplicate extractions/analyses performed.
%d-ratio	NEPC guideline for laboratory duplicates is 1 in 10 samples (min 10%).
#t	number of triplicate extractions/analyses performed.
#s	number of spiked samples analysed.
%s-ratio	USEPA guideline for laboratory matrix spikes is 1 in 20 samples (min 5%).



Laboratory Report: E043667

Cover Page 4 of 4

5. ADDITIONAL COMMENTS SPECIFIC TO THIS REPORT

A. All tests were conducted by LabMark Environmental Sydney, NATA accreditation No. 13542, unless indicated below.

Laboratory QA/QC data shall relate specifically to this report, and may provide an indication of site specific sample result quality. LabMark DOES NOT report NON-RELEVANT BATCH QA/QC data. Acceptance of this self assessment certificate does not preclude any requirement for a QA/QC review by a accredited contaminated site EPA auditor, when and wherever necessary. Laboratory QA/QC self assessment references available upon request.

Laboratory Report No: E043667
Client Name: ENSR Aust Pty Ltd
Contact Name: Chris Donnetti
Client Reference: PKPC - Drilling S3017805

Page: 1 of 10
plus cover page
Date: 16/07/09

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		216691	lcs	mb							
Sample Identification		QC108	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		6/7/09	--	--							
Laboratory Extraction (Preparation) Date		13/7/09	13/7/09	13/7/09							
Laboratory Analysis Date		13/7/09	13/7/09	13/7/09							
Method : E002.2											
BTEX by P&T		EQL									
Benzene	0.2	<0.2	78%	<0.2							
Toluene	0.5	<0.5	84%	<0.5							
Ethylbenzene	0.5	<0.5	79%	<0.5							
meta- and para-Xylene	1	<1	83%	<1							
ortho-Xylene	0.5	<0.5	82%	<0.5							
Total Xylene	--	--	--	--							
CDFB (Surr @ 10mg/kg)	--	105%	99%	103%							
Method : E003.2											
Volatile TPH by P&T (vTPH)		EQL									
C6 - C9 Fraction	10	<10	81%	<10							

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E002.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/PID/MSD.

E003.2: 8-10g soil extracted with 20ml methanol. Analysis by P&T/GC/FID.

Laboratory Report No: E043667
Client Name: ENSR Aust Pty Ltd
Contact Name: Chris Donnetti
Client Reference: PKPC - Drilling S3017805

Page: 2 of 10
plus cover page
Date: 16/07/09

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		216691	lcs	mb							
Sample Identification		QC108	QC	QC							
Depth (m)		--	--	--							
Sampling Date recorded on COC		6/7/09	--	--							
Laboratory Extraction (Preparation) Date		13/7/09	13/7/09	13/7/09							
Laboratory Analysis Date		13/7/09	13/7/09	13/7/09							
Method : E006.2											
Petroleum Hydrocarbons (TPH)		EQL									
C10 - C14 Fraction	50	<50	--	<50							
C15 - C28 Fraction	100	<100	88%	<100							
C29 - C36 Fraction	100	<100	--	<100							
Sum of TPH C10 - C36	--	--	--	--							

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E006.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/FID.

Laboratory Report No: E043667
Client Name: ENSR Aust Pty Ltd
Contact Name: Chris Donnetti
Client Reference: PKPC - Drilling S3017805

Page: 3 of 10
plus cover page
Date: 16/07/09

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		216691	lcs	mb						
Sample Identification		QC108	QC	QC						
Depth (m)		--	--	--						
Sampling Date recorded on COC		6/7/09	--	--						
Laboratory Extraction (Preparation) Date		13/7/09	13/7/09	13/7/09						
Laboratory Analysis Date		13/7/09	13/7/09	13/7/09						
Method : E007.2										
Polyaromatic Hydrocarbons (PAH)	EQL									
Naphthalene	0.5	<0.5	86%	<0.5						
Acenaphthylene	0.5	<0.5	82%	<0.5						
Acenaphthene	0.5	<0.5	83%	<0.5						
Fluorene	0.5	<0.5	83%	<0.5						
Phenanthrene	0.5	<0.5	82%	<0.5						
Anthracene	0.5	<0.5	81%	<0.5						
Fluoranthene	0.5	<0.5	81%	<0.5						
Pyrene	0.5	<0.5	83%	<0.5						
Benz(a)anthracene	0.5	<0.5	83%	<0.5						
Chrysene	0.5	<0.5	85%	<0.5						
Benzo(b)&(k)fluoranthene	1	<1	89%	<1						
Benzo(a) pyrene	0.5	<0.5	88%	<0.5						
Indeno(1,2,3-c,d)pyrene	0.5	<0.5	87%	<0.5						
Dibenz(a,h)anthracene	0.5	<0.5	84%	<0.5						
Benzo(g,h,i)perylene	0.5	<0.5	87%	<0.5						
Sum of reported PAHs	--	--	--	--						
2-FBP (Surr @ 5mg/kg)	--	90%	85%	93%						
TP-d14 (Surr @ 5mg/kg)	--	90%	86%	93%						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E007.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MS.

Laboratory Report No: E043667
Client Name: ENSR Aust Pty Ltd
Contact Name: Chris Donnetti
Client Reference: PKPC - Drilling S3017805

Page: 4 of 10
plus cover page
Date: 16/07/09

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		216691	lcs	mb						
Sample Identification		QC108	QC	QC						
Depth (m)		--	--	--						
Sampling Date recorded on COC		6/7/09	--	--						
Laboratory Extraction (Preparation) Date		13/7/09	13/7/09	13/7/09						
Laboratory Analysis Date		13/7/09	13/7/09	13/7/09						
Method : E008.2										
Phenols by GC/MS	EQL									
Phenol	0.5	<0.5	84%	<0.5						
2-chlorophenol	0.5	<0.5	87%	<0.5						
2-methylphenol	0.5	<0.5	77%	<0.5						
3-&4-methylphenol	1.0	<1.0	83%	<1.0						
2-nitrophenol	0.5	<0.5	82%	<0.5						
2,4-dimethylphenol	0.5	<0.5	70%	<0.5						
2,4-dichlorophenol	0.5	<0.5	81%	<0.5						
4-chloro-3-methylphenol	0.5	<0.5	67%	<0.5						
2,4,6-trichlorophenol	0.5	<0.5	75%	<0.5						
2,4,5-trichlorophenol	0.5	<0.5	71%	<0.5						
Pentachlorophenol	1	<1	53%	<1						
Sum of reported phenols	--	--	--	--						
2-FP (Surr @ 5mg/kg)	--	85%	89%	93%						
Phenol-d5 (Surr @ 5mg/kg)	--	80%	87%	90%						
2,4,6-TBP (Surr @ 5mg/kg)	--	70%	75%	80%						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E008.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MS.

Laboratory Report No: E043667
Client Name: ENSR Aust Pty Ltd
Contact Name: Chris Donnetti
Client Reference: PKPC - Drilling S3017805

Page: 5 of 10
plus cover page
Date: 16/07/09

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		216691	lcs	mb						
Sample Identification		QC108	QC	QC						
Depth (m)		--	--	--						
Sampling Date recorded on COC		6/7/09	--	--						
Laboratory Extraction (Preparation) Date		13/7/09	13/7/09	13/7/09						
Laboratory Analysis Date		14/7/09	14/7/09	14/7/09						
Method : E013.2										
Organochlorine Pesticides (OC)		EQL								
a-BHC	0.05	<0.05	96%	<0.05						
Hexachlorobenzene	0.05	<0.05	98%	<0.05						
b-BHC	0.05	<0.05	97%	<0.05						
g-BHC (Lindane)	0.05	<0.05	97%	<0.05						
d-BHC	0.05	<0.05	115%	<0.05						
Heptachlor	0.05	<0.05	100%	<0.05						
Aldrin	0.05	<0.05	92%	<0.05						
Heptachlor epoxide	0.05	<0.05	93%	<0.05						
trans-chlordane	0.05	<0.05	92%	<0.05						
Endosulfan I	0.05	<0.05	97%	<0.05						
cis-chlordane	0.05	<0.05	99%	<0.05						
Dieldrin	0.05	<0.05	95%	<0.05						
4,4-DDE	0.05	<0.05	98%	<0.05						
Endrin	0.05	<0.05	95%	<0.05						
Endosulfan II	0.05	<0.05	93%	<0.05						
4,4-DDD	0.05	<0.05	96%	<0.05						
Endosulfan sulphate	0.05	<0.05	100%	<0.05						
4,4-DDT	0.2	<0.2	98%	<0.2						
Methoxychlor	0.2	<0.2	116%	<0.2						
DBC (Surr @ 0.2mg/kg)	--	94%	91%	95%						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E043667
Client Name: ENSR Aust Pty Ltd
Contact Name: Chris Donnetti
Client Reference: PKPC - Drilling S3017805

Page: 6 of 10
plus cover page
Date: 16/07/09

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		216691	lcs	mb						
Sample Identification		QC108	QC	QC						
Depth (m)		--	--	--						
Sampling Date recorded on COC		6/7/09	--	--						
Laboratory Extraction (Preparation) Date		13/7/09	13/7/09	13/7/09						
Laboratory Analysis Date		13/7/09	13/7/09	13/7/09						
Method : E014.2										
Organophosphorus Pesticides (OP)	EQL									
Dichlorvos	0.5	<0.5	109%	<0.5						
Mevinphos (Phosdrin)	0.5	<0.5	105%	<0.5						
Demeton (total)	1	<1	105%	<1						
Ethoprop	0.5	<0.5	114%	<0.5						
Monocrotophos	0.5	<0.5	106%	<0.5						
Phorate	0.5	<0.5	106%	<0.5						
Dimethoate	0.5	<0.5	108%	<0.5						
Diazinon	0.5	<0.5	105%	<0.5						
Disulfoton	0.5	<0.5	109%	<0.5						
Methyl parathion	0.5	<0.5	107%	<0.5						
Ronnel	0.5	<0.5	111%	<0.5						
Fenitrothion	0.5	<0.5	109%	<0.5						
Malathion	0.5	<0.5	103%	<0.5						
Chlorpyrifos	0.5	<0.5	115%	<0.5						
Fenthion	0.5	<0.5	110%	<0.5						
Parathion	0.5	<0.5	108%	<0.5						
Stirofos	0.5	<0.5	108%	<0.5						
Prothiofos	0.5	<0.5	106%	<0.5						
Azinophos methyl	0.5	<0.5	108%	<0.5						
Coumaphos	0.5	<0.5	102%	<0.5						
TPP (Surr @ 2mg/kg)	--	123%	105%	109%						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E014.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/MSD.

Laboratory Report No: E043667
Client Name: ENSR Aust Pty Ltd
Contact Name: Chris Donnetti
Client Reference: PKPC - Drilling S3017805

Page: 7 of 10
plus cover page
Date: 16/07/09

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		216691	lcs	mb						
Sample Identification		QC108	QC	QC						
Depth (m)		--	--	--						
Sampling Date recorded on COC		6/7/09	--	--						
Laboratory Extraction (Preparation) Date		13/7/09	13/7/09	13/7/09						
Laboratory Analysis Date		14/7/09	14/7/09	14/7/09						
Method : E013.2										
Polychlorinated Biphenyls (PCB)	EQL									
Arochlor 1016	0.5	<0.5	--	<0.5						
Arochlor 1232	0.5	<0.5	--	<0.5						
Arochlor 1242	0.5	<0.5	--	<0.5						
Arochlor 1248	0.5	<0.5	--	<0.5						
Arochlor 1254	0.5	0.9	92%	<0.5						
Arochlor 1260	0.5	<0.5	--	<0.5						
Sum of reported PCBs	--	0.9	--	--						
DBC (Surr @ 0.2mg/kg)	--	94%	100%	95%						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E013.2: 8-10g soil extracted with 20ml DCM/Acetone/Hexane (10:45:45). Analysis by GC/dual ECD.

Laboratory Report No: E043667
Client Name: ENSR Aust Pty Ltd
Contact Name: Chris Donnetti
Client Reference: PKPC - Drilling S3017805

Page: 8 of 10
plus cover page
Date: 16/07/09

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		216691	crm	lcs	mb						
Sample Identification		QC108	QC	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		6/7/09	--	--	--						
Laboratory Extraction (Preparation) Date		13/7/09	13/7/09	13/7/09	13/7/09						
Laboratory Analysis Date		13/7/09	14/7/09	14/7/09	14/7/09						
Method : E022.2											
Acid extractable metals (M7)		EQL									
Arsenic	1	16	99%	94%	<1						
Cadmium	0.1	3.2	94%	90%	<0.1						
Chromium	1	28	85%	86%	<1						
Copper	2	2270	92%	89%	<2						
Nickel	1	9	83%	88%	<1						
Lead	2	805	99%	100%	<2						
Zinc	5	317	87%	102%	<5						

Results expressed in mg/kg dry weight unless otherwise specified

Comments: -

E022.2: 0.5g digested in nitric/hydrochloric acid. Analysis by ICP-MS.

Laboratory Report No: E043667
Client Name: ENSR Aust Pty Ltd
Contact Name: Chris Donnetti
Client Reference: PKPC - Drilling S3017805

Page: 9 of 10
 plus cover page
Date: 16/07/09

Final
Certificate
 of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		216691	crm	lcs	mb						
Sample Identification		QC108	QC	QC	QC						
Depth (m)		--	--	--	--						
Sampling Date recorded on COC		6/7/09	--	--	--						
Laboratory Extraction (Preparation) Date		13/7/09	13/7/09	13/7/09	13/7/09						
Laboratory Analysis Date		13/7/09	13/7/09	13/7/09	13/7/09						
Method : E026.2											
Acid extractable metals - mercury	EQL										
Mercury	0.05	0.45	91%	103%	<0.05						

Results expressed in mg/kg dry weight unless otherwise specified

Comments:

E026.2: 0.5g digested with nitric/hydrochloric acid. Analysis by CV-ICP-MS or FIMS.

Laboratory Report No: E043667
Client Name: ENSR Aust Pty Ltd
Contact Name: Chris Donnetti
Client Reference: PKPC - Drilling S3017805

Page: 10 of 10
plus cover page
Date: 16/07/09

Final
Certificate
of Analysis

This report supercedes reports issued on: N/A

Laboratory Identification		216691									
Sample Identification		QC108									
Depth (m)		--									
Sampling Date recorded on COC		6/7/09									
Laboratory Extraction (Preparation) Date		13/7/09									
Laboratory Analysis Date		14/7/09									
Method : E005.2											
Moisture	EQL										
Moisture	--	14									

Results expressed in % w/w unless otherwise specified

Comments:

E005.2: Moisture by gravimetric analysis. Results are in % w/w.

Sample Receipt Notice (SRN) for E043667



Quality, Service, Support

Client Details		Laboratory Reference Information	
Client Name: ENSR Aust Pty Ltd Client Phone: 02 8484 8999 Client Fax: 02 8484 8989 Contact Name: Chris Donnetti Contact Email: Christiaan.Donnetti@aecom.com Client Address: PO Box 726 Pymble NSW 2073 Project Name: PKPC - Drilling Project Number: S3017805 CoC Serial Number: - Not provided - Purchase Order: - Not provided - Surcharge: No surcharge applied (results by 6:30pm on due date) Sample Matrix: SOIL		Please have this information ready when contacting Labmark. Laboratory Report: E043667 Quotation Number: - Not provided, standard prices apply Laboratory Address: Unit 1, 8 Leighton Pl. Asquith NSW 2077 Phone: 61 2 9476 6533 Fax: 61 2 9476 8219 Sample Receipt Contact: Ros Schacht Email: Ros.Schacht@labmark.com.au Reporting Contact: Leanne Boag Email: leanne.boag@labmark.com.au	
Date Sampled (earliest date): 06/07/2009 Date Samples Received: 09/07/2009 Date Sample Receipt Notice issued: 09/07/2009 Date Preliminary Report Due: 16/07/2009 Client TAT Request Date: 16/07/2009		NATA Accreditation: 13542 TGA GMP License: 185-336 (Sydney) APVMA License: 6105 (Sydney) AQIS Approval: NO356 (Sydney) AQIS Entry Permit: 200521534 (Sydney)	

Reporting Requirements: Electronic Data Download required: No

Invoice Number: 09EA4898

Sample Condition: COC received with samples. Report number and lab ID's defined on COC.
Samples received in good order .
Samples received with cooling media: Crushed ice .
Samples received chilled.
Security seals not used .
Sample container & chemical preservation suitable .

Comments:

Holding Times: Date received allows for sufficient time to meet Technical Holding Times.

Preservation: Chemical preservation of samples satisfactory for requested analytes.

Important Notes:

LabMark shall responsibly dispose of spent customer soil and water samples which includes the disintegration of the sample label. A sample disposal fee of \$1.00 is applicable on all samples received by the laboratory regardless of whether they have undergone analytical testing. Sample disposal of environmental samples shall be 31 days (water) and 3 months (soil, HN03 preserved samples) after laboratory receipt, unless otherwise requested in writing by the client. Samples requested to be held in non-refrigerated storage shall incur \$5.00/ sample/ 3 months. Additional refrigerated storage shall incur \$30/ sample/ 3 months. Combination prices apply only if requested. Transfer of report ownership from LabMark to the client shall occur once full and final payment has been settled and verified. All report copies may be retracted where full payment does not occur within the agreed settlement period.

Analysis comments:

Subcontracted Analyses:

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Sample Receipt Notice (SRN) for E043667



Quality, Service, Support

The table below represents LabMark's understanding and interpretation of the customer supplied sample COC request (refer to SRN comments section on first page for external subcontracting method details). Please confirm that your COC request has been entered correctly. Due to THT and TAT requirements, testing shall commence immediately as per this table, unless the customer intervenes with a correction prior to testing.

GRID REVIEW TABLE				Requested Analysis													
No.	Date	Depth	Client Sample ID	BTEX by P&T	Acid extractable metals - mercury	Acid extractable metals (M7)	Moisture	Organochlorine Pesticides (OC)	Organophosphorus Pesticides (OP)	Polyaromatic Hydrocarbons (PAH)	Polychlorinated Biphenyls (PCB)	Phenols by GC/MS	PREP Not Reported	Petroleum Hydrocarbons (TPH)	Volatile TPH by P&T (vTPH)		
216691	06/07		QC108	●	●	●	●	●	●	●	●	●	●	●	●		
Totals:				1	1	1	1	1	1	1	1	1	1	1	1		

'PREP Not Reported' refers to an internal laboratory instruction - client confirmation of this parameter is not required.

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

Sample
Receipt
Notice (SRN) for **E043667**



Quality, Service, Support

				Requested Analysis															
				M8 - M7-T_S															
No.	Date	Depth	Client Sample ID																
216691	06/07		QC108	●															
Totals:				1															

Thank you for choosing Labmark to analyse your project samples.
Additional information on www.labmark.com.au

E043667

Jane Walker

From: Pigram, Kate [Kate.Pigram@aecom.com]
Sent: Thursday, 9 July 2009 3:15 PM
To: lm.syd.login
Cc: Donnetti, Christiaan
Subject: RE: PKPC - DRILLING
Attachments: image001.jpg

Importance: High

rec'd 8/29/09

Hi Jane,

Apologies for not receiving the separate COC faxed to ALS.

Lab ID: 216691

Please analyse sample QC108 for TPH/BTEX, Metals (8), PAHs, Phenols, OCP/OPP/PCBs.
Sample QC101 is to be put on HOLD.

Also please note for your records the Project Manager for this job – Christiaan Donnetti's email is:
Christiaan.Donnetti@aecom.com

Thanks and Regards,

Kate Pigram
Environmental Scientist
Environment
D +61 2 8484 8983
kate.pigram@aecom.com

AECOM

Level 5, 828 Pacific Highway
Gordon NSW 2072
PO Box 726 Pymble NSW 2073
T +61 2 8484 8999 F +61 2 8484 8989
www.aecom.com

From 4 May ENSR Australia, Bassett, EDAW AECOM and Maunsell AECOM come together as one company - one AECOM. AECOM is a Fortune 500 company with more than 43,000 people located in over 100 countries delivering advanced environmental, planning, design, engineering, management and advisory services to a broad range of markets.

While our name, ENSR Australia, has changed to AECOM, our commitment to our client's success remains the same, as acknowledged by our 2009 BRW Client Choice Attribute Award for Outstanding Client Care. AECOM and its global environment practices offer a full range of services and global expertise to deliver solutions that enhance and sustain the world's built, natural and social environments.

This email and any attachments are intended solely for the named addressee(s) and are confidential. If you have received this message in error, please notify the sender by return email and delete the email and any attachments from your system. You must not disclose or use the email and any attachments or the information in the email and attachments. Confidentiality is not waived, and unauthorised use is expressly prohibited. It is the user's responsibility to check this email and any attachments for viruses before opening or sending them on.

Please consider the environment before printing this e-mail.

From: Jane Walker [mailto:Jane.Walker@labmark.com.au] **On Behalf Of** lm.syd.login
Sent: Thursday, 9 July 2009 2:12 PM
To: Christian.Donnetti@aecom.com
Cc: Pigram, Kate
Subject: PKPC - DRILLING
Importance: High

Please note that we have today received the following soil samples from ALS Sydney:

QC101 06/07/2009 1x 250mL soil jar/1x plastic bag
QC108 06/07/2009 1x 250mL soil jar/1x plastic bag

The COCs provided by ALS do not specify any analysis for the above, copies of which are provided for your information.

2043667

We seek your further instructions at your earliest convenience. Should you have any queries, please do not hesitate to contact us to discuss.

Kind regards

Jane Walker | Client Services - Login



Unit 1, 8 Leighton Pl
Asquith NSW 2077
Phone: +61 29476 6533
Fax: +61 29476 8219
Website: www.labmark.com.au

rec'd 8/9/08

This message and any files transmitted with it are confidential and are intended solely for the use of those persons to whom the message is addressed. This message may contain material protected by law. If you have received this message in error, please destroy and delete this message and any copies from your computer. Please destroy any hard copies of this message. Any unauthorised form of reproduction use, forwarding or otherwise is strictly prohibited. LabMark Management does not make any warranty concerning the content, accuracy or security of any information electronically transmitted in this message and/or any liability for the proper and complete transmission of any information contained or purportedly contained in this message, nor for any delay in its receipt.



Please consider the environment before printing this e-mail

This email and any attachments are intended solely for the named addressee(s) and are confidential. If you have received this message in error, please notify the sender by return email and delete the email and any attachments from your system. You must not disclose or use the email and any attachments or the information in the email and attachments. Confidentiality is not waived, and unauthorised use is expressly prohibited. It is the user's responsibility to check this email and any attachments for viruses before opening or sending them on.

Chain of Custody

SOIL SAMPLES FROM PORT KEMBLA

AECOM

AECOM - Sydney

Level 5, 828 Pacific Highway

Pymble NSW 2073 Australia

Tel: 61 2 8484 8999

Fax: 61 2 8484 8989

E-mail: Christiaan.Donnetti@aecom.com

Kate. Pigram@aecom.com

AECOM Project No: 58017805

Laboratory Details

Lab. Name: ALS

Lab. Address:

Contact Name:

Lab. Ref:

Tel: (02) 8784 8555

Fax: (02) 8784 8500

Preliminary Report by:

Final Report by:

Lab Quote No:

Sampled By: KATE PIGRAM

Specifications: ESDAT FORMAT REQUIRED

Project Name: DKPC - DRILLING

PO No.

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 ABOVEEnvironmental Division
Sydney

Work Order

ES0909983



Telephone: +61-2-8784 8555

Yes (tick)

Analysis Request

Other

Lab. ID	Sample ID	Sampling Date	Matrix	
			soil	water
(25)	BH01-0.2-0.4	06/04/09	X	
	BH01-0.5-0.6			
(26)	BH01-1.0-1.1			
2	BH01-1.4-1.5			
(27)	BH02-0.2-0.3			
3	BH02-0.5-0.6			
4	BH02-1.0-1.1			
(28)	BH02-1.4-1.5			
5	BH03-0.2-0.3			
6	BH03-0.5-0.6			
(29)	BH03-1.0-1.1			
(30)	BH03-1.4-1.5			

CONTRACT WORK

WO: ES0909983

LAB: ALS NEWCASTLE

DATE: 08/07/09

SPLIT:

* Metals Required (Detect elements not required):

As Cd Cr Cu Ni Pb Zn Hg

Comments:

Relinquished by:

Signed:

Date:

Relinquished by:

Signed:

Date:

Received by: Frank

Signed:

Date: 8/7/09

Received by:

Signed:

Date:

Printed copies of this document are uncontrolled

Page 1 of 1

BMS-PM-DV-F046

Analysis for #27 & #29 added on 9/7/09 as per Christiaan.

Revision: Jun 08

NOT RECEIVED

1x 250ml jar in 1x plastic bag

B on hold due to issue. (As per Christiaan)

#15 received bags. Chris not sure which is correct so dispose of 5 bags from jar for asbestos. Not received

SOIL SAMPLES - PORT KEMBLA

AECOM

Chain of Custody

AECOM - Sydney

Level 5, 828 Pacific Highway

Pymble NSW 2073 Australia

Tel: 61 2 8484 8999

Fax: 61 2 8484 8989

E-mail: Christina.Donnetti@aecom.com

Kate.Donnetti@aecom.com

AECOM Project No: S2017805

Laboratory Details

Lab. Name: ALS

Lab. Address:

Contact Name:

Lab. Ref:

Project Name: PVPC - MILLING

Tel: (02) 8784 8555

Fax: (02) 8784 8500

Preliminary Report by:

Final Report by:

Lab Quote No:

PO No.

Sampled By:

KATE PIGRAM

Specifications:

ESDAT FORMAT REQUIRED

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

Yes (tick)

Analysis Request

Other

Lab. ID	Sample ID	Sampling Date	Matrix			Preservation				Container (No. & type)
			soil	water	other	filled	acid	ice	other	
7	BH04-0.2-0.3	06/07/09	X					X		
(31)	BH04-0.5-0.6									
(32)	BH04-1.0-1.1									
8	BH04-1.4-1.5									
(33)	BH05-0.2-0.3									
9	BH05-0.5-0.6									
(34)	BH05-1.0-1.1									
10	BH05-1.4-1.5									
11	BH06-0.2-0.3									
(35)	BH06-0.5-0.6									
12	BH06-1.0-1.1									
(36)	BH06-1.4-1.5									

TPH / BTEX	Metals (8)	PAHs	Phenols	PCP / OPD	PCB	Asbestos	ICLD Metals	ICUP PAHs	HOLD	Other
X	X	X	X	X	X	X	X	X		
									X	No Bag Received
									X	No Bag Received.
X	X	X	X	X	X		X	X		
X	X	X	X	X	X	X	X	X		
X	X	X	X	X	X		X	X		
X	X	X	X	X	X					
X	X	X	X	X	X	X	X	X		
									X	

Sub-sample to be taken for Asbestos (Christer)

* Metals Required (Delete elements not required):

As Cd Cr Cu Ni Pb Zn Hg

Comments:

Lab Report No.

Entry ID

Relinquished by:

Signed:

Date:

Relinquished by:

Signed:

Date:

Received by:

Frank

Signed:

Date: 8/1/9504

Received by:

Signed:

Date:

Printed copies of this document are uncontrolled

Chain of Custody

SOIL SAMPLES FROM PORT KEMBLA

AECOM

AECOM - Sydney

Level 5, 828 Pacific Highway

Pymble NSW 2073 Australia

Tel: 61 2 8484 8999

Fax: 61 2 8484 8989

E-mail: Christiann.Bonnetti@aecom.com

Kate.Agram@aecom.com

AECOM Project No:

S2017805

Laboratory Details

Lab. Name: ALS

Lab. Address:

Contact Name:

Lab. Ref:

Tel: (02) 8784 8555

Fax: (02) 8784 8500

Preliminary Report by:

Final Report by:

Lab Quote No:

Sampled By: KATE AGRAMProject Name: PRPC-DRILLING

PO No.

Specifications:

ESQAT FORMAT REQUIRED

Yes (tick)

Analysis Request

Other

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			Preservation				Container (No. & type)	TPH	Metals	PAHs	Phenols	OCPP	PCB	Asbestos	ICLUP	ICLUP	ICLUP	Other
			soil	water	other	filled	acid	ice	other												
13	BH07-0.2-0.3	06/07/09	X						X		X	X	X	X	X	X	X	X	X		
(37)	BH07-0.5-0.6																				
14	BH07-1.0-1.1										X	X	X	X	X	X		X	X		
(38)	BH07-1.4-1.5																				
15	BH08-0.2-0.3										X	X	X	X	X	X	X	X	X		
(39)	BH08-0.5-0.6																				
(40)	BH08-1.0-1.1																				
16	BH08-1.4-1.5										X	X	X	X	X	X		X	X		
17	BH09-0.2-0.3										X	X	X	X	X	X		X	X		
18	BH09-0.5-0.6										X	X	X	X	X	X	X	X	X		
(41)	BH10-0.2-0.3																				
19	BH10-0.5-0.6										X	X	X	X	X	X	X	X	X		

* Metals Required (Delete elements not required):

As Cd Cr Cu Ni Pb Zn Hg

Comments:

Lab Report No.

Esty ID

Relinquished by:

Signed:

Date:

Relinquished by:

Signed:

Date:

Received by:

Frank

Signed:

Date: 8/7/9 5pm

Received by:

Signed:

Date:

Printed copies of this document are uncontrolled

Page 1 of 1

SOIL SAMPLES FROM PORT KEMBLA

AECOM

Chain of Custody

AECOM - Sydney Level 5, 828 Pacific Highway Pymble NSW 2073 Australia					Laboratory Details Tel: 61 2 8484 8999 Fax: 61 2 8484 8989 E-mail: <u>Christiaan.Donnetti@aecom.com</u> Kate.Pearson@aecom.com AECOM Project No: <u>S2017805</u>					Tel: <u>(02) 8784 8555</u> Fax: <u>(02) 8784 8500</u> Preliminary Report by: Final Report by: Lab Quote No:																																																																								
Sampled By: <u>KATE PEARSON</u>					Project Name: <u>PKPC - DRILLING</u>					PO No.																																																																								
Specifications: <u>ESDAT FORMAT REQUIRED</u>										Analysis Request 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: <u>SEE ABOVE</u>										<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="10"></th> <th colspan="2">Other</th> </tr> <tr> <td rowspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);"> TPH 16TEX METALS (8) PAHs PHENOLS DCE TOPS PCB ASBESTOS TCMP METALS TCMP PAHs </td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td> </tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>															Other		TPH 16TEX METALS (8) PAHs PHENOLS DCE TOPS PCB ASBESTOS TCMP METALS TCMP PAHs																																																							
										Other																																																																								
TPH 16TEX METALS (8) PAHs PHENOLS DCE TOPS PCB ASBESTOS TCMP METALS TCMP PAHs																																																																																		
Lab. ID	Sample ID	Sampling Date	Matrix			Preservation				Container																																																																								
			soil	water	other	filled	acid	ice	other	(No. & type)																																																																								
(42)	BH10-1.0-1.1	06/07/01	X					X																																																																										
20	BH10-1.4-1.5																																																																																	
(43)	BH11-0.2-0.3																																																																																	
21	BH11-0.5-0.6																																																																																	
(44)	BH11-1.0-1.1																																																																																	
22	BH11-1.4-1.5																																																																																	
(45)	QC100																																																																																	
	QC101																																																																																	
(46)	QC102																																																																																	
(47)	QC103																																																																																	
(48)	QC104																																																																																	
23	QC105																																																																																	

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

Comments: PCB added to #23 as per Christian.

Relinquished by: _____ Signed: _____ Date: _____

Received by: Frank Signed: _____ Date: 8/19/01

Relinquished by: _____ Signed: _____ Date: _____

Received by: _____ Signed: _____ Date: _____

Sub sample from jar to asbestos Christian

No Bag Received.

Revision: Jun 08

From: Donnetti, Christiaan [mailto:Christiaan.Donnetti@aecom.com]
Sent: Thursday, 9 July 2009 10:11 AM
To: Jennifer Cullen
Subject: RE: ES0909954

Good morning Jenny,

Please could you put QC109 on hold.

Please could you put the two samples labeled as BH02_0.5-0.6 on hold and analyze BH2_0.2-0.3 instead for Metals, TPH/BTEX, PAH, Phenols, OCP/OPP and PCB.

Please could you disregard BH03_0.5-0.6 and analyse BH3_1.0-1.1 instead for Metals, TPH/BTEX, PAH, Phenols, OCP/OPP and PCB, TCLP metals and TCLP PAH

Thanks Jenny

Regards

Christiaan Donnetti
Associate Environmental Scientist
Environment
D +61 2 8484 8915
christiaan.donnetti@aecom.com

AECOM
Level 5, 828 Pacific Highway
Gordon NSW 2072
PO Box 726 Pymble NSW 2073
T +61 2 8484 8999 F +61 2 8484 8989
www.aecom.com

From: Jennifer Cullen [mailto:jennifer.cullen@alsenviro.com]
Sent: Thursday, 9 July 2009 9:20 AM
To: Donnetti, Christiaan
Cc: Jacob Waugh
Subject: RE: ES0909954

Thanks Christiaan,

There are also a couple of other issues with the soil samples that have been logged under work order ES0909983. Could you confirm what you would like us to do about these?

We received an extra sample QC109, this has been placed on hold for now. Please let me know if you would like it to be tested.

We have received two jars labelled BH02_0.5-0.6. However it seems one of these jars should actually be BH03_0.5-0.6 as this jar was not received. Please let me know if you would like both jars tested as separate samples.

Thanks

Kind Regards

Jennifer Cullen



Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: ES0909983	Page	: 1 of 29
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	: S3017805DKPC-DRILLING	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----	Date Samples Received	: 08-JUL-2009
C-O-C number	: ----	Issue Date	: 15-JUL-2009
Sampler	: KD	No. of samples received	: 49
Site	: ----	No. of samples analysed	: 24
Quote number	: SY/330/09 V3		

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

This Certificate of Analysis contains the following information:

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



NATA Accredited Laboratory 825

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
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Newcastle
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Sarah Millington	Senior Inorganic Chemist	Organics
Victor Kedicioglu	Business Manager - NSW	Inorganics
Wisam Abou-Maraseh	Spectroscopist	Inorganics

Environmental Division Sydney

Part of the **ALS Laboratory Group**

277-289 Woodpark Road Smithfield NSW Australia 2164

Tel. +61-2-8784 8555 Fax. +61-2-8784 8500 www.alsglobal.com

A Campbell Brothers Limited Company





General Comments

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

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

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

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

When 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

- **Asbestos Identification**

Samples were analysed by Polarised Light Microscopy including dispersion staining

Legend - Asbestos Type

Am - Amosite (brown asbestos) detected

Ch - Chrysotile (white asbestos) detected

Cr - Crocidolite (blue asbestos) detected

UMF - Unknown mineral fibres detected

x - No asbestos fibres detected

(t) - Trace levels detected

Asbestos Detection

- Where Unknown Mineral Fibres are detected confirmation by alternative techniques is recommended

- EG005T: Poor precision was obtained for Cr and Zn on sample ES0909796#1 and sample ES0909983#24 on Cu and Pb due to sample heterogeneity



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	BH01-0.5-0.6	BH01-1.4-1.5	BH02-1.0-1.1	BH03-0.2-0.3	BH04-0.2-0.3
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
AS 4964 - 2004 Identification of Asbestos in bulk samples	CAS Number	LOR	Unit	ES0909983-001	ES0909983-002	ES0909983-004	ES0909983-005	ES0909983-007
				ES0909983-001	ES0909983-002	ES0909983-004	ES0909983-005	ES0909983-007
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	No	No	No
Asbestos Type	132207-33-1	0.1	g/kg	-	----	-	-	-
Sample weight (dry)	----	0.01	g	160	----	93.1	37.2	46.5
APPROVED IDENTIFIER:	----	-	-	P.RENNIE	----	P.RENNIE	P.RENNIE	P.RENNIE
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	9.1	17.2	7.2	14.1	8.6
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	6	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	2	4	7	286	144
Copper	7440-50-8	5	mg/kg	<5	32	37	3800	1690
Lead	7439-92-1	5	mg/kg	<5	12	20	33	57
Nickel	7440-02-0	2	mg/kg	<2	12	6	3	8
Zinc	7440-66-6	5	mg/kg	5	50	82	82	148
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	11.6	8.3	8.5	10.3	9.5
After HCl pH	----	0.1	pH Unit	5.1	1.4	1.5	5.1	5.7
Extraction Fluid Number	----	1	-	2	1	1	2	2
Final pH	----	0.1	pH Unit	6.3	4.9	4.9	5.6	5.8
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	BH01-0.5-0.6	BH01-1.4-1.5	BH02-1.0-1.1	BH03-0.2-0.3	BH04-0.2-0.3
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
				ES0909983-001	ES0909983-002	ES0909983-004	ES0909983-005	ES0909983-007
EP068A: Organochlorine Pesticides (OC) - Continued								
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	BH01-0.5-0.6	BH01-1.4-1.5	BH02-1.0-1.1	BH03-0.2-0.3	BH04-0.2-0.3
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
				ES0909983-001	ES0909983-002	ES0909983-004	ES0909983-005	ES0909983-007
EP075(SIM)A: Phenolic Compounds - Continued								
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	126	117	122	121	92.0
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	96.1	95.3	96.1	99.4	101
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	105	88.9	98.6	98.0	111



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				BH01-0.5-0.6	BH01-1.4-1.5	BH02-1.0-1.1	BH03-0.2-0.3	BH04-0.2-0.3
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
Compound	CAS Number	LOR	Unit	ES0909983-001	ES0909983-002	ES0909983-004	ES0909983-005	ES0909983-007
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	114	95.3	106	100	96.8
2-Chlorophenol-D4	93951-73-6	0.1	%	85.7	96.7	101	106	106
2,4,6-Tribromophenol	118-79-6	0.1	%	54.9	69.3	69.1	80.8	87.6
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	112	109	110	108	110
Anthracene-d10	1719-06-8	0.1	%	115	103	113	94.3	112
4-Terphenyl-d14	1718-51-0	0.1	%	115	108	113	109	107
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	106	99.3	109	95.0	102
Toluene-D8	2037-26-5	0.1	%	120	103	109	102	111
4-Bromofluorobenzene	460-00-4	0.1	%	99.9	80.8	97.0	92.0	97.8



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	BH04-1.4-1.5	BH05-0.5-0.6	BH05-1.4-1.5	BH06-0.2-0.3	BH06-1.0-1.1
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
AS 4964 - 2004 Identification of Asbestos in bulk samples	CAS Number	LOR	Unit	ES0909983-008	ES0909983-009	ES0909983-010	ES0909983-011	ES0909983-012
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	----	----	No
Asbestos Type	132207-33-1	0.1	g/kg	----	-	----	----	-
Sample weight (dry)	----	0.01	g	----	100	----	----	152
APPROVED IDENTIFIER:	----	-	-	----	P.RENNIE	----	----	P.RENNIE
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	8.6	8.3	8.2	5.2	4.8
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	7	18	9	504	16
Copper	7440-50-8	5	mg/kg	45	138	57	52	85
Lead	7439-92-1	5	mg/kg	16	7	5	10	37
Nickel	7440-02-0	2	mg/kg	8	7	27	11	12
Zinc	7440-66-6	5	mg/kg	57	39	93	23	42
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	9.1	9.5	9.3	----	9.1
After HCl pH	----	0.1	pH Unit	1.6	1.6	1.6	----	1.5
Extraction Fluid Number	----	1	-	1	1	1	----	1
Final pH	----	0.1	pH Unit	5.0	5.2	5.2	----	4.9
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	BH04-1.4-1.5	BH05-0.5-0.6	BH05-1.4-1.5	BH06-0.2-0.3	BH06-1.0-1.1
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
				ES0909983-008	ES0909983-009	ES0909983-010	ES0909983-011	ES0909983-012
EP068A: Organochlorine Pesticides (OC) - Continued								
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	BH04-1.4-1.5	BH05-0.5-0.6	BH05-1.4-1.5	BH06-0.2-0.3	BH06-1.0-1.1
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
				ES0909983-008	ES0909983-009	ES0909983-010	ES0909983-011	ES0909983-012
EP075(SIM)A: Phenolic Compounds - Continued								
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	0.6	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	0.6	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	2.4	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	0.8	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	2.0	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg	<0.5	2.3	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	3.3	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	109	122	94.0	129	120
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	106	92.2	89.2	100	107
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	106	90.4	86.2	94.3	93.6



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				BH04-1.4-1.5	BH05-0.5-0.6	BH05-1.4-1.5	BH06-0.2-0.3	BH06-1.0-1.1
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
Compound	CAS Number	LOR	Unit	ES0909983-008	ES0909983-009	ES0909983-010	ES0909983-011	ES0909983-012
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	89.5	103	96.4	97.0	98.2
2-Chlorophenol-D4	93951-73-6	0.1	%	89.7	102	93.0	68.9	92.4
2,4,6-Tribromophenol	118-79-6	0.1	%	70.3	74.7	79.6	75.9	87.9
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	106	111	111	111	111
Anthracene-d10	1719-06-8	0.1	%	110	109	107	109	108
4-Terphenyl-d14	1718-51-0	0.1	%	106	110	99.0	100	101
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	98.8	104	100	102	117
Toluene-D8	2037-26-5	0.1	%	114	107	107	114	115
4-Bromofluorobenzene	460-00-4	0.1	%	96.8	93.0	90.8	98.4	102



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	BH07-0.2-0.3	BH07-1.0-1.1	BH08-0.2-0.3	BH08-1.4-1.5	BH09-0.2-0.3
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
AS 4964 - 2004 Identification of Asbestos in bulk samples	CAS Number	LOR	Unit	ES0909983-013	ES0909983-014	ES0909983-015	ES0909983-016	ES0909983-017
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	No	----	----
Asbestos Type	132207-33-1	0.1	g/kg	-	----	-	----	----
Sample weight (dry)	----	0.01	g	116	----	124	----	----
APPROVED IDENTIFIER:	----	-	-	P.RENNIE	----	P.RENNIE	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	8.6	23.3	5.0	7.4	5.4
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	6	6	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	2	<1	<1
Chromium	7440-47-3	2	mg/kg	502	27	480	52	506
Copper	7440-50-8	5	mg/kg	135	122	12900	422	90
Lead	7439-92-1	5	mg/kg	11	14	579	51	48
Nickel	7440-02-0	2	mg/kg	7	18	423	58	17
Zinc	7440-66-6	5	mg/kg	37	67	703	154	48
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.2	0.2	<0.1	<0.1
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	12.4	4.7	10.5	8.9	12.1
After HCl pH	----	0.1	pH Unit	6.7	----	5.4	1.6	6.8
Extraction Fluid Number	----	1	-	2	1	2	1	2
Final pH	----	0.1	pH Unit	6.7	4.9	5.4	5.5	6.8
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	BH07-0.2-0.3	BH07-1.0-1.1	BH08-0.2-0.3	BH08-1.4-1.5	BH09-0.2-0.3
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
				ES0909983-013	ES0909983-014	ES0909983-015	ES0909983-016	ES0909983-017
EP068A: Organochlorine Pesticides (OC) - Continued								
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	BH07-0.2-0.3	BH07-1.0-1.1	BH08-0.2-0.3	BH08-1.4-1.5	BH09-0.2-0.3
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
				ES0909983-013	ES0909983-014	ES0909983-015	ES0909983-016	ES0909983-017
EP075(SIM)A: Phenolic Compounds - Continued								
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.6	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	1.2	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	1.1	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.8	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.8	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	1.2	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.6	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.6	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	130	114	108	130	130
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	101	103	105	113	116
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	103	94.5	102	96.8	98.8



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				QC105	QC107	BH02-0.2-0.3	BH03-1.0-1.1	----
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	----
Compound	CAS Number	LOR	Unit	ES0909983-023	ES0909983-024	ES0909983-027	ES0909983-029	----
EP068A: Organochlorine Pesticides (OC) - Continued								
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	<2.0	<2.0	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----



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 (%)
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1037069)									
ES0909796-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	<0.1	0.0	No Limit
ES0909983-002	BH01-1.4-1.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1037071)									
ES0909983-014	BH07-1.0-1.1	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	<0.1	0.0	No Limit
ES0909983-024	QC107	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	0.3	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 1035041)									
ES0909983-001	BH01-0.5-0.6	EP066: Total Polychlorinated biphenyls	----	0.10	mg/kg	<0.10	<0.10	0.0	No Limit
ES0909983-013	BH07-0.2-0.3	EP066: Total Polychlorinated biphenyls	----	0.10	mg/kg	<0.10	<0.10	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 1035044)									
ES0909983-023	QC105	EP066: Total Polychlorinated biphenyls	----	0.10	mg/kg	<0.10	<0.10	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1035040)									
ES0909983-001	BH01-0.5-0.6	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES0909983-013	BH07-0.2-0.3	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Page : 23 of 25
 Work Order : ES0909983
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : S3017805DKPC-DRILLING



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Recovery Limits (%) LowHigh	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number				
EP068A: Organochlorine Pesticides (OC) (QCLot: 1035043) - continued							
ES0909983-023	QC105	EP068: Dieldrin	60-57-1	0.25 mg/kg	98.3	76.37	109.7
		EP068: Endrin	72-20-8	1 mg/kg	# 127	68.51	119.47
		EP068: 4,4`-DDT	50-29-3	1 mg/kg	# 121	67.12	118.10
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1035040)							
ES0909983-001	BH01-0.5-0.6	EP068: Diazinon	333-41-5	0.25 mg/kg	95.1	75.85	107.06
		EP068: Chlorpyrifos-methyl	5598-13-0	0.25 mg/kg	98.3	74.84	107.91
		EP068: Pirimphos-ethyl	23505-41-1	0.25 mg/kg	91.0	67.98	109.42
		EP068: Bromophos-ethyl	4824-78-6	0.25 mg/kg	102	74.94	107.37
		EP068: Prothiofos	34643-46-4	0.25 mg/kg	# 107	75.45	106.05
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1035043)							
ES0909983-023	QC105	EP068: Diazinon	333-41-5	0.25 mg/kg	104	75.85	107.06
		EP068: Chlorpyrifos-methyl	5598-13-0	0.25 mg/kg	108	74.84	107.91
		EP068: Pirimphos-ethyl	23505-41-1	0.25 mg/kg	99.9	67.98	109.42
		EP068: Bromophos-ethyl	4824-78-6	0.25 mg/kg	# 115	74.94	107.37
		EP068: Prothiofos	34643-46-4	0.25 mg/kg	# 111	75.45	106.05
EP075(SIM)A: Phenolic Compounds (QCLot: 1035039)							
ES0909983-001	BH01-0.5-0.6	EP075(SIM): Phenol	108-95-2	10 mg/kg	97.6	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	84.1	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	60.8	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	104	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	83.6	20	130
EP075(SIM)A: Phenolic Compounds (QCLot: 1035205)							
ES0909983-023	QC105	EP075(SIM): Phenol	108-95-2	10 mg/kg	101	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	99.7	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	89.6	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	91.6	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	50.1	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1035039)							
ES0909983-001	BH01-0.5-0.6	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	97.4	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	99.8	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1035205)							
ES0909983-023	QC105	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	91.5	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	94.9	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1035037)							
ES0909983-001	BH01-0.5-0.6	EP080: C6 - C9 Fraction	----	26 mg/kg	116	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1035038)							
ES0909983-001	BH01-0.5-0.6	EP071: C10 - C14 Fraction	----	640 mg/kg	96.6	70	130



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1035040) - continued									
ES0909983-013	BH07-0.2-0.3	EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1035043)									
ES0909983-023	QC105	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1035040)									
ES0909983-001	BH01-0.5-0.6	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit



Environmental Division

QUALITY CONTROL REPORT

Work Order	: ES0909983	Page	: 1 of 25
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	: S3017805DKPC-DRILLING	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----	Date Samples Received	: 08-JUL-2009
C-O-C number	: ----	Issue Date	: 15-JUL-2009
Sampler	: KD	No. of samples received	: 49
Order number	: ----	No. of samples analysed	: 24
Quote number	: SY/330/09 V3		

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.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Newcastle
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Sarah Millington	Senior Inorganic Chemist	Organics
Victor Kedicioglu	Business Manager - NSW	Inorganics
Wisam Abou-Maraseh	Spectroscopist	Inorganics

Page : 24 of 25
 Work Order : ES0909983
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : S3017805DKPC-DRILLING



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report		
				Spike Concentration	Spike Recovery (%) MS	Recovery Limits (%) LowHigh
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number			
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1035038) - continued						
ES0909983-001	BH01-0.5-0.6	EP071: C15 - C28 Fraction	----	3140 mg/kg	98.8	70130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	99.9	70130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1035204)						
ES0909983-023	QC105	EP071: C10 - C14 Fraction	----	640 mg/kg	100	70130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	98.3	70130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	93.8	70130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1035798)						
ES0910068-001	Anonymous	EP080: C6 - C9 Fraction	----	26 mg/kg	94.2	70130
EP080: BTEX (QCLot: 1035037)						
ES0909983-001	BH01-0.5-0.6	EP080: Benzene	71-43-2	2.5 mg/kg	93.2	70130
		EP080: Toluene	108-88-3	2.5 mg/kg	96.6	70130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	99.8	70130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	96.0	70130
			106-42-3			
	EP080: ortho-Xylene	95-47-6	2.5 mg/kg	94.7	70130	
EP080: BTEX (QCLot: 1035798)						
ES0910068-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	71.6	70130
		EP080: Toluene	108-88-3	2.5 mg/kg	79.0	70130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	73.3	70130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	75.9	70130
			106-42-3			
	EP080: ortho-Xylene	95-47-6	2.5 mg/kg	73.0	70130	

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
					MS	Low	High
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number				
EG005C: Leachable Metals by ICPAES (QCLot: 1036606)							
ES0909983-013	BH07-0.2-0.3	EG005C: Arsenic	7440-38-2	1 mg/L	106	70	130
		EG005C: Cadmium	7440-43-9	0.250 mg/L	86.2	70	130
		EG005C: Chromium	7440-47-3	1 mg/L	86.6	70	130
		EG005C: Copper	7440-50-8	1 mg/L	107	70	130
		EG005C: Lead	7439-92-1	1 mg/L	99.4	70	130
		EG005C: Nickel	7440-02-0	1 mg/L	87.7	70	130
		EG005C: Zinc	7440-66-6	1 mg/L	86.0	70	130
EG005C: Leachable Metals by ICPAES (QCLot: 1037288)							
ES0909983-007	BH04-0.2-0.3	EG005C: Arsenic	7440-38-2	1 mg/L	96.2	70	130
		EG005C: Cadmium	7440-43-9	0.250 mg/L	92.7	70	130
		EG005C: Chromium	7440-47-3	1 mg/L	90.3	70	130



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1035204) - continued									
ES0909983-023	QC105	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: 1035798)									
ES0910068-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEX (QC Lot: 1035037)									
ES0909983-001	BH01-0.5-0.6	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	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
ES0909983-013	BH07-0.2-0.3	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
	106-42-3								
	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
EP080: BTEX (QC Lot: 1035798)									
ES0910068-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	
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: 1036606)									
ES0909983-001	BH01-0.5-0.6	EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	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: 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: Zinc	7440-66-6	0.1	mg/L	<0.1	<0.1	0.0	No Limit
EG005C: Leachable Metals by ICPAES (QC Lot: 1036607)									
ES0909983-014	BH07-1.0-1.1	EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	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: Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0	No Limit



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1035040) - continued								
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.25 mg/kg	110	65.1	111
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.25 mg/kg	# 117	61.4	113
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.25 mg/kg	117	60.4	127
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.25 mg/kg	# 112	64.7	110
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.25 mg/kg	# 114	64.2	111
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.25 mg/kg	# 123	60	116
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.25 mg/kg	# 122	64.8	111
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.25 mg/kg	100	61.4	123
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.25 mg/kg	109	64.3	114
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.25 mg/kg	99.8	45.5	128
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.25 mg/kg	# 114	65.4	111
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.25 mg/kg	# 130	62	116
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.25 mg/kg	# 120	59.5	119
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.25 mg/kg	94.6	29.8	137
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1035043)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.25 mg/kg	92.8	25.5	124
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.25 mg/kg	79.3	10.1	159
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.25 mg/kg	116	2.88	149
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.25 mg/kg	109	48.6	126
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.25 mg/kg	96.6	64.9	111
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.25 mg/kg	96.5	65.1	111
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.25 mg/kg	104	61.4	113
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.25 mg/kg	106	60.4	127
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.25 mg/kg	99.2	64.7	110
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.25 mg/kg	102	64.2	111
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.25 mg/kg	109	60	116
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.25 mg/kg	107	64.8	111
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.25 mg/kg	90.1	61.4	123
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.25 mg/kg	95.9	64.3	114
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.25 mg/kg	100	45.5	128
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.25 mg/kg	101	65.4	111
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.25 mg/kg	# 123	62	116
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.25 mg/kg	105	59.5	119
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.25 mg/kg	87.3	29.8	137
EP075(SIM)A: Phenolic Compounds (QCLot: 1035039)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	98.9	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	105	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	91.5	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	90.3	72	119



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	BH09-0.5-0.6	BH10-0.5-0.6	BH10-1.4-1.5	BH11-0.5-0.6	BH11-1.4-1.5
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
AS 4964 - 2004 Identification of Asbestos in bulk samples	CAS Number	LOR	Unit	ES0909983-018	ES0909983-019	ES0909983-020	ES0909983-021	ES0909983-022
Asbestos Detected	1332-21-4	0.1	g/kg	No	Yes	----	Yes	----
Asbestos Type	132207-33-1	0.1	g/kg	-	Ch	----	UMF	----
Sample weight (dry)	----	0.01	g	148	170	----	56.6	----
APPROVED IDENTIFIER:	----	-	-	P.RENNIE	P.RENNIE	----	P.RENNIE	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	34.5	15.4	10.8	11.3	5.4
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	5	13	10	6	<5
Cadmium	7440-43-9	1	mg/kg	1	10	2	<1	<1
Chromium	7440-47-3	2	mg/kg	73	49	28	6	2
Copper	7440-50-8	5	mg/kg	398	436	1770	95	7
Lead	7439-92-1	5	mg/kg	97	284	382	55	<5
Nickel	7440-02-0	2	mg/kg	16	13	245	15	<2
Zinc	7440-66-6	5	mg/kg	291	578	457	110	6
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.3	0.1	<0.1	<0.1
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	9.2	8.0	8.0	8.3	9.5
After HCl pH	----	0.1	pH Unit	1.6	1.5	1.5	1.5	1.6
Extraction Fluid Number	----	1	-	1	1	1	1	1
Final pH	----	0.1	pH Unit	5.5	5.0	5.0	5.5	6.2
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05



Analytical Results

Sub-Matrix: TCLP LEACHATE

Client sample ID

Client sampling date / time

Sub-Matrix: TCPL LEACHATE				Client sample ID	BH04-1.4-1.5	BH05-0.5-0.6	BH05-1.4-1.5	BH06-1.0-1.1	BH07-0.2-0.3
				Client sampling date / time	11-JUL-2009 12:00	11-JUL-2009 12:00	11-JUL-2009 12:00	11-JUL-2009 12:00	10-JUL-2009 12:00
Compound	CAS Number	LOR	Unit	ES0909983-008	ES0909983-009	ES0909983-010	ES0909983-012	ES0909983-013	
EG005C: Leachable Metals by ICPAES									
Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	0.1	<0.1	<0.1	
Zinc	7440-66-6	0.1	mg/L	1.2	0.2	0.8	0.2	<0.1	
EG035C: Leachable Mercury by FIMS									
Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%	36.1	36.1	28.9	30.4	34.9	
2-Chlorophenol-D4	93951-73-6	0.1	%	89.5	88.6	75.2	86.3	86.2	
2,4,6-Tribromophenol	118-79-6	0.1	%	110	108	106	109	104	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%	93.9	96.0	87.0	97.4	102	
Anthracene-d10	1719-06-8	0.1	%	104	106	89.5	102	94.7	
4-Terphenyl-d14	1718-51-0	0.1	%	123	121	108	119	104	



Sub-Matrix: **WATER**

Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG005C: Leachable Metals by ICPAES (QC Lot: 1036607) - continued									
ES0909983-014	BH07-1.0-1.1	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: Zinc	7440-66-6	0.1	mg/L	0.2	0.2	0.0	No Limit
EG005C: Leachable Metals by ICPAES (QC Lot: 1037288)									
ES0909983-005	BH03-0.2-0.3	EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	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: Copper	7440-50-8	0.1	mg/L	12.9	13.2	2.1	0% - 20%
		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: Zinc	7440-66-6	0.1	mg/L	1.0	1.0	0.0	0% - 50%
EG005C: Leachable Metals by ICPAES (QC Lot: 1037292)									
ES0909983-002	BH01-1.4-1.5	EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	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: 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: Zinc	7440-66-6	0.1	mg/L	0.3	0.3	0.0	No Limit
ES0909983-020	BH10-1.4-1.5	EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	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: Copper	7440-50-8	0.1	mg/L	14.3	14.1	1.2	0% - 20%
		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	0.5	0.5	0.0	No Limit
		EG005C: Zinc	7440-66-6	0.1	mg/L	2.9	2.9	0.0	0% - 20%
EG005C: Leachable Metals by ICPAES (QC Lot: 1039859)									
ES0909983-007	BH04-0.2-0.3	EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	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: Copper	7440-50-8	0.1	mg/L	0.6	0.6	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: Zinc	7440-66-6	0.1	mg/L	0.7	0.7	0.0	No Limit
EG035C: Leachable Mercury by FIMS (QC Lot: 1037489)									
ES0909868-001	Anonymous	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
ES0909983-010	BH05-1.4-1.5	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
EG035C: Leachable Mercury by FIMS (QC Lot: 1038796)									
ES0909791-001	Anonymous	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	BH09-0.5-0.6	BH10-0.5-0.6	BH10-1.4-1.5	BH11-0.5-0.6	BH11-1.4-1.5
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
				ES0909983-018	ES0909983-019	ES0909983-020	ES0909983-021	ES0909983-022
EP075(SIM)A: Phenolic Compounds - Continued								
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	0.8	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	0.9	1.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	0.7	0.8	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	0.6	0.9	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	0.6	0.7	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	0.6	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	<10
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	127	125	119	112	130
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	111	81.2	87.3	86.1	91.5
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	105	87.4	96.8	83.7	85.6



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				BH09-0.5-0.6	BH10-0.5-0.6	BH10-1.4-1.5	BH11-0.5-0.6	BH11-1.4-1.5
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
Compound	CAS Number	LOR	Unit	ES0909983-018	ES0909983-019	ES0909983-020	ES0909983-021	ES0909983-022
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	104	102	96.7	100	96.6
2-Chlorophenol-D4	93951-73-6	0.1	%	101	102	101	101	100
2,4,6-Tribromophenol	118-79-6	0.1	%	89.5	83.2	84.1	79.0	66.7
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	108	110	108	114	111
Anthracene-d10	1719-06-8	0.1	%	105	102	103	105	106
4-Terphenyl-d14	1718-51-0	0.1	%	103	108	107	112	112
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	92.6	101	100	99.3	109
Toluene-D8	2037-26-5	0.1	%	88.5	102	101	94.5	103
4-Bromofluorobenzene	460-00-4	0.1	%	78.5	86.5	89.2	85.2	93.4



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				QC105	QC107	BH02-0.2-0.3	BH03-1.0-1.1	----
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	----
Compound	CAS Number	LOR	Unit	ES0909983-023	ES0909983-024	ES0909983-027	ES0909983-029	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	<10	<10	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	----
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	121	123	129	121	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	98.6	110	103	95.8	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	104	111	104	90.4	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	88.6	88.3	85.8	84.5	----
2-Chlorophenol-D4	93951-73-6	0.1	%	92.8	93.0	90.2	80.2	----
2,4,6-Tribromophenol	118-79-6	0.1	%	66.9	72.6	60.2	55.3	----
EP075(SIM)T: PAH Surrogates								



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
Method: Compound	CAS Number	LOR	Unit		Result	Spike	Spike Recovery (%)	Recovery Limits (%)	
						Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1035205) - continued									
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	101	81.9	113	
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	95.8	79.6	113	
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	93.3	81.5	112	
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	93.6	79.9	112	
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	100	79.4	114	
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	97.6	81.1	112	
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	98.4	78.8	113	
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	97.6	78.9	113	
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	93.5	77.2	112	
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	101	79.8	114	
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	92.6	71.8	118	
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	87.6	74.2	117	
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	88.3	76.4	113	
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	80.9	71	113	
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	82.4	71.7	113	
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	82.6	72.4	114	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1035037)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	111	68.4	128	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1035038)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	97.0	75.2	116	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	91.0	75.3	113	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	94.0	72.6	117	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1035204)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	96.0	75.2	116	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	90.0	75.3	113	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	91.0	72.6	117	
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1035798)									
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	93.4	68.4	128	
EP080: BTEX (QCLot: 1035037)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	94.0	67.5	125	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	102	69	122	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	95.7	65.3	126	
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	96.1	66.5	124	
	106-42-3								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	93.0	66.7	123	
EP080: BTEX (QCLot: 1035798)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	81.5	67.5	125	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	88.2	69	122	

Page : 25 of 25
 Work Order : ES0909983
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : S3017805DKPC-DRILLING



Sub-Matrix: **WATER**

Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number		MS	Low	High
EG005C: Leachable Metals by ICPAES (QCLot: 1037288) - continued							
ES0909983-007	BH04-0.2-0.3	EG005C: Copper	7440-50-8	1 mg/L	96.6	70	130
		EG005C: Lead	7439-92-1	1 mg/L	93.5	70	130
		EG005C: Nickel	7440-02-0	1 mg/L	89.6	70	130
		EG005C: Zinc	7440-66-6	1 mg/L	85.5	70	130
EG005C: Leachable Metals by ICPAES (QCLot: 1037292)							
ES0909983-004	BH02-1.0-1.1	EG005C: Arsenic	7440-38-2	1 mg/L	120	70	130
		EG005C: Cadmium	7440-43-9	0.250 mg/L	102	70	130
		EG005C: Chromium	7440-47-3	1 mg/L	98.1	70	130
		EG005C: Copper	7440-50-8	1 mg/L	116	70	130
		EG005C: Lead	7439-92-1	1 mg/L	119	70	130
		EG005C: Nickel	7440-02-0	1 mg/L	102	70	130
		EG005C: Zinc	7440-66-6	1 mg/L	99.5	70	130
EG035C: Leachable Mercury by FIMS (QCLot: 1037489)							
ES0909983-001	BH01-0.5-0.6	EG035C: Mercury	7439-97-6	0.1 mg/L	116	70	130
EG035C: Leachable Mercury by FIMS (QCLot: 1038796)							
ES0909791-001	Anonymous	EG035C: Mercury	7439-97-6	0.1 mg/L	114	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1036440)							
ES0910011-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	20 µg/L	92.3	70	130
		EP075(SIM): Pyrene	129-00-0	20 µg/L	112	70	130



Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	BH01-0.5-0.6 - 06-JUL-2009 15:00	Grey granular soil
EA200: Description	BH02-1.0-1.1 - 06-JUL-2009 15:00	Dark brown soil with red-brown, grey and black inclusions
EA200: Description	BH03-0.2-0.3 - 06-JUL-2009 15:00	Dark brown sludgy soil
EA200: Description	BH04-0.2-0.3 - 06-JUL-2009 15:00	Grey-brown granular soil
EA200: Description	BH05-0.5-0.6 - 06-JUL-2009 15:00	Black granular material which appears to be mostly coal
EA200: Description	BH06-1.0-1.1 - 06-JUL-2009 15:00	Light brown soil with white inclusions
EA200: Description	BH07-0.2-0.3 - 06-JUL-2009 15:00	Grey-brown coarse-grained soil
EA200: Description	BH08-0.2-0.3 - 06-JUL-2009 15:00	Dark grey soil with light grey inclusions
EA200: Description	BH09-0.5-0.6 - 06-JUL-2009 15:00	Dark grey granular soil
EA200: Description	BH10-0.5-0.6 - 06-JUL-2009 15:00	Dark brown soil with red-brown, grey and black inclusions
EA200: Description	BH11-0.5-0.6 - 06-JUL-2009 15:00	Dark brown soil with large stones



Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 1035039) - continued								
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	95.2	60.3	117
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	110	74.5	119
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	104	71.6	113
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	108	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	108	76.4	114
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	92.8	62.2	115
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	92.0	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	50.6	1.23	91.6
EP075(SIM)A: Phenolic Compounds (QCLot: 1035205)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	100	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	96.1	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	94.0	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	94.5	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	83.4	60.3	117
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	87.3	74.5	119
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	87.3	71.6	113
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	88.4	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	89.8	76.4	114
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	82.6	62.2	115
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	80.9	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	26.1	1.23	91.6
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1035039)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	# 114	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	# 114	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	# 113	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	# 115	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	82.2	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	112	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	# 116	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	111	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	112	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	107	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	110	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	# 117	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	107	76.4	113
EP075(SIM): Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	109	71	113
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	112	71.7	113
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	110	72.4	114
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1035205)								



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	164
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	136
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	10	136
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

Sub-Matrix: TCLP LEACHATE		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	94
2-Chlorophenol-D4	93951-73-6	23	134
2,4,6-Tribromophenol	118-79-6	10	123
EP075(SIM)T: PAH 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: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP068A: Organochlorine Pesticides (OC) (QCLot: 1035040) - continued								
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.25 mg/kg	98.2	57.3	120
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.25 mg/kg	108	67.4	116
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.25 mg/kg	106	67.5	114
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.25 mg/kg	# 129	63	121
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.25 mg/kg	109	66.1	117
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.25 mg/kg	112	65.3	116
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.25 mg/kg	112	57.3	115
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.25 mg/kg	110	63.6	119
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.25 mg/kg	119	58.4	127
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.25 mg/kg	114	63.6	117
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.25 mg/kg	126	50.4	132
EP068A: Organochlorine Pesticides (OC) (QCLot: 1035043)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.25 mg/kg	95.9	60.8	116
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.25 mg/kg	92.4	59.4	115
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.25 mg/kg	96.8	59.8	117
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.25 mg/kg	96.3	59.8	118
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.25 mg/kg	98.2	65.8	114
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.25 mg/kg	98.1	65.6	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.25 mg/kg	93.7	67	113
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.25 mg/kg	95.7	65.6	113
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.25 mg/kg	# 124	60.7	113
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.25 mg/kg	93.1	65.8	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.25 mg/kg	85.3	57.3	120
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.25 mg/kg	95.7	67.4	116
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.25 mg/kg	94.3	67.5	114
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.25 mg/kg	121	63	121
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.25 mg/kg	96.8	66.1	117
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.25 mg/kg	98.9	65.3	116
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.25 mg/kg	94.8	57.3	115
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.25 mg/kg	95.2	63.6	119
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.25 mg/kg	100	58.4	127
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.25 mg/kg	95.4	63.6	117
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.25 mg/kg	109	50.4	132
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1035040)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.25 mg/kg	102	25.5	124
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.25 mg/kg	88.2	10.1	159
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.25 mg/kg	117	2.88	149
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.25 mg/kg	122	48.6	126
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.25 mg/kg	110	64.9	111



Sub-Matrix: **WATER**

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1036440) - continued								
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	78.5	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	77.6	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	79.9	61.2	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	90.5	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1037286)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	84.0	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	82.2	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	80.2	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	80.6	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	86.2	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	83.8	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	83.0	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	83.2	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	86.6	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	89.5	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	82.6	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	91.3	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	84.6	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	80.6	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	80.6	61.2	117
		1	µg/L	<1.0	----	----	----	----



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1035043) - continued									
ES0909983-023	QC105	EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1035039)									
ES0909983-001	BH01-0.5-0.6	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	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
		ES0909983-013	BH07-0.2-0.3	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5
EP075(SIM): 2-Chlorophenol	95-57-8			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2-Methylphenol	95-48-7			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2-Nitrophenol	88-75-5			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2,4-Dimethylphenol	105-67-9			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2,4-Dichlorophenol	120-83-2			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2,6-Dichlorophenol	87-65-0			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7			0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		



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

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005T: Total Metals by ICP-AES (QCLot: 1037067)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.1 mg/kg	108	90.1	124
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	108	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.9 mg/kg	106	89.2	117
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.7 mg/kg	109	90.1	114
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.2 mg/kg	108	85.2	111
EG005T: Nickel	7440-02-0	2	mg/kg	<2	54.8 mg/kg	107	88.3	116
EG005T: Zinc	7440-66-6	5	mg/kg	<5	104 mg/kg	106	81.9	112
EG005T: Total Metals by ICP-AES (QCLot: 1037070)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.1 mg/kg	112	90.1	124
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	107	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.9 mg/kg	108	89.2	117
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.7 mg/kg	111	90.1	114
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.2 mg/kg	110	85.2	111
EG005T: Nickel	7440-02-0	2	mg/kg	<2	54.8 mg/kg	111	88.3	116
EG005T: Zinc	7440-66-6	5	mg/kg	<5	104 mg/kg	109	81.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1037069)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	86.0	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1037071)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	90.9	67	118
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1035041)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.10	0.5 mg/kg	76.0	57.4	117
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1035044)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.10	0.5 mg/kg	72.0	57.4	117
EP068A: Organochlorine Pesticides (OC) (QCLot: 1035040)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.25 mg/kg	111	60.8	116
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.25 mg/kg	108	59.4	115
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.25 mg/kg	111	59.8	117
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.25 mg/kg	110	59.8	118
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.25 mg/kg	112	65.8	114
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.25 mg/kg	111	65.6	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.25 mg/kg	105	67	113
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.25 mg/kg	110	65.6	113
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.25 mg/kg	# 116	60.7	113
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.25 mg/kg	104	65.8	116



Analytical Results

Sub-Matrix: TCLP LEACHATE

Client sample ID

Client sampling date / time

Sub-Matrix: TCPL LEACHATE				Client sample ID	BH07-1.0-1.1	BH08-0.2-0.3	BH08-1.4-1.5	BH09-0.2-0.3	BH09-0.5-0.6
				Client sampling date / time	10-JUL-2009 12:00	10-JUL-2009 12:00	11-JUL-2009 12:00	10-JUL-2009 12:00	11-JUL-2009 12:00
Compound	CAS Number	LOR	Unit	ES0909983-014	ES0909983-015	ES0909983-016	ES0909983-017	ES0909983-018	
EG005C: Leachable Metals by ICPAES									
Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.2	<0.1	<0.1	
Lead	7439-92-1	0.1	mg/L	<0.1	0.2	<0.1	<0.1	<0.1	
Nickel	7440-02-0	0.1	mg/L	<0.1	2.0	0.3	<0.1	<0.1	
Zinc	7440-66-6	0.1	mg/L	0.2	5.2	0.6	<0.1	0.7	
EG035C: Leachable Mercury by FIMS									
Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%	32.8	29.3	36.4	29.4	31.8	
2-Chlorophenol-D4	93951-73-6	0.1	%	76.7	68.4	91.3	76.9	77.8	
2,4,6-Tribromophenol	118-79-6	0.1	%	97.9	51.0	118	80.8	106	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%	94.2	77.9	102	86.3	85.4	
Anthracene-d10	1719-06-8	0.1	%	84.5	75.5	107	79.7	88.3	
4-Terphenyl-d14	1718-51-0	0.1	%	91.9	78.8	130	90.1	104	



Sub-Matrix: **WATER**

Method: Compound				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%)	
							Low	High
CAS Number	LOR	Unit	Result					
EG005C: Leachable Metals by ICPAES (QCLot: 1037292) - continued								
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	1 mg/L	95.4	85	121
EG005C: Leachable Metals by ICPAES (QCLot: 1039859)								
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	1 mg/L	101	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	98.2	89	119
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	1 mg/L	109	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: Zinc	7440-66-6	0.1	mg/L	<0.1	1 mg/L	105	85	121
EG035C: Leachable Mercury by FIMS (QCLot: 1037489)								
EG035C: Mercury	7439-97-6	0.001	mg/L	<0.0010	0.010 mg/L	112	83	119
EG035C: Leachable Mercury by FIMS (QCLot: 1038796)								
EG035C: Mercury	7439-97-6	0.001	mg/L	<0.0010	0.010 mg/L	113	83	119
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1036440)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	83.2	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	82.8	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	82.8	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	80.9	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	84.5	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	85.9	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	85.2	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	87.5	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	89.0	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	84.0	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	85.4	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	86.7	61.7	117
		1	µg/L	<1.0	----	----	----	----



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			LCS	Low
EP080: BTEX (QCLot: 1035798) - continued								
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	86.2	65.3	126
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	86.9	66.5	124
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	88.0	66.7	123

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit		Result	Spike	Spike Recovery (%)	Recovery Limits (%)
				Concentration		LCS	Low	High
EG005C: Leachable Metals by ICPAES (QCLot: 1036606)								
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	1 mg/L	106	89	119
EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	0.250 mg/L	96.8	89	121
EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	1 mg/L	92.5	89	119
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	1 mg/L	104	87	121
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	111	89	119
EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	1 mg/L	95.3	88	120
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	1 mg/L	92.9	85	121
EG005C: Leachable Metals by ICPAES (QCLot: 1036607)								
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	1 mg/L	107	89	119
EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	0.250 mg/L	98.8	89	121
EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	1 mg/L	94.4	89	119
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	1 mg/L	106	87	121
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	113	89	119
EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	1 mg/L	97.6	88	120
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	1 mg/L	95.2	85	121
EG005C: Leachable Metals by ICPAES (QCLot: 1037288)								
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	1 mg/L	108	89	119
EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	0.250 mg/L	98.5	89	121
EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	1 mg/L	93.8	89	119
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	1 mg/L	106	87	121
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	113	89	119
EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	1 mg/L	97.0	88	120
EG005C: Zinc	7440-66-6	0.1	mg/L	<0.1	1 mg/L	95.5	85	121
EG005C: Leachable Metals by ICPAES (QCLot: 1037292)								
EG005C: Arsenic	7440-38-2	0.1	mg/L	<0.1	1 mg/L	107	89	119
EG005C: Cadmium	7440-43-9	0.05	mg/L	<0.05	0.250 mg/L	98.1	89	121
EG005C: Chromium	7440-47-3	0.1	mg/L	<0.1	1 mg/L	93.4	89	119
EG005C: Copper	7440-50-8	0.1	mg/L	<0.1	1 mg/L	106	87	121
EG005C: Lead	7439-92-1	0.1	mg/L	<0.1	1 mg/L	112	89	119
EG005C: Nickel	7440-02-0	0.1	mg/L	<0.1	1 mg/L	96.8	88	120



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 (%)
EG035C: Leachable Mercury by FIMS (QC Lot: 1038796) - continued									
ES0910068-005	Anonymous	EG035C: Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1036440)									
ES0910011-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenzo(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit
ES0910011-003	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenzo(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1035040) - continued									
ES0909983-001	BH01-0.5-0.6	EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES0909983-013	BH07-0.2-0.3	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1035043)									
ES0909983-023	QC105	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit



Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1037286) - continued								
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.2	µg/L	----	2 µg/L	82.0	59.1	118
		1	µg/L	<1.0	----	----	----	----



General Comments

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

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

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

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

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



Analytical Results

Sub-Matrix: TCLP LEACHATE

Client sample ID

Client sampling date / time

Sub-Matrix: TCPL LEACHATE				Client sample ID	BH10-0.5-0.6	BH10-1.4-1.5	BH11-0.5-0.6	BH11-1.4-1.5	BH03-1.0-1.1
				Client sampling date / time	11-JUL-2009 12:00	11-JUL-2009 12:00	11-JUL-2009 12:00	11-JUL-2009 12:00	11-JUL-2009 12:00
Compound	CAS Number	LOR	Unit	ES0909983-019	ES0909983-020	ES0909983-021	ES0909983-022	ES0909983-029	
EG005C: Leachable Metals by ICPAES									
Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Copper	7440-50-8	0.1	mg/L	0.4	14.3	<0.1	<0.1	<0.1	
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	
Nickel	7440-02-0	0.1	mg/L	<0.1	0.5	<0.1	<0.1	<0.1	
Zinc	7440-66-6	0.1	mg/L	3.7	2.9	0.5	0.1	0.3	
EG035C: Leachable Mercury by FIMS									
Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%	39.2	38.7	33.8	35.7	34.0	
2-Chlorophenol-D4	93951-73-6	0.1	%	93.8	85.9	81.4	83.5	78.2	
2,4,6-Tribromophenol	118-79-6	0.1	%	110	109	104	100	99.2	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%	93.6	85.5	84.3	85.1	82.3	
Anthracene-d10	1719-06-8	0.1	%	96.2	89.2	89.6	88.9	81.3	
4-Terphenyl-d14	1718-51-0	0.1	%	115	105	105	104	93.9	



Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
					MS	Low	High
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number				
EG005T: Total Metals by ICP-AES (QCLot: 1037067)							
ES0909796-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	94.4	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	103	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	109	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	110	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	107	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	112	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	105	70	130
EG005T: Total Metals by ICP-AES (QCLot: 1037070)							
ES0909983-014	BH07-1.0-1.1	EG005T: Arsenic	7440-38-2	50 mg/kg	81.5	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	106	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	108	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	116	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	109	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	103	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	106	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1037069)							
ES0909796-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	98.2	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1037071)							
ES0909983-014	BH07-1.0-1.1	EG035T: Mercury	7439-97-6	5 mg/kg	104	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1035041)							
ES0909983-001	BH01-0.5-0.6	EP066: Total Polychlorinated biphenyls	----	0.5 mg/kg	71.0	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1035044)							
ES0909983-023	QC105	EP066: Total Polychlorinated biphenyls	----	0.5 mg/kg	77.0	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 1035040)							
ES0909983-001	BH01-0.5-0.6	EP068: gamma-BHC	58-89-9	0.25 mg/kg	98.2	75.65	110.44
		EP068: Heptachlor	76-44-8	0.25 mg/kg	106	72.2	106.71
		EP068: Aldrin	309-00-2	0.25 mg/kg	98.5	77.54	107.0
		EP068: Dieldrin	60-57-1	0.25 mg/kg	95.0	76.37	109.7
		EP068: Endrin	72-20-8	1 mg/kg	99.9	68.51	119.47
		EP068: 4,4'-DDT	50-29-3	1 mg/kg	95.7	67.12	118.10
EP068A: Organochlorine Pesticides (OC) (QCLot: 1035043)							
ES0909983-023	QC105	EP068: gamma-BHC	58-89-9	0.25 mg/kg	108	75.65	110.44
		EP068: Heptachlor	76-44-8	0.25 mg/kg	# 123	72.2	106.71
		EP068: Aldrin	309-00-2	0.25 mg/kg	103	77.54	107.0



Analytical Results

Sub-Matrix: TCLP LEACHATE

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	BH01-0.5-0.6	BH01-1.4-1.5	BH02-1.0-1.1	BH03-0.2-0.3	BH04-0.2-0.3
				10-JUL-2009 12:00	11-JUL-2009 12:00	11-JUL-2009 12:00	11-JUL-2009 12:00	11-JUL-2009 12:00
				ES0909983-001	ES0909983-002	ES0909983-004	ES0909983-005	ES0909983-007
EG005C: Leachable Metals by ICPAES								
Arsenic	7440-38-2	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium	7440-43-9	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Chromium	7440-47-3	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	<0.1	12.9	0.6
Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	7440-02-0	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	7440-66-6	0.1	mg/L	<0.1	0.3	0.5	1.0	0.7
EG035C: Leachable Mercury by FIMS								
Mercury	7439-97-6	0.0010	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	39.3	28.9	27.7	35.4	33.4
2-Chlorophenol-D4	93951-73-6	0.1	%	89.8	65.2	70.1	88.0	80.6
2,4,6-Tribromophenol	118-79-6	0.1	%	114	97.0	109	107	102
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	112	81.1	89.3	87.0	90.2
Anthracene-d10	1719-06-8	0.1	%	108	85.5	93.5	89.5	94.2
4-Terphenyl-d14	1718-51-0	0.1	%	115	99.6	110	106	111



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1035039) - continued									
ES0909983-013	BH07-0.2-0.3	EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1035205)									
ES0909983-023	QC105	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
				EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1035037)									
ES0909983-001	BH01-0.5-0.6	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES0909983-013	BH07-0.2-0.3	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1035038)									
ES0909983-001	BH01-0.5-0.6	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES0909983-013	BH07-0.2-0.3	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
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1035204)									
ES0909983-023	QC105	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				QC105	QC107	BH02-0.2-0.3	BH03-1.0-1.1	----
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	----
Compound	CAS Number	LOR	Unit	ES0909983-023	ES0909983-024	ES0909983-027	ES0909983-029	----
EP075(SIM)T: PAH Surrogates - Continued								
2-Fluorobiphenyl	321-60-8	0.1	%	97.1	96.6	94.4	88.2	----
Anthracene-d10	1719-06-8	0.1	%	109	100	103	96.8	----
4-Terphenyl-d14	1718-51-0	0.1	%	107	104	103	96.0	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	105	99.8	103	106	----
Toluene-D8	2037-26-5	0.1	%	105	103	101	105	----
4-Bromofluorobenzene	460-00-4	0.1	%	110	106	101	110	----



Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA055: Moisture Content (QC Lot: 1035756)									
ES0909955-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	46.3	54.3	16.0	0% - 20%
ES0909983-007	BH04-0.2-0.3	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	8.6	9.9	13.5	No Limit
EA055: Moisture Content (QC Lot: 1035757)									
ES0909983-018	BH09-0.5-0.6	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	34.5	31.3	9.9	0% - 20%
ES0910052-007	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	25.4	24.1	5.3	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1037067)									
ES0909796-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	54	44	# 20.2	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	54	48	11.7	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	6	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	38	39	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	9	12	29.4	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	69	106	# 43.2	0% - 20%
ES0909983-002	BH01-1.4-1.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	4	3	37.1	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	12	12	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	32	24	30.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	12	12	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	50	62	21.6	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 1037070)									
ES0909983-014	BH07-1.0-1.1	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	27	30	9.1	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	18	18	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	122	119	2.6	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	14	16	14.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	67	72	5.9	0% - 50%
ES0909983-024	QC107	EG005T: Cadmium	7440-43-9	1	mg/kg	4	4	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	31	39	23.7	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	11	12	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	20	27	29.7	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	3820	5070	# 27.9	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	1040	1410	# 30.2	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	502	534	6.0	0% - 20%



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)		
EP075(SIM)A: Phenolic Compounds (QC Lot: 1035039) - continued											
ES0909983-013	BH07-0.2-0.3	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: 1035205)											
ES0909983-023	QC105	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)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1035039)											
ES0909983-001	BH01-0.5-0.6	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
		ES0909983-013	BH07-0.2-0.3	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
				EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Acenaphthene	83-32-9			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Fluorene	86-73-7			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Phenanthrene	85-01-8			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EP075(SIM): Anthracene	120-12-7			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				BH07-0.2-0.3	BH07-1.0-1.1	BH08-0.2-0.3	BH08-1.4-1.5	BH09-0.2-0.3
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
Compound	CAS Number	LOR	Unit	ES0909983-013	ES0909983-014	ES0909983-015	ES0909983-016	ES0909983-017
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	112	95.7	87.4	96.6	106
2-Chlorophenol-D4	93951-73-6	0.1	%	104	106	97.3	104	98.4
2,4,6-Tribromophenol	118-79-6	0.1	%	66.3	92.0	78.1	74.0	71.5
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	110	106	107	110	107
Anthracene-d10	1719-06-8	0.1	%	108	111	102	104	106
4-Terphenyl-d14	1718-51-0	0.1	%	109	109	105	109	106
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	105	108	112	110	113
Toluene-D8	2037-26-5	0.1	%	105	101	113	107	106
4-Bromofluorobenzene	460-00-4	0.1	%	95.7	97.5	98.9	96.4	99.1



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	BH09-0.5-0.6	BH10-0.5-0.6	BH10-1.4-1.5	BH11-0.5-0.6	BH11-1.4-1.5
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00
				ES0909983-018	ES0909983-019	ES0909983-020	ES0909983-021	ES0909983-022
EP068A: Organochlorine Pesticides (OC) - Continued								
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				QC105	QC107	BH02-0.2-0.3	BH03-1.0-1.1	----
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	----
Compound	CAS Number	LOR	Unit	ES0909983-023	ES0909983-024	ES0909983-027	ES0909983-029	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	7.3	12.4	15.9	7.3	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	20	<5	<5	----
Cadmium	7440-43-9	1	mg/kg	<1	4	6	<1	----
Chromium	7440-47-3	2	mg/kg	29	31	12	9	----
Copper	7440-50-8	5	mg/kg	190	3820	3890	53	----
Lead	7439-92-1	5	mg/kg	23	1040	21	11	----
Nickel	7440-02-0	2	mg/kg	15	11	14	11	----
Zinc	7440-66-6	5	mg/kg	70	502	377	30	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	0.2	<0.1	<0.1	----
EN33: TCLP Leach								
Initial pH	----	0.1	pH Unit	----	----	----	9.2	----
After HCl pH	----	0.1	pH Unit	----	----	----	1.5	----
Extraction Fluid Number	----	1	-	----	----	----	1	----
Final pH	----	0.1	pH Unit	----	----	----	5.1	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	----



Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: ES0909983	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	: S3017805DKPC-DRILLING	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----	Date Samples Received	: 08-JUL-2009
C-O-C number	: ----	Issue Date	: 15-JUL-2009
Sampler	: KD	No. of samples received	: 49
Order number	: ----	No. of samples analysed	: 24
Quote number	: SY/330/09 V3		

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

This Interpretive Quality Control Report contains the following information:

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



Analysis Holding Time Compliance

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

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

Matrix: **SOIL**

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

Method	Sample Date	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
AS 4964 - 2004 Identification of Asbestos in bulk samples								
Snap Lock Bag	06-JUL-2009	---	---	----	13-JUL-2009	09-JAN-2010	✔	
BH01-0.5-0.6,								BH02-1.0-1.1,
BH03-0.2-0.3,								BH04-0.2-0.3,
BH05-0.5-0.6,								BH06-1.0-1.1,
BH07-0.2-0.3,								BH08-0.2-0.3,
BH09-0.5-0.6,								BH10-0.5-0.6,
BH11-0.5-0.6								
EA055: Moisture Content								
Soil Glass Jar - Unpreserved	06-JUL-2009	----	----	----	10-JUL-2009	13-JUL-2009	✔	
BH01-0.5-0.6,								BH01-1.4-1.5,
BH02-1.0-1.1,								BH03-0.2-0.3,
BH04-0.2-0.3,								BH04-1.4-1.5,
BH05-0.5-0.6,								BH05-1.4-1.5,
BH06-0.2-0.3,								BH06-1.0-1.1,
BH07-0.2-0.3,								BH07-1.0-1.1,
BH08-0.2-0.3,								BH08-1.4-1.5,
BH09-0.2-0.3,								BH09-0.5-0.6,
BH10-0.5-0.6,								BH10-1.4-1.5,
BH11-0.5-0.6,								BH11-1.4-1.5,
QC105,								QC107,
BH02-0.2-0.3,								BH03-1.0-1.1



Matrix: **SOIL**

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

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005C: Leachable Metals by ICPAES								
Clear Plastic Bottle - Nitric Acid; Unfiltered		10-JUL-2009	10-JUL-2009	06-JAN-2010	✓	14-JUL-2009	06-JAN-2010	✓
BH01-0.5-0.6, BH07-1.0-1.1, BH09-0.2-0.3	BH07-0.2-0.3, BH08-0.2-0.3,							
Clear Plastic Bottle - Nitric Acid; Unfiltered		11-JUL-2009	13-JUL-2009	07-JAN-2010	✓	14-JUL-2009	07-JAN-2010	✓
BH01-1.4-1.5, BH03-0.2-0.3, BH04-1.4-1.5, BH05-1.4-1.5, BH08-1.4-1.5, BH10-0.5-0.6, BH11-0.5-0.6, BH03-1.0-1.1	BH02-1.0-1.1, BH04-0.2-0.3, BH05-0.5-0.6, BH06-1.0-1.1, BH09-0.5-0.6, BH10-1.4-1.5, BH11-1.4-1.5,							
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved		06-JUL-2009	12-JUL-2009	03-AUG-2009	✓	13-JUL-2009	02-JAN-2010	✓
BH01-0.5-0.6, BH02-1.0-1.1, BH04-0.2-0.3, BH05-0.5-0.6, BH06-0.2-0.3, BH07-0.2-0.3, BH08-0.2-0.3, BH09-0.2-0.3, BH10-0.5-0.6, BH11-0.5-0.6, QC105, BH02-0.2-0.3,	BH01-1.4-1.5, BH03-0.2-0.3, BH04-1.4-1.5, BH05-1.4-1.5, BH06-1.0-1.1, BH07-1.0-1.1, BH08-1.4-1.5, BH09-0.5-0.6, BH10-1.4-1.5, BH11-1.4-1.5, QC107, BH03-1.0-1.1							
EG035C: Leachable Mercury by FIMS								
Clear Plastic Bottle - Nitric Acid; Unfiltered		10-JUL-2009	----	----	----	14-JUL-2009	07-AUG-2009	✓
BH01-0.5-0.6, BH07-1.0-1.1, BH09-0.2-0.3	BH07-0.2-0.3, BH08-0.2-0.3,							
Clear Plastic Bottle - Nitric Acid; Unfiltered		11-JUL-2009	----	----	----	14-JUL-2009	08-AUG-2009	✓
BH01-1.4-1.5, BH03-0.2-0.3, BH04-1.4-1.5, BH05-1.4-1.5, BH08-1.4-1.5, BH10-0.5-0.6, BH11-0.5-0.6, BH03-1.0-1.1	BH02-1.0-1.1, BH04-0.2-0.3, BH05-0.5-0.6, BH06-1.0-1.1, BH09-0.5-0.6, BH10-1.4-1.5, BH11-1.4-1.5,							



Matrix: **SOIL**

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

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved		06-JUL-2009	12-JUL-2009	03-AUG-2009	✓	13-JUL-2009	03-AUG-2009	✓
BH01-0.5-0.6,	BH01-1.4-1.5,							
BH02-1.0-1.1,	BH03-0.2-0.3,							
BH04-0.2-0.3,	BH04-1.4-1.5,							
BH05-0.5-0.6,	BH05-1.4-1.5,							
BH06-0.2-0.3,	BH06-1.0-1.1,							
BH07-0.2-0.3,	BH07-1.0-1.1,							
BH08-0.2-0.3,	BH08-1.4-1.5,							
BH09-0.2-0.3,	BH09-0.5-0.6,							
BH10-0.5-0.6,	BH10-1.4-1.5,							
BH11-0.5-0.6,	BH11-1.4-1.5,							
QC105,	QC107,							
BH02-0.2-0.3,	BH03-1.0-1.1							
EN33: TCLP Leach								
LabSplit: Leach for organics and other tests		06-JUL-2009	---	---	----	10-JUL-2009	20-JUL-2009	✓
BH01-0.5-0.6,	BH07-0.2-0.3,							
BH07-1.0-1.1,	BH08-0.2-0.3,							
BH09-0.2-0.3								
LabSplit: Leach for organics and other tests		06-JUL-2009	---	---	----	11-JUL-2009	20-JUL-2009	✓
BH01-1.4-1.5,	BH02-1.0-1.1,							
BH03-0.2-0.3,	BH04-0.2-0.3,							
BH04-1.4-1.5,	BH05-0.5-0.6,							
BH05-1.4-1.5,	BH06-1.0-1.1,							
BH08-1.4-1.5,	BH09-0.5-0.6,							
BH10-0.5-0.6,	BH10-1.4-1.5,							
BH11-0.5-0.6,	BH11-1.4-1.5,							
BH03-1.0-1.1								
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved		06-JUL-2009	09-JUL-2009	20-JUL-2009	✓	10-JUL-2009	18-AUG-2009	✓
BH01-0.5-0.6,	BH01-1.4-1.5,							
BH02-1.0-1.1,	BH03-0.2-0.3,							
BH04-0.2-0.3,	BH04-1.4-1.5,							
BH05-0.5-0.6,	BH05-1.4-1.5,							
BH06-0.2-0.3,	BH06-1.0-1.1,							
BH07-0.2-0.3,	BH07-1.0-1.1,							
BH08-0.2-0.3,	BH08-1.4-1.5,							
BH09-0.2-0.3,	BH09-0.5-0.6,							
BH10-0.5-0.6,	BH10-1.4-1.5,							
BH11-0.5-0.6,	BH11-1.4-1.5,							
QC105,	QC107,							
BH02-0.2-0.3,	BH03-1.0-1.1							



Matrix: **SOIL**

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

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved		06-JUL-2009	09-JUL-2009	20-JUL-2009	✓	10-JUL-2009	18-AUG-2009	✓
BH01-0.5-0.6, BH02-1.0-1.1, BH04-0.2-0.3, BH05-0.5-0.6, BH06-0.2-0.3, BH07-0.2-0.3, BH08-0.2-0.3, BH09-0.2-0.3, BH10-0.5-0.6, BH11-0.5-0.6, QC105, BH02-0.2-0.3,	BH01-1.4-1.5, BH03-0.2-0.3, BH04-1.4-1.5, BH05-1.4-1.5, BH06-1.0-1.1, BH07-1.0-1.1, BH08-1.4-1.5, BH09-0.5-0.6, BH10-1.4-1.5, BH11-1.4-1.5, QC107, BH03-1.0-1.1							
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved		06-JUL-2009	09-JUL-2009	20-JUL-2009	✓	10-JUL-2009	18-AUG-2009	✓
BH01-0.5-0.6, BH02-1.0-1.1, BH04-0.2-0.3, BH05-0.5-0.6, BH06-0.2-0.3, BH07-0.2-0.3, BH08-0.2-0.3, BH09-0.2-0.3, BH10-0.5-0.6, BH11-0.5-0.6, QC105, BH02-0.2-0.3,	BH01-1.4-1.5, BH03-0.2-0.3, BH04-1.4-1.5, BH05-1.4-1.5, BH06-1.0-1.1, BH07-1.0-1.1, BH08-1.4-1.5, BH09-0.5-0.6, BH10-1.4-1.5, BH11-1.4-1.5, QC107, BH03-1.0-1.1							
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved		06-JUL-2009	09-JUL-2009	20-JUL-2009	✓	10-JUL-2009	18-AUG-2009	✓
BH01-0.5-0.6, BH02-1.0-1.1, BH04-0.2-0.3, BH05-0.5-0.6, BH06-0.2-0.3, BH07-0.2-0.3, BH08-0.2-0.3, BH09-0.2-0.3, BH10-0.5-0.6, BH11-0.5-0.6, QC105, BH02-0.2-0.3,	BH01-1.4-1.5, BH03-0.2-0.3, BH04-1.4-1.5, BH05-1.4-1.5, BH06-1.0-1.1, BH07-1.0-1.1, BH08-1.4-1.5, BH09-0.5-0.6, BH10-1.4-1.5, BH11-1.4-1.5, QC107, BH03-1.0-1.1							

Page : 6 of 13
 Work Order : ES0909983
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : S3017805DKPC-DRILLING



Matrix: **SOIL**

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

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved		10-JUL-2009	10-JUL-2009	17-JUL-2009	✓	14-JUL-2009	22-AUG-2009	✓
BH01-0.5-0.6,	BH07-0.2-0.3,							
BH07-1.0-1.1,	BH08-0.2-0.3,							
BH09-0.2-0.3								
Amber Glass Bottle - Unpreserved		11-JUL-2009	13-JUL-2009	18-JUL-2009	✓	14-JUL-2009	22-AUG-2009	✓
BH01-1.4-1.5,	BH02-1.0-1.1,							
BH03-0.2-0.3,	BH04-0.2-0.3,							
BH04-1.4-1.5,	BH05-0.5-0.6,							
BH05-1.4-1.5,	BH06-1.0-1.1,							
BH08-1.4-1.5,	BH09-0.5-0.6,							
BH10-0.5-0.6,	BH10-1.4-1.5,							
BH11-0.5-0.6,	BH11-1.4-1.5,							
BH03-1.0-1.1								
Soil Glass Jar - Unpreserved		06-JUL-2009	09-JUL-2009	20-JUL-2009	✓	10-JUL-2009	18-AUG-2009	✓
BH01-0.5-0.6,	BH01-1.4-1.5,							
BH02-1.0-1.1,	BH03-0.2-0.3,							
BH04-0.2-0.3,	BH04-1.4-1.5,							
BH05-0.5-0.6,	BH05-1.4-1.5,							
BH06-0.2-0.3,	BH06-1.0-1.1,							
BH07-0.2-0.3,	BH07-1.0-1.1,							
BH08-0.2-0.3,	BH08-1.4-1.5,							
BH09-0.2-0.3,	BH09-0.5-0.6,							
BH10-0.5-0.6,	BH10-1.4-1.5,							
BH11-0.5-0.6,	BH11-1.4-1.5,							
QC105,	QC107,							
BH02-0.2-0.3,	BH03-1.0-1.1							



Matrix: **SOIL**

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

Method		Sample Date	Extraction / Preparation			Analysis									
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation							
EP080/071: Total Petroleum Hydrocarbons															
Soil Glass Jar - Unpreserved		06-JUL-2009	09-JUL-2009	20-JUL-2009	✓	10-JUL-2009	18-AUG-2009	✓							
BH01-0.5-0.6,	BH01-1.4-1.5,														
BH02-1.0-1.1,	BH03-0.2-0.3,														
BH04-0.2-0.3,	BH04-1.4-1.5,														
BH05-0.5-0.6,	BH05-1.4-1.5,														
BH06-0.2-0.3,	BH06-1.0-1.1,														
BH07-0.2-0.3,	BH07-1.0-1.1,														
BH08-0.2-0.3,	BH08-1.4-1.5,														
BH09-0.2-0.3,	BH09-0.5-0.6,														
BH10-0.5-0.6,	BH10-1.4-1.5,														
BH11-0.5-0.6,	BH11-1.4-1.5,														
QC105,	QC107,														
BH02-0.2-0.3,	BH03-1.0-1.1														
Soil Glass Jar - Unpreserved		06-JUL-2009	10-JUL-2009	20-JUL-2009	✓	10-JUL-2009	20-JUL-2009	✓							
QC105,	QC107,														
BH02-0.2-0.3,	BH03-1.0-1.1														
EP080: BTEX															
Soil Glass Jar - Unpreserved		06-JUL-2009	09-JUL-2009	20-JUL-2009	✓	10-JUL-2009	20-JUL-2009	✓							
BH01-0.5-0.6,	BH01-1.4-1.5,														
BH02-1.0-1.1,	BH03-0.2-0.3,														
BH04-0.2-0.3,	BH04-1.4-1.5,														
BH05-0.5-0.6,	BH05-1.4-1.5,														
BH06-0.2-0.3,	BH06-1.0-1.1,														
BH07-0.2-0.3,	BH07-1.0-1.1,														
BH08-0.2-0.3,	BH08-1.4-1.5,														
BH09-0.2-0.3,	BH09-0.5-0.6,														
BH10-0.5-0.6,	BH10-1.4-1.5,														
BH11-0.5-0.6,	BH11-1.4-1.5														
Soil Glass Jar - Unpreserved									06-JUL-2009	10-JUL-2009	20-JUL-2009	✓	10-JUL-2009	20-JUL-2009	✓
QC105,	QC107,														
BH02-0.2-0.3,	BH03-1.0-1.1														



Quality Control Parameter Frequency Compliance

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

Matrix: **SOIL**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	4	35	11.4	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	3	24	12.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	3	24	12.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	3	24	12.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	4	36	11.1	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	4	37	10.8	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	3	24	12.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	3	30	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	2	24	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	2	24	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	2	24	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	36	5.6	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	37	5.4	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	24	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	30	6.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	2	24	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	2	24	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	2	24	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	36	5.6	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	37	5.4	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	24	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	30	6.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	2	24	8.3	5.0	✓	ALS QCS3 requirement
Pesticides by GCMS	EP068	2	24	8.3	5.0	✓	ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	2	24	8.3	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	36	5.6	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	37	5.4	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	24	8.3	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	30	6.7	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Reaular	Actual	Expected	Evaluation	



Matrix: **WATER**

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

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Leachable Mercury by FIMS	EG035C	4	34	11.8	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	6	28	21.4	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	12	16.7	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Leachable Mercury by FIMS	EG035C	2	34	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	5	28	17.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	29	6.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Leachable Mercury by FIMS	EG035C	2	34	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	5	28	17.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	29	6.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Leachable Mercury by FIMS	EG035C	2	34	5.9	5.0	✓	ALS QCS3 requirement
Leachable Metals by ICPAES	EG005C	3	26	11.5	5.0	✓	ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	12	8.3	5.0	✓	ALS QCS3 requirement



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (1999) Schedule B(3) (Method 102)
Asbestos Identification in bulk solids	* EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples
Leachable Metals by ICPAES	EG005C	SOIL	APHA 21st ed., 3120; USEPA SW 846 - 6010 The ICPAES technique ionises leachate sample atoms emitting a characteristic spectrum. This spectrum is then compared against matrix matched standards for quantification. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Leachable Mercury by FIMS	EG035C	SOIL	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the TCLP solution. The ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 504)
Pesticides by GCMS	EP068	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (1999) Schedule B(3) (Method 504,505)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Preparation Methods	Method	Matrix	Method Descriptions



Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals in TCLP Leachate	EN25C	SOIL	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TCLP for Non & Semivolatile Analytes	EN33a	SOIL	(USEPA SW846-1311, ALS QWI-EN/33) The TCLP procedure is designed to determine the mobility of both organic and inorganic analytes present in wastes. The standard TCLP leach is for non-volatile and Semivolatile test parameters.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)
Separatory Funnel Extraction of Liquids	ORG14	SOIL	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option A - Concentrating)	ORG17A	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na ₂ SO ₄ and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.



Summary of Outliers

Outliers : Quality Control Samples

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

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005T: Total Metals by ICP-AES	ES0909796-001	Anonymous	Chromium	7440-47-3	20.2 %	0-20%	RPD exceeds LOR based limits
EG005T: Total Metals by ICP-AES	ES0909983-024	QC107	Copper	7440-50-8	27.9 %	0-20%	RPD exceeds LOR based limits
EG005T: Total Metals by ICP-AES	ES0909983-024	QC107	Lead	7439-92-1	30.2 %	0-20%	RPD exceeds LOR based limits
EG005T: Total Metals by ICP-AES	ES0909796-001	Anonymous	Zinc	7440-66-6	43.2 %	0-20%	RPD exceeds LOR based limits
Laboratory Control Spike (LCS) Recoveries							
EP068A: Organochlorine Pesticides (OC)	1188428-002	----	trans-Chlordane	5103-74-2	124 %	60.7-113%	Recovery greater than upper control limit
EP068A: Organochlorine Pesticides (OC)	1188426-002	----	trans-Chlordane	5103-74-2	116 %	60.7-113%	Recovery greater than upper control limit
EP068A: Organochlorine Pesticides (OC)	1188426-002	----	Endrin	72-20-8	129 %	63-121%	Recovery greater than upper control limit
EP068B: Organophosphorus Pesticides (OP)	1188426-002	----	Parathion-methyl	298-00-0	117 %	61.4-113%	Recovery greater than upper control limit
EP068B: Organophosphorus Pesticides (OP)	1188426-002	----	Fenthion	55-38-9	112 %	64.7-110%	Recovery greater than upper control limit
EP068B: Organophosphorus Pesticides (OP)	1188426-002	----	Chlorpyrifos	2921-88-2	114 %	64.2-111%	Recovery greater than upper control limit
EP068B: Organophosphorus Pesticides (OP)	1188426-002	----	Parathion	56-38-2	123 %	60-116%	Recovery greater than upper control limit
EP068B: Organophosphorus Pesticides (OP)	1188426-002	----	Pirimphos-ethyl	23505-41-1	122 %	64.8-111%	Recovery greater than upper control limit
EP068B: Organophosphorus Pesticides (OP)	1188426-002	----	Prothiofos	34643-46-4	114 %	65.4-111%	Recovery greater than upper control limit
EP068B: Organophosphorus Pesticides (OP)	1188428-002	----	Ethion	563-12-2	123 %	62-116%	Recovery greater than upper control limit
EP068B: Organophosphorus Pesticides (OP)	1188426-002	----	Ethion	563-12-2	130 %	62-116%	Recovery greater than upper control limit
EP068B: Organophosphorus Pesticides (OP)	1188426-002	----	Carbophenothion	786-19-6	120 %	59.5-119%	Recovery greater than upper control limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1188425-007	----	Naphthalene	91-20-3	114 %	81.9-113%	Recovery greater than upper control limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1188425-007	----	Acenaphthylene	208-96-8	114 %	79.6-113%	Recovery greater than upper control limit



Matrix: SOIL

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries - Continued							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1188425-007	----	Acenaphthene	83-32-9	113 %	81.5-112%	Recovery greater than upper control limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1188425-007	----	Fluorene	86-73-7	115 %	79.9-112%	Recovery greater than upper control limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1188425-007	----	Fluoranthene	206-44-0	116 %	78.8-113%	Recovery greater than upper control limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1188425-007	----	Benzo(k)fluoranthene	207-08-9	117 %	74.2-117%	Recovery greater than upper control limit
Matrix Spike (MS) Recoveries							
EP068A: Organochlorine Pesticides (OC)	ES0909983-023	QC105	Heptachlor	76-44-8	123 %	72.2-106.71 %	Recovery greater than upper data quality objective
EP068A: Organochlorine Pesticides (OC)	ES0909983-023	QC105	Endrin	72-20-8	127 %	68.51-119.47 %	Recovery greater than upper data quality objective
EP068A: Organochlorine Pesticides (OC)	ES0909983-023	QC105	4,4'-DDT	50-29-3	121 %	67.12-118.10 %	Recovery greater than upper data quality objective
EP068B: Organophosphorus Pesticides (OP)	ES0909983-023	QC105	Bromophos-ethyl	4824-78-6	115 %	74.94-107.37 %	Recovery greater than upper data quality objective
EP068B: Organophosphorus Pesticides (OP)	ES0909983-001	BH01-0.5-0.6	Prothiofos	34643-46-4	107 %	75.45-106.05 %	Recovery greater than upper data quality objective
EP068B: Organophosphorus Pesticides (OP)	ES0909983-023	QC105	Prothiofos	34643-46-4	111 %	75.45-106.05 %	Recovery greater than upper data quality objective

- For all matrices, no Method Blank value outliers occur.

Regular Sample Surrogates

Sub-Matrix: SOIL

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP075(SIM)S: Phenolic Compound Surrogates	ES0909983-001	BH01-0.5-0.6	Phenol-d6	13127-88-3	114 %	24-113 %	Recovery greater than upper data quality objective
EP080S: TPH(V)/BTEX Surrogates	ES0909983-001	BH01-0.5-0.6	Toluene-D8	2037-26-5	120 %	81-117 %	Recovery greater than upper data quality objective

Outliers : Analysis Holding Time Compliance

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

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

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

- No Quality Control Sample Frequency Outliers exist.



Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: ES0910949	Page	: 1 of 8
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 DKPC DRILLING	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: REBATCH OF ES0909983	Date Samples Received	: 24-JUL-2009
C-O-C number	: ----	Issue Date	: 04-AUG-2009
Sampler	: ----	No. of samples received	: 3
Site	: ----	No. of samples analysed	: 3
Quote number	: SY/330/09 V3		

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

This Certificate of Analysis contains the following information:

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



NATA Accredited Laboratory 825

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.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Hoa Nguyen	Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Peter Rennie	Team Leader - Asbestos	Newcastle
Wisam Abou-Maraseh	Spectroscopist	Inorganics

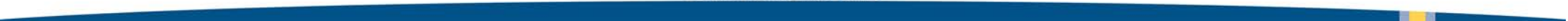
Environmental Division Sydney

Part of the **ALS Laboratory Group**

277-289 Woodpark Road Smithfield NSW Australia 2164

Tel. +61-2-8784 8555 Fax. +61-2-8784 8500 www.alsglobal.com

A Campbell Brothers Limited Company





General Comments

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

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

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

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

When 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

- **Asbestos Identification**

Samples were analysed by Polarised Light Microscopy including dispersion staining

Legend for Asbestos Type

Am Amosite (brown asbestos) detected

Ch Chrysotile (white asbestos) detected

Cr Crocidolite (blue asbestos) detected

UMF Unknown mineral fibres detected

- No asbestos fibres detected

(t) Trace levels detected

Confirmation by alternative techniques is recommended for samples where unknown mineral fibres are detected.

- **EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs**



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				BH06_1.4-1.5	BH11_0.2-0.3	BH10_0.2-0.3	----	----
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	----	----
Compound	CAS Number	LOR	Unit	ES0910949-001	ES0910949-002	ES0910949-003	----	----
AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	----	No	Yes	----	----
Asbestos Type	132207-33-1	0.1	g/kg	----	-	Cr, Am	----	----
Sample weight (dry)	----	0.01	g	----	331	281	----	----
APPROVED IDENTIFIER:	----	-	-	----	P.RENNIE	P.RENNIE	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	11.3	----	----	----	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	23	----	----	----	----
Copper	7440-50-8	5	mg/kg	183	----	----	----	----
Lead	7439-92-1	5	mg/kg	19	----	----	----	----
Nickel	7440-02-0	2	mg/kg	14	----	----	----	----
Zinc	7440-66-6	5	mg/kg	61	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.10	mg/kg	<0.10	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	----
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----	----
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----	----



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

Sub-Matrix: SOIL				Client sample ID		BH06_1.4-1.5		BH11_0.2-0.3		BH10_0.2-0.3		----		----	
				Client sampling date / time		06-JUL-2009 15:00		06-JUL-2009 15:00		06-JUL-2009 15:00		----		----	
Compound	CAS Number	LOR	Unit	ES0910949-001		ES0910949-002		ES0910949-003		----		----		----	
EP068A: Organochlorine Pesticides (OC) - Continued															
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2		----		----		----		----		----	
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05		----		----		----		----		----	
Methoxychlor	72-43-5	0.2	mg/kg	<0.2		----		----		----		----		----	
EP068B: Organophosphorus Pesticides (OP)															
Dichlorvos	62-73-7	0.05	mg/kg	<0.05		----		----		----		----		----	
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05		----		----		----		----		----	
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2		----		----		----		----		----	
Dimethoate	60-51-5	0.05	mg/kg	<0.05		----		----		----		----		----	
Diazinon	333-41-5	0.05	mg/kg	<0.05		----		----		----		----		----	
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05		----		----		----		----		----	
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2		----		----		----		----		----	
Malathion	121-75-5	0.05	mg/kg	<0.05		----		----		----		----		----	
Fenthion	55-38-9	0.05	mg/kg	<0.05		----		----		----		----		----	
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05		----		----		----		----		----	
Parathion	56-38-2	0.2	mg/kg	<0.2		----		----		----		----		----	
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05		----		----		----		----		----	
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05		----		----		----		----		----	
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05		----		----		----		----		----	
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05		----		----		----		----		----	
Prothiofos	34643-46-4	0.05	mg/kg	<0.05		----		----		----		----		----	
Ethion	563-12-2	0.05	mg/kg	<0.05		----		----		----		----		----	
Carbophenothion	786-19-6	0.05	mg/kg	<0.05		----		----		----		----		----	
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05		----		----		----		----		----	
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		----		----		----		----		----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons															
Naphthalene	91-20-3	0.5	mg/kg	<0.5		----		----		----		----		----	



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

Sub-Matrix: SOIL				Client sample ID	BH06_1.4-1.5	BH11_0.2-0.3	BH10_0.2-0.3	----	----
				Client sampling date / time	06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	----	----
Compound	CAS Number	LOR	Unit	ES0910949-001	ES0910949-002	ES0910949-003	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----	
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----	
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----	
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----	
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----	
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----	
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----	
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----	
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----	
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	----	----	----	----	
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----	
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----	
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----	
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----	
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	----	----	----	----	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	111	----	----	----	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%	92.0	----	----	----	----	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%	60.7	----	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%	77.4	----	----	----	----	
2-Chlorophenol-D4	93951-73-6	0.1	%	78.3	----	----	----	----	
2,4,6-Tribromophenol	118-79-6	0.1	%	85.8	----	----	----	----	
EP075(SIM)T: PAH Surrogates									



Analytical Results

Sub-Matrix: **SOIL**

Client sample ID

Client sampling date / time

				BH06_1.4-1.5	BH11_0.2-0.3	BH10_0.2-0.3	----	----
				06-JUL-2009 15:00	06-JUL-2009 15:00	06-JUL-2009 15:00	----	----
Compound	CAS Number	LOR	Unit	ES0910949-001	ES0910949-002	ES0910949-003	----	----
EP075(SIM)T: PAH Surrogates - Continued								
2-Fluorobiphenyl	321-60-8	0.1	%	93.6	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	92.8	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	94.7	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	96.3	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	88.8	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	97.9	----	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Client sample ID - Client sampling date / time	Analytical Results
AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	BH11_0.2-0.3 - 06-JUL-2009 15:00	Dark grey lumpy soil
EA200: Description	BH10_0.2-0.3 - 06-JUL-2009 15:00	Dark grey-brown lumpy soil with vegetative matter



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	164
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	136
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	10	136
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

Frank Ferraro

Frank 24/7/09 4:30pm

From: Jennifer Cullen
Sent: Friday, 24 July 2009 1:30 PM
To: Samples Sydney
Cc: Jacob Waugh
Subject: FW: Additional soil sample analysis

Hi Frank,

Could you please arrange for the following samples to be re-batched? Analysis will be as per the soil table in quote SY/330/09 V3.

ES0909983 – Sample **BH06_1.4-1.5** to be analysed for:

Metals M8
 PCB
 OC
 OP
 Phenols
 PAH
 TPH
 BTEX

Environmental Division
 Sydney
 Work Order

ES0910949

Telephone : +61-2-8784 8555

BH11_0.2-0.3 and **BH10_0.2-0.3** to be analysed for asbestos

Thanks

Kind Regards

Jennifer Cullen
 Client Services Co-ordinator
ALS Laboratory Group
Environmental Division
 Sydney, Australia
 Phone: + 61 2 8784 8555
 Direct: + 61 2 8784 8509
 Fax: + 61 2 8784 8500
www.alsglobal.com.au

CONTRACT WORK**WO:****LAB:** *ALL NEWCASTLE***DATE:** *24/7/09***SPLIT:**

From: Donnetti, Christiaan [mailto:Christiaan.Donnetti@aecom.com]
Sent: Friday, 24 July 2009 1:02 PM
To: Jennifer Cullen
Subject: Additional soil sample analysis

Hi Jenny,

I hope you are well and keeping the dreaded lurgy at Bay. I am feeling pretty average today.....

Please could I request an additional sample analysis for the soil samples from the Port Kembla Land based Investigation (Work order ES0909983) I think some of the analytes may be out of holding times but never the less please could you analyse BH06_1.4-1.5 for the following:

Metals M8
 PCB
 OC
 OP
 Phenols
 PAH



Environmental Division

QUALITY CONTROL REPORT

Work Order	: ES0910949	Page	: 1 of 11
Client	: ENSR AUSTRALIA PTY LIMITED	Laboratory	: Environmental Division Sydney
Contact	: MR CHRISTIANN DONNETTI	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: christiaan.donnetti@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S3017805 DKPC DRILLING	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----	Date Samples Received	: 24-JUL-2009
C-O-C number	: ----	Issue Date	: 04-AUG-2009
Sampler	: ----	No. of samples received	: 3
Order number	: REBATCH OF ES0909983	No. of samples analysed	: 3
Quote number	: SY/330/09 V3		

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.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Hoa Nguyen	Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Peter Rennie	Team Leader - Asbestos	Newcastle
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 insufficient sample for analysis.

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

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



Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA055: Moisture Content (QC Lot: 1051042)									
ES0910945-010	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	12.8	12.0	6.1	0% - 50%
ES0910945-019	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	29.8	27.0	10.2	0% - 20%
EG005T: Total Metals by ICP-AES (QC Lot: 1050619)									
ES0910945-012	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	15	9	48.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	4	4	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	13	16	16.2	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	9	12.5	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	13	16	18.5	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	21	22	0.0	No Limit
ES0910949-001	BH06_1.4-1.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	23	20	15.3	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	14	13	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	183	165	10.4	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	19	15	22.2	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	61	56	9.4	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1050618)									
ES0910795-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.4	0.3	34.7	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 1051112)									
ES0910828-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.10	mg/kg	<0.10	<0.10	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1051111)									
ES0910828-001	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1051111) - continued									
ES0910828-001	Anonymous	EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1051111)									
ES0910828-001	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
				EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2
EP075(SIM)A: Phenolic Compounds (QC Lot: 1051109)									
ES0910950-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)A: Phenolic Compounds (QC Lot: 1051109) - continued									
ES0910950-001	Anonymous	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
ES0910950-002	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	<2.0	0.0	No Limit
		EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1051109)							
ES0910950-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES0910950-002	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
	EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit	



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1051109) - continued									
ES0910950-002	Anonymous	EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1051108)									
ES0910950-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
ES0910950-002	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1051139)									
ES0910950-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES0910828-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEX (QC Lot: 1051139)									
ES0910950-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
ES0910828-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



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

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005T: Total Metals by ICP-AES (QCLot: 1050619)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.1 mg/kg	110	90.1	124
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	110	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.9 mg/kg	106	89.2	117
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.7 mg/kg	110	90.1	114
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.2 mg/kg	104	85.2	111
EG005T: Nickel	7440-02-0	2	mg/kg	<2	54.8 mg/kg	106	88.3	116
EG005T: Zinc	7440-66-6	5	mg/kg	<5	104 mg/kg	104	81.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1050618)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	81.3	67	118
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1051112)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.10	0.5 mg/kg	81.0	57.4	117
EP068A: Organochlorine Pesticides (OC) (QCLot: 1051111)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.25 mg/kg	88.0	60.8	116
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.25 mg/kg	82.6	59.4	115
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.25 mg/kg	84.2	59.8	117
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.25 mg/kg	89.1	59.8	118
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.25 mg/kg	93.6	65.8	114
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.25 mg/kg	80.7	65.6	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.25 mg/kg	89.4	67	113
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.25 mg/kg	95.0	65.6	113
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.25 mg/kg	# 124	60.7	113
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.25 mg/kg	91.9	65.8	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.25 mg/kg	85.4	57.3	120
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.25 mg/kg	95.4	67.4	116
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.25 mg/kg	93.2	67.5	114
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.25 mg/kg	108	63	121
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.25 mg/kg	93.3	66.1	117
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.25 mg/kg	98.4	65.3	116
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.25 mg/kg	85.8	57.3	115
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.25 mg/kg	96.9	63.6	119
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.25 mg/kg	86.5	58.4	127
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.25 mg/kg	87.8	63.6	117
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.25 mg/kg	86.4	50.4	132
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1051111)								



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
						LCS	Low	High
Method: Compound	CAS Number	LOR	Unit	Result				
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1051111) - continued								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.25 mg/kg	87.0	25.5	124
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.25 mg/kg	84.1	10.1	159
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.25 mg/kg	101	2.88	149
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.25 mg/kg	97.0	48.6	126
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.25 mg/kg	103	64.9	111
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.25 mg/kg	89.2	65.1	111
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.25 mg/kg	82.7	61.4	113
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.25 mg/kg	95.3	60.4	127
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.25 mg/kg	97.6	64.7	110
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.25 mg/kg	99.6	64.2	111
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.25 mg/kg	83.2	60	116
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.25 mg/kg	111	64.8	111
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.25 mg/kg	87.3	61.4	123
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.25 mg/kg	89.3	64.3	114
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.25 mg/kg	101	45.5	128
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.25 mg/kg	88.0	65.4	111
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.25 mg/kg	109	62	116
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.25 mg/kg	108	59.5	119
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.25 mg/kg	60.7	29.8	137
EP075(SIM)A: Phenolic Compounds (QCLot: 1051109)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	83.9	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	88.0	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	94.2	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	93.0	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	80.4	60.3	117
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	90.5	74.5	119
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	87.5	71.6	113
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	91.3	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	93.5	76.4	114
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	84.8	62.2	115
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	80.0	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	85.0	1.23	91.6
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1051109)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	83.5	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	86.2	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	85.1	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	85.6	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	82.4	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	84.4	81.1	112



Sub-Matrix: **SOIL**

Method: Compound				Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
						LCS	Low	High
CAS Number	LOR	Unit						
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1051109) - continued								
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	85.5	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	84.6	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	82.1	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	81.9	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	81.7	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	80.4	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	80.9	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	79.2	71	113
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	78.8	71.7	113
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	77.8	72.4	114
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1051108)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	98.0	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	92.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	92.0	72.6	117
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1051139)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	113	68.4	128
EP080: BTEX (QCLot: 1051139)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	92.8	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	104	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	91.5	65.3	126
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	94.0	66.5	124
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	95.5	66.7	123



Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
					MS	Low	High
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number				
EG005T: Total Metals by ICP-AES (QCLot: 1050619)							
ES0910945-012	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	107	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	106	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	93.6	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	112	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	108	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	107	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	107	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1050618)							
ES0910795-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	79.1	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1051112)							
ES0910828-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.5 mg/kg	85.0	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 1051111)							
ES0910828-001	Anonymous	EP068: gamma-BHC	58-89-9	0.25 mg/kg	97.5	75.65	110.44
		EP068: Heptachlor	76-44-8	0.25 mg/kg	# 108	72.2	106.71
		EP068: Aldrin	309-00-2	0.25 mg/kg	106	77.54	107.0
		EP068: Dieldrin	60-57-1	0.25 mg/kg	99.6	76.37	109.7
		EP068: Endrin	72-20-8	1 mg/kg	# 128	68.51	119.47
		EP068: 4,4`-DDT	50-29-3	1 mg/kg	83.7	67.12	118.10
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1051111)							
ES0910828-001	Anonymous	EP068: Diazinon	333-41-5	0.25 mg/kg	# 110	75.85	107.06
		EP068: Chlorpyrifos-methyl	5598-13-0	0.25 mg/kg	100	74.84	107.91
		EP068: Pirimphos-ethyl	23505-41-1	0.25 mg/kg	# 117	67.98	109.42
		EP068: Bromophos-ethyl	4824-78-6	0.25 mg/kg	# 108	74.94	107.37
		EP068: Prothiofos	34643-46-4	0.25 mg/kg	93.5	75.45	106.05
EP075(SIM)A: Phenolic Compounds (QCLot: 1051109)							
ES0910950-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	74.8	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	74.1	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	74.8	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	80.2	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	101	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1051109)							
ES0910950-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	71.4	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	72.4	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1051108)							

Page : 11 of 11
 Work Order : ES0910949
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : S3017805 DKPC DRILLING



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report		
				Spike Concentration	Spike Recovery (%) MS	Recovery Limits (%) LowHigh
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number			
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1051108) - continued						
ES0910950-001	Anonymous	EP071: C10 - C14 Fraction	----	640 mg/kg	101	70130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	93.4	70130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	92.2	70130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1051139)						
ES0910950-001	Anonymous	EP080: C6 - C9 Fraction	----	26 mg/kg	86.1	70130
EP080: BTEX (QCLot: 1051139)						
ES0910950-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	71.0	70130
		EP080: Toluene	108-88-3	2.5 mg/kg	70.9	70130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	71.4	70130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	72.2	70130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	73.0	70130



Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: ES0910949	Page	: 1 of 8
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 DKPC DRILLING	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----	Date Samples Received	: 24-JUL-2009
C-O-C number	: ----	Issue Date	: 04-AUG-2009
Sampler	: ----	No. of samples received	: 3
Order number	: REBATCH OF ES0909983	No. of samples analysed	: 3
Quote number	: SY/330/09 V3		

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

This Interpretive Quality Control Report contains the following information:

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



Analysis Holding Time Compliance

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

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

Matrix: **SOIL**

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

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
AS 4964 - 2004 Identification of Asbestos in bulk samples							
Soil Glass Jar - Unpreserved BH11_0.2-0.3, BH10_0.2-0.3	06-JUL-2009	---	---	----	04-AUG-2009	31-JAN-2010	✓
EA055: Moisture Content							
Soil Glass Jar - Unpreserved BH06_1.4-1.5	06-JUL-2009	----	----	----	27-JUL-2009	13-JUL-2009	✗
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved BH06_1.4-1.5	06-JUL-2009	27-JUL-2009	03-AUG-2009	✓	27-JUL-2009	02-JAN-2010	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved BH06_1.4-1.5	06-JUL-2009	27-JUL-2009	03-AUG-2009	✓	27-JUL-2009	03-AUG-2009	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved BH06_1.4-1.5	06-JUL-2009	27-JUL-2009	20-JUL-2009	✗	28-JUL-2009	05-SEP-2009	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved BH06_1.4-1.5	06-JUL-2009	27-JUL-2009	20-JUL-2009	✗	28-JUL-2009	05-SEP-2009	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved BH06_1.4-1.5	06-JUL-2009	27-JUL-2009	20-JUL-2009	✗	28-JUL-2009	05-SEP-2009	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved BH06_1.4-1.5	06-JUL-2009	27-JUL-2009	20-JUL-2009	✗	28-JUL-2009	05-SEP-2009	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved BH06_1.4-1.5	06-JUL-2009	27-JUL-2009	20-JUL-2009	✗	28-JUL-2009	05-SEP-2009	✓

Page : 3 of 8
 Work Order : ES0910949
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : S3017805 DKPC DRILLING



Matrix: **SOIL**

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

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved BH06_1.4-1.5	06-JUL-2009	27-JUL-2009	20-JUL-2009	✖	27-JUL-2009	20-JUL-2009	✖
Soil Glass Jar - Unpreserved BH06_1.4-1.5	06-JUL-2009	27-JUL-2009	20-JUL-2009	✖	28-JUL-2009	05-SEP-2009	✔
EP080: BTEX							
Soil Glass Jar - Unpreserved BH06_1.4-1.5	06-JUL-2009	27-JUL-2009	20-JUL-2009	✖	27-JUL-2009	20-JUL-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	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	2	12	16.7	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	8	12.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	5	20.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	5	20.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	11	18.2	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	13	15.4	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	14	14.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	12	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	8	12.5	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	5	20.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	5	20.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	11	9.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	13	7.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	14	7.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	12	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	8	12.5	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	5	20.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	5	20.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	11	9.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	13	7.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	14	7.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	12	8.3	5.0	✓	ALS QCS3 requirement
Pesticides by GCMS	EP068	1	8	12.5	5.0	✓	ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	5	20.0	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	5	20.0	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	11	9.1	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	13	7.7	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	14	7.1	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)
Asbestos Identification in bulk solids	* EA200	SOIL	AS 4964 - 2004 Method for the qualitative identification of asbestos in bulk samples
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 504)
Pesticides by GCMS	EP068	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (1999) Schedule B(3) (Method 504,505)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option A - Concentrating)	ORG17A	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na ₂ SO ₄ and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

Page : 6 of 8
Work Order : ES0910949
Client : ENSR AUSTRALIA PTY LIMITED
Project : S3017805 DKPC DRILLING



Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.



Summary of Outliers

Outliers : Quality Control Samples

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

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP068A: Organochlorine Pesticides (OC)	1208218-002	----	trans-Chlordane	5103-74-2	124 %	60.7-113%	Recovery greater than upper control limit
Matrix Spike (MS) Recoveries							
EP068A: Organochlorine Pesticides (OC)	ES0910828-001	Anonymous	Heptachlor	76-44-8	108 %	72.2-106.71 %	Recovery greater than upper data quality objective
EP068A: Organochlorine Pesticides (OC)	ES0910828-001	Anonymous	Endrin	72-20-8	128 %	68.51-119.47 %	Recovery greater than upper data quality objective
EP068B: Organophosphorus Pesticides (OP)	ES0910828-001	Anonymous	Diazinon	333-41-5	110 %	75.85-107.06 %	Recovery greater than upper data quality objective
EP068B: Organophosphorus Pesticides (OP)	ES0910828-001	Anonymous	Pirimphos-ethyl	23505-41-1	117 %	67.98-109.42 %	Recovery greater than upper data quality objective
EP068B: Organophosphorus Pesticides (OP)	ES0910828-001	Anonymous	Bromophos-ethyl	4824-78-6	108 %	74.94-107.37 %	Recovery greater than upper data quality objective

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

Regular Sample Surrogates

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

Outliers : Analysis Holding Time Compliance

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

Matrix: **SOIL**

Method	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA055: Moisture Content						
Soil Glass Jar - Unpreserved BH06_1.4-1.5	----	----	----	27-JUL-2009	13-JUL-2009	14
EP066: Polychlorinated Biphenyls (PCB)						
Soil Glass Jar - Unpreserved BH06_1.4-1.5	27-JUL-2009	20-JUL-2009	7	----	----	----
EP068A: Organochlorine Pesticides (OC)						



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
EP068A: Organochlorine Pesticides (OC) - Analysis Holding Time Compliance						
Soil Glass Jar - Unpreserved BH06_1.4-1.5	27-JUL-2009	20-JUL-2009	7	----	----	----
EP068B: Organophosphorus Pesticides (OP)						
Soil Glass Jar - Unpreserved BH06_1.4-1.5	27-JUL-2009	20-JUL-2009	7	----	----	----
EP075(SIM)A: Phenolic Compounds						
Soil Glass Jar - Unpreserved BH06_1.4-1.5	27-JUL-2009	20-JUL-2009	7	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
Soil Glass Jar - Unpreserved BH06_1.4-1.5	27-JUL-2009	20-JUL-2009	7	----	----	----
EP080/071: Total Petroleum Hydrocarbons						
Soil Glass Jar - Unpreserved BH06_1.4-1.5	27-JUL-2009	20-JUL-2009	7	27-JUL-2009	20-JUL-2009	7
Soil Glass Jar - Unpreserved BH06_1.4-1.5	27-JUL-2009	20-JUL-2009	7	----	----	----
EP080: BTEX						
Soil Glass Jar - Unpreserved BH06_1.4-1.5	27-JUL-2009	20-JUL-2009	7	27-JUL-2009	20-JUL-2009	7

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.



Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: ES0911066	Page	: 1 of 7
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 DKPC-DRILLING REBATCH OF ES0909983	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: REBATCH OF ES0909983	Date Samples Received	: 28-JUL-2009
C-O-C number	: ----	Issue Date	: 04-AUG-2009
Sampler	: KD	No. of samples received	: 1
Site	: ----	No. of samples analysed	: 1
Quote number	: SY/330/09 V3		

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.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics

Environmental Division Sydney

Part of the **ALS Laboratory Group**

277-289 Woodpark Road Smithfield NSW Australia 2164

Tel. +61-2-8784 8555 Fax. +61-2-8784 8500 www.alsglobal.com

A Campbell Brothers Limited Company



General Comments

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

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

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

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

When 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

- **EG005T: Poor precision was obtained for Nickel on sample ES0910969001 due to sample heterogeneity. Results have been confirmed by re-extraction and reanalysis.**



Analytical Results

Sub-Matrix: **SOIL**

Client sample ID

Client sampling date / time

				BH10_1.0-1.1	----	----	----	----
				06-JUL-2009 15:00	----	----	----	----
<i>Compound</i>	<i>CAS Number</i>	<i>LOR</i>	<i>Unit</i>	ES0911066-001	----	----	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	11.7	----	----	----	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	22	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	3	----	----	----	----
Chromium	7440-47-3	2	mg/kg	35	----	----	----	----
Copper	7440-50-8	5	mg/kg	3300	----	----	----	----
Lead	7439-92-1	5	mg/kg	1080	----	----	----	----
Nickel	7440-02-0	2	mg/kg	11	----	----	----	----
Zinc	7440-66-6	5	mg/kg	537	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.1	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.10	mg/kg	0.23	----	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	----	----
4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	----	----
4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	----	----
4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	----	----	----



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				BH10_1.0-1.1	----	----	----	----
				06-JUL-2009 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES0911066-001	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued								
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	----	----	----
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	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	----	----	----	----



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				BH10_1.0-1.1	----	----	----	----
				06-JUL-2009 15:00	----	----	----	----
<i>Compound</i>	<i>CAS Number</i>	<i>LOR</i>	<i>Unit</i>	ES0911066-001	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	----	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	----	----	----	----
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	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	119	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	121	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	124	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	102	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	111	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.1	%	119	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	88.9	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	92.4	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	83.0	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	95.7	----	----	----	----



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				BH10_1.0-1.1	----	----	----	----
				06-JUL-2009 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES0911066-001	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued								
Toluene-D8	2037-26-5	0.1	%	105	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	97.5	----	----	----	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	164
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	136
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	10	136
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



Environmental Division

QUALITY CONTROL REPORT

Work Order	: ES0911066	Page	: 1 of 10
Client	: ENSR AUSTRALIA PTY LIMITED	Laboratory	: Environmental Division Sydney
Contact	: MR CHRISTIANN DONNETTI	Contact	: Charlie Pierce
Address	: LEVEL 5, 828 PACIFIC HIGHWAY GORDON NSW, AUSTRALIA 2072	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: christiaan.donnetti@aecom.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +61 02 8484 8999	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 8484 8989	Facsimile	: +61-2-8784 8500
Project	: S3017805 DKPC-DRILLING REBATCH OF ES0909983	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----	Date Samples Received	: 28-JUL-2009
C-O-C number	: ----	Issue Date	: 04-AUG-2009
Sampler	: KD	No. of samples received	: 1
Order number	: REBATCH OF ES0909983	No. of samples analysed	: 1
Quote number	: SY/330/09 V3		

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.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics

Environmental Division Sydney

Part of the **ALS Laboratory Group**

277-289 Woodpark Road Smithfield NSW Australia 2164

Tel. +61-2-8784 8555 Fax. +61-2-8784 8500 www.alsglobal.com

A Campbell Brothers Limited Company



General Comments

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

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

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

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

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



Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA055: Moisture Content (QC Lot: 1052904)									
EP0904096-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	22.9	23.8	3.7	0% - 20%
ES0911023-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	7.8	7.8	0.0	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 1054501)									
ES0910969-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	251	253	0.5	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	40	52	# 24.3	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	11	12	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	72	85	16.0	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	89	104	15.8	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	112	129	13.8	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1054502)									
ES0910969-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	<0.1	87.7	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 1052860)									
ES0911066-001	BH10_1.0-1.1	EP066: Total Polychlorinated biphenyls	----	0.10	mg/kg	0.23	0.25	9.5	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1052859)									
ES0911066-001	BH10_1.0-1.1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4,4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 1052859) - continued									
ES0911066-001	BH10_1.0-1.1	EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 1052859)									
ES0911066-001	BH10_1.0-1.1	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 1052895)									
ES0911066-001	BH10_1.0-1.1	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)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1052895)									
ES0911066-001	BH10_1.0-1.1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1052895) - continued									
ES0911066-001	BH10_1.0-1.1	EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1052841)									
ES0911066-001	BH10_1.0-1.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1052894)									
ES0911066-001	BH10_1.0-1.1	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEX (QC Lot: 1052841)									
ES0911066-001	BH10_1.0-1.1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit



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

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005T: Total Metals by ICP-AES (QCLot: 1054501)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.1 mg/kg	107	90.1	124
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	104	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.9 mg/kg	100	89.2	117
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.7 mg/kg	102	90.1	114
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.2 mg/kg	105	85.2	111
EG005T: Nickel	7440-02-0	2	mg/kg	<2	54.8 mg/kg	102	88.3	116
EG005T: Zinc	7440-66-6	5	mg/kg	<5	104 mg/kg	104	81.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1054502)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	83.1	67	118
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1052860)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.10	0.5 mg/kg	82.0	57.4	117
EP068A: Organochlorine Pesticides (OC) (QCLot: 1052859)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.25 mg/kg	80.6	60.8	116
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.25 mg/kg	91.5	59.4	115
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.25 mg/kg	82.5	59.8	117
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.25 mg/kg	80.1	59.8	118
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.25 mg/kg	83.4	65.8	114
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.25 mg/kg	93.3	65.6	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.25 mg/kg	84.8	67	113
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.25 mg/kg	100	65.6	113
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.25 mg/kg	# 118	60.7	113
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.25 mg/kg	78.8	65.8	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.25 mg/kg	88.4	57.3	120
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.25 mg/kg	88.3	67.4	116
EP068: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.25 mg/kg	85.4	67.5	114
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.25 mg/kg	91.0	63	121
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.25 mg/kg	79.2	66.1	117
EP068: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.25 mg/kg	88.8	65.3	116
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.25 mg/kg	95.9	57.3	115
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.25 mg/kg	81.5	63.6	119
EP068: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.25 mg/kg	80.2	58.4	127
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.25 mg/kg	93.1	63.6	117
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.25 mg/kg	89.7	50.4	132
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1052859)								



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
						LCS	Low	High
Method: Compound	CAS Number	LOR	Unit	Result				
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1052859) - continued								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.25 mg/kg	69.6	25.5	124
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.25 mg/kg	73.9	10.1	159
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.25 mg/kg	77.9	2.88	149
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.25 mg/kg	81.0	48.6	126
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.25 mg/kg	92.7	64.9	111
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.25 mg/kg	88.7	65.1	111
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.25 mg/kg	85.9	61.4	113
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.25 mg/kg	90.3	60.4	127
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.25 mg/kg	98.7	64.7	110
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.25 mg/kg	85.8	64.2	111
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.25 mg/kg	84.0	60	116
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.25 mg/kg	109	64.8	111
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.25 mg/kg	79.5	61.4	123
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.25 mg/kg	94.8	64.3	114
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.25 mg/kg	91.8	45.5	128
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.25 mg/kg	91.4	65.4	111
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.25 mg/kg	104	62	116
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.25 mg/kg	77.2	59.5	119
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.25 mg/kg	78.2	29.8	137
EP075(SIM)A: Phenolic Compounds (QCLot: 1052895)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	4 mg/kg	100	73.9	115
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	4 mg/kg	92.6	80.2	115
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	4 mg/kg	95.5	76.8	114
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	8 mg/kg	106	72	119
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	4 mg/kg	94.0	60.3	117
EP075(SIM): 2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	4 mg/kg	90.7	74.5	119
EP075(SIM): 2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	4 mg/kg	86.6	71.6	113
EP075(SIM): 2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	4 mg/kg	86.0	74.8	115
EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	4 mg/kg	97.4	76.4	114
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	4 mg/kg	77.1	62.2	115
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	4 mg/kg	73.9	68.9	112
EP075(SIM): Pentachlorophenol	87-86-5	1.0	mg/kg	<1.0	8 mg/kg	19.3	1.23	91.6
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1052895)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	90.1	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	84.7	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	# 79.5	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	80.1	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	108	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	82.9	81.1	112



Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1052895) - continued								
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	82.5	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	86.6	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	# 76.5	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	84.0	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	75.0	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	91.3	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	105	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	# 70.9	71	113
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	77.1	71.7	113
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	# 71.5	72.4	114
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1052841)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	84.4	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1052894)								
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	89.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	80.0	72.6	117
EP080: BTEX (QCLot: 1052841)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	83.5	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	86.5	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	89.5	65.3	126
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	90.8	66.5	124
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	91.2	66.7	123



Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
					MS	Low	High
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number				
EG005T: Total Metals by ICP-AES (QCLot: 1054501)							
ES0910969-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	76.4	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	75.8	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	# Not Determined	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	121	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	77.6	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	118	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	96.8	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1054502)							
ES0910969-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	72.9	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 1052860)							
ES0911066-001	BH10_1.0-1.1	EP066: Total Polychlorinated biphenyls	----	0.5 mg/kg	103	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 1052859)							
ES0911066-001	BH10_1.0-1.1	EP068: gamma-BHC	58-89-9	0.25 mg/kg	83.3	75.65	110.44
		EP068: Heptachlor	76-44-8	0.25 mg/kg	99.6	72.2	106.71
		EP068: Aldrin	309-00-2	0.25 mg/kg	# 69.2	77.54	107.0
		EP068: Dieldrin	60-57-1	0.25 mg/kg	91.0	76.37	109.7
		EP068: Endrin	72-20-8	1 mg/kg	97.3	68.51	119.47
		EP068: 4.4`-DDT	50-29-3	1 mg/kg	# 65.9	67.12	118.10
EP068B: Organophosphorus Pesticides (OP) (QCLot: 1052859)							
ES0911066-001	BH10_1.0-1.1	EP068: Diazinon	333-41-5	0.25 mg/kg	98.0	75.85	107.06
		EP068: Chlorpyrifos-methyl	5598-13-0	0.25 mg/kg	91.6	74.84	107.91
		EP068: Pirimphos-ethyl	23505-41-1	0.25 mg/kg	# 111	67.98	109.42
		EP068: Bromophos-ethyl	4824-78-6	0.25 mg/kg	# 111	74.94	107.37
		EP068: Prothiofos	34643-46-4	0.25 mg/kg	96.3	75.45	106.05
EP075(SIM)A: Phenolic Compounds (QCLot: 1052895)							
ES0911066-001	BH10_1.0-1.1	EP075(SIM): Phenol	108-95-2	10 mg/kg	92.1	70	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	95.3	70	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	93.2	60	130
		EP075(SIM): 4-Chloro-3-Methylphenol	59-50-7	10 mg/kg	75.5	70	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	45.3	20	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1052895)							
ES0911066-001	BH10_1.0-1.1	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	73.6	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	# 65.6	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1052841)							

Page : 10 of 10
 Work Order : ES0911066
 Client : ENSR AUSTRALIA PTY LIMITED
 Project : S3017805 DKPC-DRILLING REBATCH OF ES0909983



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report		
				Spike Concentration	Spike Recovery (%) MS	Recovery Limits (%) LowHigh
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number			
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1052841) - continued						
ES0911066-001	BH10_1.0-1.1	EP080: C6 - C9 Fraction	----	26 mg/kg	80.1	70130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1052894)						
ES0911066-001	BH10_1.0-1.1	EP071: C10 - C14 Fraction	----	640 mg/kg	97.2	70130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	96.4	70130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	89.5	70130
EP080: BTEX (QCLot: 1052841)						
ES0911066-001	BH10_1.0-1.1	EP080: Benzene	71-43-2	2.5 mg/kg	74.9	70130
		EP080: Toluene	108-88-3	2.5 mg/kg	82.7	70130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	82.4	70130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	84.4	70130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	85.8	70130



Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: ES0911066	Page	: 1 of 8
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 DKPC-DRILLING REBATCH OF ES0909983	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 28-JUL-2009
Sampler	: KD	Issue Date	: 04-AUG-2009
Order number	: REBATCH OF ES0909983		
Quote number	: SY/330/09 V3	No. of samples received	: 1
		No. of samples analysed	: 1

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

Environmental Division Sydney

Part of the **ALS Laboratory Group**

277-289 Woodpark Road Smithfield NSW Australia 2164

Tel. +61-2-8784 8555 Fax. +61-2-8784 8500 www.alsglobal.com

A Campbell Brothers Limited Company



Analysis Holding Time Compliance

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

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

Matrix: **SOIL**

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

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved BH10_1.0-1.1	06-JUL-2009	----	----	----	28-JUL-2009	13-JUL-2009	✖
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved BH10_1.0-1.1	06-JUL-2009	30-JUL-2009	03-AUG-2009	✓	30-JUL-2009	02-JAN-2010	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved BH10_1.0-1.1	06-JUL-2009	30-JUL-2009	03-AUG-2009	✓	30-JUL-2009	03-AUG-2009	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved BH10_1.0-1.1	06-JUL-2009	28-JUL-2009	20-JUL-2009	✖	29-JUL-2009	06-SEP-2009	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved BH10_1.0-1.1	06-JUL-2009	28-JUL-2009	20-JUL-2009	✖	29-JUL-2009	06-SEP-2009	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved BH10_1.0-1.1	06-JUL-2009	28-JUL-2009	20-JUL-2009	✖	29-JUL-2009	06-SEP-2009	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved BH10_1.0-1.1	06-JUL-2009	28-JUL-2009	20-JUL-2009	✖	29-JUL-2009	06-SEP-2009	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved BH10_1.0-1.1	06-JUL-2009	28-JUL-2009	20-JUL-2009	✖	29-JUL-2009	06-SEP-2009	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved BH10_1.0-1.1	06-JUL-2009	28-JUL-2009	20-JUL-2009	✖	28-JUL-2009	20-JUL-2009	✖
Soil Glass Jar - Unpreserved BH10_1.0-1.1	06-JUL-2009	28-JUL-2009	20-JUL-2009	✖	29-JUL-2009	06-SEP-2009	✓



Matrix: **SOIL**

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

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEX							
Soil Glass Jar - Unpreserved	06-JUL-2009	28-JUL-2009	20-JUL-2009	✖	28-JUL-2009	20-JUL-2009	✖
BH10_1.0-1.1							



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	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	1	100.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	1	100.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	1	100.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	9	11.1	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	10	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	1	100.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	1	100.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	1	100.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	1	100.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	1	100.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	9	11.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	1	100.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	1	100.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	1	100.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	1	100.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	1	100.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	9	11.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	1	100.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	1	100.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	1	100.0	5.0	✓	ALS QCS3 requirement
Pesticides by GCMS	EP068	1	1	100.0	5.0	✓	ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	1	100.0	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	9	11.1	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	10	10.0	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	1	100.0	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	1	100.0	5.0	✓	ALS QCS3 requirement



Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (1999) Schedule B(3) (Method 102)
Total Metals by ICP-AES	EG005T	SOIL	(APHA 21st ed., 3120; USEPA SW 846 - 6010) (ICPAES) Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (1999) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 504)
Pesticides by GCMS	EP068	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (1999) Schedule B(3) (Method 504,505)
TPH - Semivolatile Fraction	EP071	SOIL	(USEPA SW 846 - 8015A) Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C36. This method is compliant with NEPM (1999) Schedule B(3) (Method 506.1)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 502 and 507)
TPH Volatiles/BTEX	EP080	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 501)
Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	USEPA 200.2 Mod. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (1999) Schedule B(3) (Method 202)
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids (Option A - Concentrating)	ORG17A	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na ₂ SO ₄ and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

Page : 6 of 8
Work Order : ES0911066
Client : ENSR AUSTRALIA PTY LIMITED
Project : S3017805 DKPC-DRILLING REBATCH OF ES0909983



Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids (Option B - Non-concentrating)	ORG17B	SOIL	In-house, Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 20mL 1:1 DCM/Acetone by end over end tumble. The solvent is transferred directly to a GC vial for analysis.



Summary of Outliers

Outliers : Quality Control Samples

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

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005T: Total Metals by ICP-AES	ES0910969-001	Anonymous	Nickel	7440-02-0	24.3 %	0-20%	RPD exceeds LOR based limits
Laboratory Control Spike (LCS) Recoveries							
EP068A: Organochlorine Pesticides (OC)	1210416-002	----	trans-Chlordane	5103-74-2	118 %	60.7-113%	Recovery greater than upper control limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1210458-007	----	Acenaphthene	83-32-9	79.5 %	81.5-112%	Recovery less than lower control limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1210458-007	----	Benz(a)anthracene	56-55-3	76.5 %	77.2-112%	Recovery less than lower control limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1210458-007	----	Indeno(1.2.3.cd)pyrene	193-39-5	70.9 %	71-113%	Recovery less than lower control limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1210458-007	----	Benzo(g,h,i)perylene	191-24-2	71.5 %	72.4-114%	Recovery less than lower control limit
Matrix Spike (MS) Recoveries							
EG005T: Total Metals by ICP-AES	ES0910969-001	Anonymous	Chromium	7440-47-3	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP068A: Organochlorine Pesticides (OC)	ES0911066-001	BH10_1.0-1.1	Aldrin	309-00-2	69.2 %	77.54-107.0 %	Recovery less than lower data quality objective
EP068A: Organochlorine Pesticides (OC)	ES0911066-001	BH10_1.0-1.1	4,4'-DDT	50-29-3	65.9 %	67.12-118.10 %	Recovery less than lower data quality objective
EP068B: Organophosphorus Pesticides (OP)	ES0911066-001	BH10_1.0-1.1	Pirimphos-ethyl	23505-41-1	111 %	67.98-109.42 %	Recovery greater than upper data quality objective
EP068B: Organophosphorus Pesticides (OP)	ES0911066-001	BH10_1.0-1.1	Bromophos-ethyl	4824-78-6	111 %	74.94-107.37 %	Recovery greater than upper data quality objective
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	ES0911066-001	BH10_1.0-1.1	Pyrene	129-00-0	65.6 %	70-130%	Recovery less than lower data quality objective

- For all matrices, no Method Blank value outliers occur.

Regular Sample Surrogates

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

Outliers : Analysis Holding Time Compliance

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

Matrix: **SOIL**

Method	Extraction / Preparation	Analysis
--------	--------------------------	----------



Matrix: **SOIL**

Container / Client Sample ID(s)	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA055: Moisture Content						
Soil Glass Jar - Unpreserved BH10_1.0-1.1	----	----	----	28-JUL-2009	13-JUL-2009	15
EP066: Polychlorinated Biphenyls (PCB)						
Soil Glass Jar - Unpreserved BH10_1.0-1.1	28-JUL-2009	20-JUL-2009	8	----	----	----
EP068A: Organochlorine Pesticides (OC)						
Soil Glass Jar - Unpreserved BH10_1.0-1.1	28-JUL-2009	20-JUL-2009	8	----	----	----
EP068B: Organophosphorus Pesticides (OP)						
Soil Glass Jar - Unpreserved BH10_1.0-1.1	28-JUL-2009	20-JUL-2009	8	----	----	----
EP075(SIM)A: Phenolic Compounds						
Soil Glass Jar - Unpreserved BH10_1.0-1.1	28-JUL-2009	20-JUL-2009	8	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
Soil Glass Jar - Unpreserved BH10_1.0-1.1	28-JUL-2009	20-JUL-2009	8	----	----	----
EP080/071: Total Petroleum Hydrocarbons						
Soil Glass Jar - Unpreserved BH10_1.0-1.1	28-JUL-2009	20-JUL-2009	8	28-JUL-2009	20-JUL-2009	8
Soil Glass Jar - Unpreserved BH10_1.0-1.1	28-JUL-2009	20-JUL-2009	8	----	----	----
EP080: BTEX						
Soil Glass Jar - Unpreserved BH10_1.0-1.1	28-JUL-2009	20-JUL-2009	8	28-JUL-2009	20-JUL-2009	8

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.

Worldwide Locations

Australia	+61-2-8484-8999
Azerbaijan	+994 12 4975881
Belgium	+32-3-540-95-86
Bolivia	+591-3-354-8564
Brazil	+55-21-3526-8160
China	+86-20-8130-3737
England	+44 1928-726006
France	+33(0)1 48 42 59 53
Germany	+49-631-341-13-62
Ireland	+353 1631 9356
Italy	+39-02-3180 77 1
Japan	+813-3541 5926
Malaysia	+603-7725-0380
Netherlands	+31 10 2120 744
Philippines	+632 910 6226
Scotland	+44 (0) 1224-624624
Singapore	+65 6295 5752
Thailand	+662 642 6161
Turkey	+90-312-428-3667
United States	+1 978-589-3200
Venezuela	+58-212-762-63 39

Australian Locations

Adelaide
Brisbane
Canberra
Darwin
Melbourne
Newcastle
Perth
Sydney
Singleton

www.aecom.com

About AECOM

AECOM is a leading global environmental firm serving industrial clients and government agencies with 2,600 employees from 90 worldwide offices. AECOM serves clients from nine locations throughout the country. Providing comprehensive consulting, engineering, remediation, and environmental health and safety (EHS) management and sustainability solutions, AECOM is the recipient of numerous industry, client EHS, business achievement and organizational innovation awards. For more information, please visit: www.aecom.com

Australian Locations

Adelaide
Brisbane
Canberra
Darwin
Mackay
Melbourne
Newcastle
Singleton
Sydney