URS

DATA VALIDATION SUMMARY

Note: Data validation assesses each analyte in terms of all the data validation variables and only the exceedances and outliers are reported in this form.

Project Name:	Costco Australia Pty Ltd Combined Phase I & II	**Project/Task Number:**	43217997
Primary Laboratory:	ALS	**Batch/Ref. Number(s):**	ES0908613
Secondary Laboratory:	Envirolab		29828
Date Sampled:	14/06/2009	**Sample Type:**	Soil

Sample Handling, Receipt and Holding Times	**Yes/No**	**Comments**
COC completed adequately	No	Sample SB21_0.8_14/6/09 not listed on COC and bottles supplied to ALS for RB and FB not noted
All requested analysis conducted	Yes	
Samples received intact and chilled	Yes	Random Sample Temp 1.2^{0}C, Security seal (ALS) not intact
Samples analysed within appropriate holding times per analytical methods.	Yes	
Samples volumes sufficient for QC analysis?	Yes	
Are there any non-NATA accredited methods used?	No	
Have chromatograms for positive TPH been supplied?	No	Not required as TPH concentrations below detection limits
Laboratory reports signed by an authorised person	Yes	

# of Primary Samples	**# of QAQC Samples**	**# of Duplicate Samples**	**# of Triplicate Samples**
13	2	1	1

Method Blank (MB), Rinsate Blank (RB), Trip Blank (TB), Field Blank (FB)

Type	**Comments**
MB, RB (QC504), TB (QC704)	Method blank and Trip Blank (QC704) have acceptable results less than the limits of reporting. Detections of Cadimium (0.006mg/L) and Zinc (0.0024 mg/L) were reported for (QC504)

Laboratory Control Samples (LCS)

Analyte	**Comments**
	All the laboratory control samples have acceptable results within laboratory control limits in both ALS and Envirolab batches

Matrix Spike (MS)

Analyte	**Comments**
Soil (ALS)	All MS control samples have acceptable results within laboratory control limits
Water (ALS)	Matrix Spike recoveries were conducted on Non URS samples. All MS control samples conducted on URS samples have acceptable results within laboratory control limits
Envirolab	All recoveries were within control limits

Trip Spike /Control Trip Spike

Analyte	**Comments**
NA	

Duplicates

Laboratory Duplicates	**Comments**
Analyte	
Soil (ALS)	All laboratory duplicates recoveries were conducted on URS samples from this batch. All LD control samples have acceptable results within laboratory control limits
Water (ALS)	All LD recoveries were conducted on non URS samples. All LD control samples have acceptable results within laboratory control limits
Envirolab	LD not reported for inter-laboratory results

Intra-Laboratory Duplicates	**Comments**
Analyte	
SB09_2.8/QC105	RPDs are within acceptable recovery limits

Inter-Laboratory Duplicates	**Comments**
Analyte	
SB09_2.8/QC205	RPDs are within acceptable recovery limits

Surrogate Monitoring Compound Analyses

Analyte	**Comments**
TPH/BTEX	Soil surrogate recovery of 1,2-Dichloroethane-D4 (121%) is greater than upper recovery limit of 120%. Water surrogate recovery of Toluene-D8 (87.8%) is below the lower recovery limit of 88%. Surrogates recoveries in Envirolab batch are within acceptable recovery limits

Overall Comments

Zinc and Cadmium results for sample QC504 confirmed by re-digestion and reanalysis. Detection of Zinc and cadmium above the LOR in QC504 should not effect the overall data quality as there are results for Cadmium and Zinc for samples collected on the same day that are below detection limits

Level of reporting raised for toluene due to ambient background levels in the laboratory

Surrogate exceedances are only marginal so should not affect the overall data quality of this batch

Note that eskies were received with security seals not intact. This was because the eskies were hand delivered to ALS by sampler

Envirolab note: Duplicate and matrix samples recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the sample batch were within laboratory acceptance criteria

Data for this batch is considered suitable for environmental interpretative use.

Performed By:	H. Marshall	Reviewed By:	K. Basso
Date:	10-Jul-09	Date:	17-Aug-09

Costco Australia Pty Ltd - Combined Phase I and II - 43217997
Batch ES0908613

Location	SB09-2.8-14/06/09	SB09-2.8-14/06/09	SB09-2.8-14/06/09
Sample ID	SB09-2.8-14/06/09	QC105-14/06/09	QC205-14/06/09
Date Sampled	14/06/2009	14/06/2009	14/06/2009
Sample Type	**Primary**	**Secondary**	**Tertiary**

Analyte	LOR1	LOR2	LOR3	Units				Primary vs. Duplicate	Primary vs. Triplicate	Category1	Category2
Benzene	0.2	0.2	0.5	mg/kg	< 0.2	< 0.2	< 0.2	NC	NC	NC	NC
o-Xylene	0.5	0.5	1	mg/kg	< 0.5	< 0.5	< 0.5	NC	NC	NC	NC
Arsenic	5	5	-	mg/kg	< 5	5	<4	0.00%	NC	Pass	NC
Cadmium	1	1	0.5	mg/kg	< 1	< 1	<0.5	NC	NC	NC	NC
Chromium	2	2	-	mg/kg	6	7	3	15.39%	66.66%	Pass	Pass-1
Copper	5	5	-	mg/kg	< 5	10	3	66.67%	50.00%	Pass-1	Pass-1
Lead	5	5	-	mg/kg	6	8	4	28.57%	40.00%	Pass	Pass-1
Mercury	0.1	0.1	0.1	mg/kg	< 0.1	< 0.1	<0.1	NC	NC	NC	NC
Nickel	2	2	-	mg/kg	< 2	< 2	<1	NC	NC	NC	NC
Zinc	5	5	-	mg/kg	< 5	< 5	2	NC	85.71%	NC	Pass-1
Acenaphthene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.1	NC	NC	NC	NC
Acenaphthylene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.1	NC	NC	NC	NC
Anthracene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.1	NC	NC	NC	NC
Benzo(a)anthracene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.1	NC	NC	NC	NC
Benzo(a)pyrene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.05	NC	NC	NC	NC
Benzo(b)fluoranthene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.2	NC	NC	NC	NC
Benzo(g,h,i)perylene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.1	NC	NC	NC	NC
Benzo(k)fluoranthene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.1	NC	NC	NC	NC
Chrysene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.1	NC	NC	NC	NC
Dibenzo(a,h)anthracene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.1	NC	NC	NC	NC
Fluoranthene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.1	NC	NC	NC	NC
Fluorene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.1	NC	NC	NC	NC
Indeno(1,2,3,cd)pyrene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.1	NC	NC	NC	NC
Naphthalene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.1	NC	NC	NC	NC
Phenanthrene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.1	NC	NC	NC	NC
Pyrene	0.5	0.5	0.1	mg/kg	< 0.5	< 0.5	<0.1	NC	NC	NC	NC
C10-C14 fraction	50	50	50	mg/kg	< 50	< 50	< 50	NC	NC	NC	NC
C15-C28 fraction	100	100	100	mg/kg	< 100	< 100	< 100	NC	NC	NC	NC
C29-C36 fraction	100	100	100	mg/kg	< 100	< 100	< 100	NC	NC	NC	NC
C6-C9 fraction	10	10	25	mg/kg	< 10	< 10	< 10	NC	NC	NC	NC

Pass RPD <= 30%
Pass-1 RPD > 30%, Analysis result < 10 times LOR
Pass-2 RPD <= 50%, Analysis result > 10 times LOR and < 20 times LOR
NC - Not Calculated

Data Validation ES0908613.xls
Prepared by:HM
Checked by:KB

URS

DATA VALIDATION SUMMARY

Note: Data validation assesses each analyte in terms of all the data validation variables and only the exceedances and outliers are reported in this form.

Project Name:	Costco Australia Pty Ltd Combined Phase I & II	**Project/Task Number:**	43217997
Primary Laboratory:	ALS	**Batch/Ref. Number(s):**	ES0908616
Secondary Laboratory:			
Date Sampled:	29/05/2009	**Sample Type:**	Soil

Sample Handling, Receipt and Holding Times	**Yes/No**	**Comments**
COC completed adequately	No	Time of sample collection not recorded and bottles supplied to ALS for RB and FB not noted
All requested analysis conducted	Yes	
Samples received intact and chilled	Yes	Random Sample Temp 1.6^{0}C
Samples analysed within appropriate holding times per analytical methods.	Yes	
Samples volumes sufficient for QC analysis?	Yes	
Are there any non-NATA accredited methods used?	No	
Have chromatograms for positive TPH been supplied?	No	
Laboratory reports signed by an authorised person	Yes	

# of Primary Samples	**# of QAQC Samples**	**# of Duplicate Samples**	**# of Triplicate Samples**
5	2	1	0

Method Blank (MB), Rinsate Blank (RB), Trip Blank (TB), Field Blank (FB)

Type	**Comments**
MB, RB (QC503), TB (QC703)	All blanks have acceptable results less than the limits of reporting.

Laboratory Control Samples (LCS)

Analyte	**Comments**
Metals	Recovery of Copper (115%) is greater then the upper control limit (114%)
	All the other laboratory control samples have acceptable results within laboratory control limits

Matrix Spike (MS)

Analyte	**Comments**
Soil	Matrix Spike recoveries were conducted on Non URS samples for PAHs, TPH, BTEX. All MS control samples have acceptable results within laboratory control limits
Water	Matrix Spike recoveries were conducted on Non URS samples for PAHs, TPH, BTEX. All MS control samples have acceptable results within laboratory control limits

Trip Spike /Control Trip Spike

Analyte	**Comments**
NA	

Duplicates

Laboratory Duplicates	**Comments**
Analyte	
Soil	All laboratory duplicates recoveries were conducted on URS samples from this batch with the exception of Moisture Content, TPH (C10-C36) and PAHs. All LD control samples have acceptable results within laboratory control limits
Water	All LD recoveries were conducted on non URS samples with the exception of metals. All LD control samples have acceptable results within laboratory control limits

Intra-Laboratory Duplicates	**Comments**
Analyte	
SB13_3.0_30/05/09	All RPD recoveries are within control limits
QC104-13/06/09	

Inter-Laboratory Duplicates	**Comments**
Analyte	
NA	

Surrogate Monitoring Compound Analyses

Analyte	**Comments**
	All Surrogate recoveries within laboratory control limits

Overall Comments

LCS recovery for copper falls outside ALS Dynamic Control Limit. However, they are within the acceptance criteria based on ALS DQO. No further action required
Level of reporting raised for toluene due to ambient background levels in the laboratory

The entire 500mL is required for PAH/PHENOL and TPH semi-volatile determination. Additional sample bottles for laboratory analysis duplicates and matrix spikes. These quality control parameters can not be reported when insuffience sample is provided

Poor precision as obtained for some elements on sample SB10-1.0-13/06/09 due to sample heterogeneity

Data for this batch is considered suitable for environmental intepretative use.

Performed By:	H. Marshall	Reviewed By:	Matt James
Date:	10-Jul-09	Date:	14-Aug-09

Costco Australia Pty Ltd - Combined Phase I and II - 43217997

Batch ES0908616

Location	SB13_3.0_30/05/09	
Sample ID	SB13_3.0_30/05/09	QC104-13/06/09
Date Sampled	30/05/2009	13/06/2009
Sample Type	**Primary**	**Secondary**

Analyte	LOR1	LOR2	Units			Primary vs. Duplicate	Category1
Benzene	0.2	0.2	mg/kg	< 0.2	< 0.2	NC	NC
o-Xylene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Toluene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Ethylbenzene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
M&P Xylene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Arsenic	5	5	mg/kg	< 5	< 5	NC	NC
Cadmium	1	1	mg/kg	< 1	< 1	NC	NC
Chromium	2	2	mg/kg	5	4	22.22%	Pass
Copper	5	5	mg/kg	9	47	135.71%	Pass-1
Lead	5	5	mg/kg	10	7	35.29%	Pass-1
Mercury	0.1	0.1	mg/kg	< 0.1	< 0.1	NC	NC
Nickel	2	2	mg/kg	< 2	< 2	NC	NC
Zinc	5	5	mg/kg	6	< 5	18.18%	Pass
Moisture Content	1	1	%	17.3	15.2	12.92%	Pass
Acenaphthene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Acenaphthylene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Anthracene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Benzo(a)anthracene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Benzo(a)pyrene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Benzo(b)fluoranthene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Benzo(g,h,i)perylene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Benzo(k)fluoranthene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Chrysene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Dibenzo(a,h)anthracene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Fluoranthene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Fluorene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Indeno(1,2,3,cd)pyrene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Naphthalene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Phenanthrene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Pyrene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
C10-C14 fraction	50	50	mg/kg	< 50	< 50	NC	NC
C15-C28 fraction	100	100	mg/kg	< 100	< 100	NC	NC
C29-C36 fraction	100	100	mg/kg	< 100	< 100	NC	NC
C6-C9 fraction	10	10	mg/kg	< 10	< 10	NC	NC

Pass RPD <= 30%
Pass-1 RPD > 30%, Analyis result < 10 times LOR
Pass-2 RPD <= 50%, Analysis result > 10 times LOR and < 20 times LOR
NC- Not Calculated

URS

DATA VALIDATION SUMMARY

Note: Data validation assesses each analyte in terms of all the data validation variables and only the exceedances and outliers are reported in this form.

Project Name:	Costco Australia Pty Ltd Combined Phase I & II	**Project/Task Number:**	43217997
Primary Laboratory:	ALS	**Batch/Ref. Number(s):**	ES0909782
Secondary Laboratory:			
Date Sampled:	4/07/2009	**Sample Type:**	Soil

Sample Handling, Receipt and Holding Times	**Yes/No**	**Comments**
COC completed adequately	No	Time of sample collection not recorded and bottles supplied to ALS for RB and FB not noted
All requested analysis conducted	Yes	
Samples received intact and chilled	Yes	Random Sample Temp 0.4^{0}C
Samples analysed within appropriate holding times per analytical methods.	Yes	
Samples volumes sufficient for QC analysis?	Yes	
Are there any non-NATA accredited methods used?	No	
Have chromatograms for positive TPH been supplied?	No	
Laboratory reports signed by an authorised person	Yes	

# of Primary Samples	**# of QAQC Samples**	**# of Duplicate Samples**	**# of Triplicate Samples**
6	2	1	0

Method Blank (MB), Rinsate Blank (RB), Trip Blank (TB), Field Blank (FB)

Type	**Comments**
MB, RB (QC505), TB (QC705)	Method blanks and Trip blanks have acceptable results less than the limits of reporting. Zinc was detected above LOR in QC505 (0.018 mg/L)

Laboratory Control Samples (LCS)

Analyte	**Comments**
	All the laboratory control samples have acceptable results within laboratory control limits

Matrix Spike (MS)

Analyte	**Comments**
Soil	All Matrix Spike recoveries were conducted on URS samples from this batch. All MS control samples have acceptable results within laboratory control limits
Water	All Matrix Spike recoveries were conducted on URS samples from this batch with the exception of BTEX. All MS control samples have acceptable results within laboratory control limits

Trip Spike /Control Trip Spike

Analyte	**Comments**
NA	

Duplicates

Laboratory Duplicates	**Comments**
Analyte	
Soil	All laboratory duplicates recoveries were conducted on URS samples from this batch with the exception of Hg. All LD control samples have acceptable results within laboratory control limits
Water	All LD recoveries were conducted on URS samples from this batch with the exception of BTEX and C6-C9. All LD control samples have acceptable results within laboratory control limits

Intra-Laboratory Duplicates	**Comments**
Analyte	
SB25_4.0_4/07/09	All RPD recoveries within control limitis
QC106_4/07/09	

Inter-Laboratory Duplicates	**Comments**
Analyte	
NA	

Surrogate Monitoring Compound Analyses

Analyte	**Comments**
	All surrogate recoveries are within control limits

Overall Comments

Zinc results for samples QC505 confirmed by re-digestion and reanalysis. Detection of Zinc above the LOR in QC502 should not effect the overall data quality as it is an order of magintude lower then detections in the primary samples

Level of reporting raised for toluene due to ambient background levels in the laboratory

The entire 500mL is required for PAH/PHENOL and TPH semi-volatile determination. Additional sample bottles for laboratory analysis duplicates and matrix spikes. These quality control parameters can not be reported when insuffience sample is provided

Data for this batch is considered suitable for environmental intepretative use.

Performed By:	H. Marshall	Reviewed By:	Matt James
Date:	10-Jul-09	Date:	14-Aug-09

Costco Australia Pty Ltd - Combined Phase I and II - 43217997

Batch ES0909782

Location	SB25_4.0_4/07/09	
Sample ID	SB25_4.0_4/07/09	QC106_4/07/09
Date Sampled	7/04/2009	7/04/2009
Sample Type	**Primary**	**Secondary**

Analyte	LOR1	LOR2	Units			Primary vs. Duplicate	Category1
Benzene	0.2	0.2	mg/kg	< 0.2	< 0.2	NC	NC
o-Xylene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Arsenic	5	5	mg/kg	5	6	18.18%	Pass
Cadmium	1	1	mg/kg	< 1	< 1	NC	NC
Chromium	2	2	mg/kg	8	10	22.22%	Pass
Copper	5	5	mg/kg	12	11	8.70%	Pass
Lead	5	5	mg/kg	26	27	3.77%	Pass
Mercury	0.1	0.1	mg/kg	< 0.1	< 0.1	NC	NC
Nickel	2	2	mg/kg	3	3	0.00%	Pass
Zinc	5	5	mg/kg	121	95	24.07%	Pass
Moisture Content	1	1	%	11.3	12.3	8.48%	Pass
C10-C14 fraction	50	50	mg/kg	< 50	< 50	NC	NC
C15-C28 fraction	100	100	mg/kg	< 100	< 100	NC	NC
C29-C36 fraction	100	100	mg/kg	< 100	< 100	NC	NC
C6-C9 fraction	10	10	mg/kg	< 10	< 10	NC	NC
Acenaphthene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Acenaphthylene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Anthracene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Benzo(a)anthracene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Benzo(a)pyrene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Benzo(b)fluoranthene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Benzo(g,h,i)perylene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Benzo(k)fluoranthene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Chrysene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Dibenzo(a,h)anthracene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Fluoranthene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Fluorene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Indeno(1,2,3,cd)pyrene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Naphthalene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Phenanthrene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Pyrene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Toluene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
Ethylbenzene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC
M&P Xylene	0.5	0.5	mg/kg	< 0.5	< 0.5	NC	NC

Pass RPD <= 30%
Pass-1 RPD > 30%, Analyis result < 10 times LOR
Pass-2 RPD <= 50%, Analysis result > 10 times LOR and < 20 times LOR
NC- Not Calculated

URS

DATA VALIDATION SUMMARY

Note: Data validation assesses each analyte in terms of all the data validation variables and only the exceedances and outliers are reported in this form.

Project Name:	Costco Australia Pty Ltd Combined Phase I & II	**Project/Task Number:**	43217997
Analytical Laboratory:	ALS	**Batch/Ref. Number (s):**	ES0911064
Date Sampled:	25-26/06/2009	**Sample Type:**	Solid

Sample Handling, Receipt and Holding Times	**Yes/No**	**Comments**
COC completed adequately	Yes	
All requested analysis conducted	Yes	
Samples received intact and chilled	Yes	Received at ALS at 1.2oC
Samples analysed within appropriate holding times per analytical methods.	Yes	
Samples volumes sufficient for QC analysis?	Yes	
Are there any non-NATA accredited methods used?	No	
Laboratory reports signed by an authorised person	Yes	

# of Primary Samples	**# of QAQC Samples**	**# of Duplicate Samples**	**# of Triplicate Samples**
6	0	0	0

Blanks

Method Blank (MB), Rinsate Blank (RB), Trip Blank (TB), Field Blank (FB)

Type	**Comments**
MB	All blanks have acceptable results less than the limits of reporting

Laboratory Control Samples (LCS)

Analyte	**Comments**
	No LCS carried out on this batch - ALS confirmed LCS are not completed for this test method

Matrix Spike (MS)

Analyte	**Comments**
NA	ALS comment: No Matrix Spike (MS) results are required to be reported.

Trip Spike /Control Trip Spike

Analyte	**% R**	**Comments**
NA		

Duplicates

Laboratory Duplicates	**Comments**
	Laboratory duplicate RPDs are within acceptable LOR based limits

Intra-Laboratory Duplicates	**Comments**
	No intra-laboratoryduplicates were collected

Inter-Laboratory Duplicates	**Comments**
	No inter-laboratory dupicates were collected

Surrogate Monitoring Compound Analyses

Analyte	**Comments**
	No surrogates were conducted on this batch

Overall Comments

Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime ($CaCO_3$) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil', multiply 'reported results' x 'wet bulk density of soil in t/m3'.

Analysis conducted by ALS Brisbane, NATA Site No. 818.
This batch is suitable for environmental interpretive analysis

Performed By:	M. Treloar	Reviewed By:	K. Basso
Date:	07-Aug-09	Date:	18-Aug-09

Appendix I Laboratory Reports

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES0907880**	Page	: 1 of 10
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 29-MAY-2009
Sampler	: JS	Issue Date	: 05-JUN-2009
Site	: COSTC0		
		No. of samples received	: 9
Quote number	: EN/001/08 V4	No. of samples analysed	: 9

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Spectroscopist	Inorganics
Edwandy Fadjar	Senior Organic Chemist	Organics
Hoa Nguyen	Inorganic Chemist	Inorganics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam Abou-Maraseh	Spectroscopist	Inorganics

General Comments

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG-005T:LCS recovery for some elements falls outside ALS Dynamic Control Limit. However, they are within the acceptance criteria based on ALS DQO. No further action is required.**
- **EG020A-T: Zinc results for samples ES0907880-008 confirmed by re-digestion and reanalysis.**
- **EP080: Level of Reporting raised for toluene due to ambient background levels in the laboratory.**
- **The entire bottle (500 mL) is required for PAH/PHENOL and TPH semi-volatile determination so the customer must supply additional sample bottles for laboratory to analyse duplicates and matrix spikes. These quality control parameters can not be reported when insufficient sample is provided.**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: SB01_0.5_29/05/09	SB02_0.7_29/05/09	SB04_0.8_29/05/09	SB04_3.0_29/05/09	SB18_1.5_29/05/09
				Client sampling date / time: [29-MAY-2009]	[29-MAY-2009]	[29-MAY-2009]	[29-MAY-2009]	[29-MAY-2009]
				ES0907880-001	ES0907880-002	ES0907880-003	ES0907880-004	ES0907880-005
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**20.9**	**11.4**	**12.4**	**18.4**	**14.6**
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	**11**	**7**	<5	**6**
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	**9**	**12**	**9**	**5**	**15**
Copper	7440-50-8	5	mg/kg	**6**	**20**	**14**	**7**	**11**
Lead	7439-92-1	5	mg/kg	**24**	**84**	**28**	**8**	**13**
Nickel	7440-02-0	2	mg/kg	<2	<2	**2**	<2	**6**
Zinc	7440-66-6	5	mg/kg	**15**	**55**	**32**	**8**	**14**
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	**0.2**	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	----	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	<0.5	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<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

Analytical Results

Sub-Matrix: SOIL				Client sample ID	SB01_0.5_29/05/09	SB02_0.7_29/05/09	SB04_0.8_29/05/09	SB04_3.0_29/05/09	SB18_1.5_29/05/09
				Client sampling date / time	[29-MAY-2009]	[29-MAY-2009]	[29-MAY-2009]	[29-MAY-2009]	[29-MAY-2009]
Compound	CAS Number	LOR	Unit		ES0907880-001	ES0907880-002	ES0907880-003	ES0907880-004	ES0907880-005
EP080: BTEX - Continued									
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
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		----	92.8	----	----	83.9
2-Chlorophenol-D4	93951-73-6	0.1	%		----	76.1	----	----	68.1
2.4.6-Tribromophenol	118-79-6	0.1	%		----	85.4	----	----	77.6
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	78.2	----	----	74.2
Anthracene-d10	1719-06-8	0.1	%		----	70.0	----	----	67.6
4-Terphenyl-d14	1718-51-0	0.1	%		----	71.7	----	----	68.5
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		102	99.6	99.7	98.7	99.8
Toluene-D8	2037-26-5	0.1	%		100	93.3	97.0	96.9	101
4-Bromofluorobenzene	460-00-4	0.1	%		95.3	91.2	92.9	91.4	94.0

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	SB18_3.0_29/05/09	QC100_29/05/09	----	----	----
				Client sampling date / time	[29-MAY-2009]	[29-MAY-2009]	----	----	----
					ES0907880-006	ES0907880-007	----	----	----
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		**14.6**	**17.7**	----	----	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		**7**	**7**	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg		**13**	**15**	----	----	----
Copper	7440-50-8	5	mg/kg		**11**	**13**	----	----	----
Lead	7439-92-1	5	mg/kg		**11**	**13**	----	----	----
Nickel	7440-02-0	2	mg/kg		<2	**3**	----	----	----
Zinc	7440-66-6	5	mg/kg		<5	**10**	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	----	----	----
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	----	----	----
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	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	<100	----	----	----
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	SB18_3.0_29/05/09	QC100_29/05/09	----	----	----
				Client sampling date / time	[29-MAY-2009]	[29-MAY-2009]	----	----	----
Compound	CAS Number	LOR	Unit		ES0907880-006	ES0907880-007	----	----	----
EP080: BTEX - Continued									
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		----	83.5	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		----	74.1	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		----	64.6	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	77.4	----	----	----
Anthracene-d10	1719-06-8	0.1	%		----	70.4	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	60.2	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		101	93.4	----	----	----
Toluene-D8	2037-26-5	0.1	%		99.6	93.1	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		91.8	86.0	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID	QC500_29/05/09	QC700_29/05/09	----	----	----
				Client sampling date / time	[29-MAY-2009]	[29-MAY-2009]	----	----	----
					ES0907880-008	ES0907880-009	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.035**	<0.005	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
EP080: BTEX									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<5	<5	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	QC500_29/05/09	QC700_29/05/09	----	----	----
				Client sampling date / time	[29-MAY-2009]	[29-MAY-2009]	----	----	----
Compound	CAS Number	LOR	Unit		ES0907880-008	ES0907880-009	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		33.5	30.1	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		72.4	70.4	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		81.6	75.3	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		79.2	73.9	----	----	----
Anthracene-d10	1719-06-8	0.1	%		69.6	67.6	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		66.4	64.3	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		122	116	----	----	----
Toluene-D8	2037-26-5	0.1	%		110	102	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		99.8	96.1	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) 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
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET18403/ 21583 / 1 - 3
Your ref: ES0907880
NATA Accreditation No: 14484

3 June 2009

Australian Laboratory Services Pty Ltd
277 Woodpark Road
Smithfield NSW 2164

Attn: Mr Victor Kedicioglu
Fax No: 02-87848500

Dear Victor,

Asbestos Identification
This report presents the results of three samples, forwarded by Australian Laboratory Services Pty Ltd on 1 June 2009, for analysis for asbestos.

1.Introduction: Three samples forwarded were examined and analysed for the presence of asbestos.

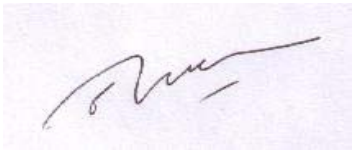
2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining Method **(Safer Environment Method 1.)**

3. Results : **Sample No. 1. ASET18403 / 21583 / 1. ES0907880 - 1 - SB01_0.5_29/05/09.**
Approx dimensions 5.0 cm x 4.0 cm x 1.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 2. ASET18403 / 21583 / 2. ES0907880 - 3 - SB04_0.8_29/05/09.
Approx dimensions 5.0 cm x 4.0 cm x 1.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 3. ASET18403 / 21583 / 3. ES0907880 - 6 - SB18_3.0_29/05/09.
Approx dimensions 5.0 cm x 4.0 cm x 1.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Analysed and reported by,



Imam Malik. BSc.
Mineralogist / Approved Signatory.
Approved Identifier.

This document is issued in accordance with NATA's Accreditation requirements. Accredited for compliance with ISO/IEC 17025.

Environmental Division

QUALITY CONTROL REPORT

Work Order	: **ES0907880**	Page	: 1 of 11
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: COSTC0		
C-O-C number	: ----	Date Samples Received	: 29-MAY-2009
Sampler	: JS	Issue Date	: 05-JUN-2009
Order number	: ----		
		No. of samples received	: 9
Quote number	: EN/001/08 V4	No. of samples analysed	: 9

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

This Quality Control Report contains the following information:

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

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
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General Comments

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

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 995352)									
ES0907865-002	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	Anonymous	Anonymous	Anonymous	Anonymous
ES0907880-001	SB01_0.5_29/05/09	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	20.9	19.8	5.2	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 994854)									
ES0907880-001	SB01_0.5_29/05/09	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	9	10	10.7	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	6	5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	24	15	44.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	15	7	79.3	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 994855)									
ES0907880-001	SB01_0.5_29/05/09	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.2	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 994928)									
ES0907880-002	SB02_0.7_29/05/09	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
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 994902)									
ES0907880-001	SB01_0.5_29/05/09	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 994927)									
ES0907880-002	SB02_0.7_29/05/09	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

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080: BTEX (QC Lot: 994902)									
ES0907880-001	SB01_0.5_29/05/09	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 995327)									
ES0907842-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Copper	7440-50-8	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Lead	7439-92-1	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907880-009	QC700_29/05/09	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 996691)									
ES0907793-001	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907851-001	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 997675)									
ES0907930-011	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Naphthalene	91-20-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthylene	208-96-8	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthene	83-32-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluorene	86-73-7	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Phenanthrene	85-01-8	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Anthracene	120-12-7	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluoranthene	206-44-0	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benz(a)anthracene	56-55-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Chrysene	218-01-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous

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 (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 997675) - continued									
ES0907930-011	Anonymous	EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907930-009	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Naphthalene	91-20-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthylene	208-96-8	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthene	83-32-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluorene	86-73-7	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Phenanthrene	85-01-8	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Anthracene	120-12-7	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluoranthene	206-44-0	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benz(a)anthracene	56-55-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Chrysene	218-01-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 995554)									
ES0907849-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907854-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 997674)									
ES0907930-011	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C10 - C14 Fraction	----	50	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	50	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907930-009	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C10 - C14 Fraction	----	50	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	50	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP080: BTEX (QC Lot: 995554)									
ES0907849-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907854-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous

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 (%)*
EP080: BTEX (QC Lot: 995554) - continued									
ES0907854-002	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous

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

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

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 994854)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.1 mg/kg	124	90.1	124
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	103	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.9 mg/kg	111	89.2	117
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.7 mg/kg	104	90.1	114
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.2 mg/kg	# 116	85.2	111
EG005T: Nickel	7440-02-0	2	mg/kg	<2	54.8 mg/kg	# 117	88.3	116
EG005T: Zinc	7440-66-6	5	mg/kg	<5	104 mg/kg	# 114	81.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 994855)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	96.6	67	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 994928)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	# 116	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	93.6	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	83.0	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	87.1	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	88.4	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	94.8	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	98.1	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	103	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	# 75.9	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	# 78.1	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	105	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	98.8	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	95.8	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	97.6	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	106	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	92.0	72.4	114
EP080/071: Total Petroleum Hydrocarbons (QCLot: 994902)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	106	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 994927)								
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	97.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	101	72.6	117
EP080: BTEX (QCLot: 994902)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	114	67.5	125

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEX (QCLot: 994902) - continued								
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	108	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	101	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	102	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	101	66.7	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 995327)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	90.5	85	111
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	94.6	88	108
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	99.4	92	114
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	90.9	89	115
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	97.9	91	113
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	95.6	91	113
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	94.8	78	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 996691)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	94.5	81	119
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 997675)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	92.8	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	96.1	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	89.2	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	97.4	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	99.2	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	92.4	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	102	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	101	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	99.7	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	103	62.5	116
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 997675) - continued								
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	91.2	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	94.8	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	96.0	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	97.7	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	100	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	99.8	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 995554)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	111	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 997674)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	200 µg/L	114	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	200 µg/L	128	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	200 µg/L	122	62.7	131
EP080: BTEX (QCLot: 995554)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	98.8	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	105	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	85.4	76.1	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	87.4	75.7	123
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	88.4	77.9	121

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 994854)							
ES0907880-001	SB01_0.5_29/05/09	EG005T: Arsenic	7440-38-2	50 mg/kg	107	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	116	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	105	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	98.3	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	112	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	108	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	108	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 994855)							
ES0907880-001	SB01_0.5_29/05/09	EG035T: Mercury	7439-97-6	5 mg/kg	98.9	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 994928)							
ES0907880-002	SB02_0.7_29/05/09	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	86.5	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	109	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 994902)							
ES0907880-001	SB01_0.5_29/05/09	EP080: C6 - C9 Fraction	----	26 mg/kg	84.8	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 994927)							
ES0907880-002	SB02_0.7_29/05/09	EP071: C10 - C14 Fraction	----	640 mg/kg	96.9	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	90.1	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	82.4	70	130
EP080: BTEX (QCLot: 994902)							
ES0907880-001	SB01_0.5_29/05/09	EP080: Benzene	71-43-2	2.5 mg/kg	83.0	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	83.2	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	82.8	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	81.9	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	84.3	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 995327)							
ES0907842-002	Anonymous	EG020A-T: Arsenic	7440-38-2	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Cadmium	7440-43-9	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Chromium	7440-47-3	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Copper	7440-50-8	Anonymous	Anonymous	Anonymous	Anonymous

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 995327) - continued							
ES0907842-002	Anonymous	EG020A-T: Lead	7439-92-1	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Nickel	7440-02-0	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Zinc	7440-66-6	Anonymous	Anonymous	Anonymous	Anonymous
EG035T: Total Recoverable Mercury by FIMS (QCLot: 996691)							
ES0907793-001	Anonymous	EG035T: Mercury	7439-97-6	Anonymous	Anonymous	Anonymous	Anonymous
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 997675)							
ES0907930-005	Anonymous	EP075(SIM): Acenaphthene	83-32-9	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QCLot: 995554)							
ES0907849-001	Anonymous	EP080: C6 - C9 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QCLot: 997674)							
ES0907930-005	Anonymous	EP071: C10 - C14 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C15 - C28 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
EP080: BTEX (QCLot: 995554)							
ES0907849-001	Anonymous	EP080: Benzene	71-43-2	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	Anonymous	Anonymous	Anonymous	Anonymous

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES0907880**	Page	: 1 of 8
Client	: URS AUSTRALIA (NSW) PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: COSTC0		
C-O-C number	: ----	Date Samples Received	: 29-MAY-2009
Sampler	: JS	Issue Date	: 05-JUN-2009
Order number	: ----		
		No. of samples received	: 9
Quote number	: EN/001/08 V4	No. of samples analysed	: 9

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

This Interpretive Quality Control Report contains the following information:

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

Analysis Holding Time Compliance

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

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

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved							
SB01_0.5_29/05/09, SB02_0.7_29/05/09, SB04_0.8_29/05/09, SB04_3.0_29/05/09, SB18_1.5_29/05/09, SB18_3.0_29/05/09, QC100_29/05/09	**29-MAY-2009**	**----**	----	----	**01-JUN-2009**	05-JUN-2009	✓
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved							
SB01_0.5_29/05/09, SB02_0.7_29/05/09, SB04_0.8_29/05/09, SB04_3.0_29/05/09, SB18_1.5_29/05/09, SB18_3.0_29/05/09, QC100_29/05/09	**29-MAY-2009**	**01-JUN-2009**	25-NOV-2009	✓	**01-JUN-2009**	25-NOV-2009	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved							
SB01_0.5_29/05/09, SB02_0.7_29/05/09, SB04_0.8_29/05/09, SB04_3.0_29/05/09, SB18_1.5_29/05/09, SB18_3.0_29/05/09, QC100_29/05/09	**29-MAY-2009**	**01-JUN-2009**	25-NOV-2009	✓	**03-JUN-2009**	26-JUN-2009	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved							
SB02_0.7_29/05/09, SB18_1.5_29/05/09, QC100_29/05/09	**29-MAY-2009**	**01-JUN-2009**	12-JUN-2009	✓	**02-JUN-2009**	11-JUL-2009	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved							
SB01_0.5_29/05/09, SB02_0.7_29/05/09, SB04_0.8_29/05/09, SB04_3.0_29/05/09, SB18_1.5_29/05/09, SB18_3.0_29/05/09, QC100_29/05/09	**29-MAY-2009**	**01-JUN-2009**	12-JUN-2009	✓	**01-JUN-2009**	12-JUN-2009	✓
Soil Glass Jar - Unpreserved							
SB01_0.5_29/05/09, SB02_0.7_29/05/09, SB04_0.8_29/05/09, SB04_3.0_29/05/09, SB18_1.5_29/05/09, SB18_3.0_29/05/09, QC100_29/05/09	**29-MAY-2009**	**01-JUN-2009**	12-JUN-2009	✓	**02-JUN-2009**	11-JUL-2009	✓
EP080: BTEX							
Soil Glass Jar - Unpreserved							
SB01_0.5_29/05/09, SB02_0.7_29/05/09, SB04_0.8_29/05/09, SB04_3.0_29/05/09, SB18_1.5_29/05/09, SB18_3.0_29/05/09, QC100_29/05/09	**29-MAY-2009**	**01-JUN-2009**	12-JUN-2009	✓	**01-JUN-2009**	12-JUN-2009	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
QC500_29/05/09, QC700_29/05/09	**29-MAY-2009**	**01-JUN-2009**	25-NOV-2009	✓	**02-JUN-2009**	25-NOV-2009	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
QC500_29/05/09, QC700_29/05/09	**29-MAY-2009**	**----**	----	----	**04-JUN-2009**	26-JUN-2009	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved							
QC500_29/05/09, QC700_29/05/09	**29-MAY-2009**	**03-JUN-2009**	05-JUN-2009	✓	**04-JUN-2009**	13-JUL-2009	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved							
QC500_29/05/09, QC700_29/05/09	**29-MAY-2009**	**03-JUN-2009**	05-JUN-2009	✓	**04-JUN-2009**	13-JUL-2009	✓
Amber VOC Vial - HCl or NaHSO4							
QC500_29/05/09, QC700_29/05/09	**29-MAY-2009**	**---**	---	----	**04-JUN-2009**	12-JUN-2009	✓
EP080: BTEX							
Amber VOC Vial - HCl or NaHSO4							
QC500_29/05/09, QC700_29/05/09	**29-MAY-2009**	**---**	---	----	**04-JUN-2009**	12-JUN-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	17	11.8	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (SIM)	EP075(SIM)	1	3	33.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	7	14.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	7	14.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	7	14.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	7	14.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	3	33.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	3	33.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	7	14.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	3	33.3	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	7	14.3	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	7	14.3	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	7	14.3	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	7	14.3	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	15	13.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	15	13.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	19	10.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	15	6.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	15	**6.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	15	**6.7**	**5.0**	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	15	**6.7**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	19	**5.3**	**5.0**	✓	ALS QCS3 requirement

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Asbestos - Count (Solid)	ASB-SOL	SOIL	Asbestos Count on solid matrices using PLM conducted by Subcontracting Laboratory
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 (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
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)
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Analytical Methods	Method	Matrix	Method Descriptions
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

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 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.
Digestion for Total Recoverable Metals	EN25	WATER	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)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 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							
EG005T: Total Metals by ICP-AES	1140184-002	----	**Lead**	7439-92-1	116 %	85.2-111%	**Recovery greater than upper control limit**
EG005T: Total Metals by ICP-AES	1140184-002	----	**Nickel**	7440-02-0	117 %	88.3-116%	**Recovery greater than upper control limit**
EG005T: Total Metals by ICP-AES	1140184-002	----	**Zinc**	7440-66-6	114 %	81.9-112%	**Recovery greater than upper control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1140282-008	----	**Naphthalene**	91-20-3	116 %	81.9-113%	**Recovery greater than upper control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1140282-008	----	**Benz(a)anthracene**	56-55-3	75.9 %	77.2-112%	**Recovery less than lower control limit**
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	1140282-008	----	**Chrysene**	218-01-9	78.1 %	79.8-114%	**Recovery less than lower control limit**

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

Regular Sample Surrogates

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP080S: TPH(V)/BTEX Surrogates	ES0907880-008	QC500_29/05/09	**1.2-Dichloroethane-D4**	17060-07-0	122 %	80-120 %	**Recovery greater than upper data quality objective**
EP080S: TPH(V)/BTEX Surrogates	ES0907880-008	QC500_29/05/09	**Toluene-D8**	2037-26-5	110 %	88-110 %	**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.**

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES0907880**		
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	Page	: 1 of 3
Order number	: ----		
C-O-C number	: ----	Quote number	: ES2009URSNSW0253 (EN/001/08 V4)
Site	: COSTC0		
Sampler	: JS	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 29-MAY-2009	Issue Date	: 01-JUN-2009 08:33
Client Requested Due Date	: 04-JUN-2009	Scheduled Reporting Date	: **04-JUN-2009**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 2.8'C - Ice bricks present
No. of coolers/boxes	: 1 HARD	No. of samples received	: 9
Sercurity Seal	: Intact.	No. of samples analysed	: 9

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- Samples received in appropriately pretreated and preserved containers.
- Asbestos analysis will be subcontracted to ASET.
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Nanthini Coilparampil
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

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

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - ASB-SOL (Subcontracted) Asbestos - Count (Solid)	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-05 TPH/BTEX/8 Metals	SOIL - S-07 TPH/BTEX/PAH (SIM)
ES0907880-001	[29-MAY-2009]	SB01_0.5_29/05/09	✓		✓	
ES0907880-002	[29-MAY-2009]	SB02_0.7_29/05/09		✓		✓
ES0907880-003	[29-MAY-2009]	SB04_0.8_29/05/09	✓		✓	
ES0907880-004	[29-MAY-2009]	SB04_3.0_29/05/09			✓	
ES0907880-005	[29-MAY-2009]	SB18_1.5_29/05/09		✓		✓
ES0907880-006	[29-MAY-2009]	SB18_3.0_29/05/09	✓		✓	
ES0907880-007	[29-MAY-2009]	QC100_29/05/09		✓		✓

Matrix: **WATER**

Laboratory sample ID	Client sampling date / time	Client sample ID	WATER - W-02T 8 metals (Total)	WATER - W-07 TPH/BTEX/PAH
ES0907880-008	[29-MAY-2009]	QC500_29/05/09	✓	✓
ES0907880-009	[29-MAY-2009]	QC700_29/05/09	✓	✓

Requested Deliverables

EQUIS URS_EDMS

- EDI Format - EQUIS V5 (EQUIS_V5)	Email	urs_edms@urscorp.com

MR JAPSON SIWADI

- *AU Certificate of Analysis - NATA (COA)	Email	japson_siwadi@urscorp.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	japson_siwadi@urscorp.com
- AU Chromatogram Cover Sheet (CHROM)	Email	japson_siwadi@urscorp.com
- AU Interpretive QC Report (Anon QCI Not Rep) (QCI_NoAnon)	Email	japson_siwadi@urscorp.com
- AU QC Report (Anon QC Not Rep) - NATA (QC_NoAnon)	Email	japson_siwadi@urscorp.com
- Default - Chain of Custody (COC)	Email	japson_siwadi@urscorp.com
- EDI Format - ENMRG (ENMRG)	Email	japson_siwadi@urscorp.com
- EDI Format - EQUIS V5 (EQUIS_V5)	Email	japson_siwadi@urscorp.com
- EDI Format - MRED (MRED)	Email	japson_siwadi@urscorp.com
- Trigger - Subcontract Report (SUBCO)	Email	japson_siwadi@urscorp.com

THE ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	sydney_accounts@urscorp.com

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

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory Services Pty Ltd

CLIENT: URS AUSTRALIA PTY LTD
ADDRESS : L3 116 MILLER STREET, NORTH SYDNEY, NSW 2060
PROJECT MANAGER (PM): JAPSON SIWADI
PROJECT ID: 43217997
SITE: COSTCO P.O. NO.:
RESULTS REQUIRED BY (Date): QUOTE NO.:

SAMPLER: Japson Siwadi
MOBILE: 4125034013
PHONE 8925 5785
EMAIL REPORT TO: japson_siwadi@urscorp.com
EMAIL INVOICE TO: (if different to report)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE 23c
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DIPOSAL:

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

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

Subcon / Forward Lab / Split WO
Lab / Analysis: ASET Asbestos
Organised By / Date: 29/5/09 SOT
Relinquished By / Date:
Connote / Courier:
WO No:
Attach By PO / Internal She

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Container Type / Code	Total bottles	Heavy metals (8)	TPH/BTEX	PAH	Asbestos
1	SB01_0.5_29/05/09	S	29/5/9			1 Jar	✓	✓		✓
2	SB02_0.7_29/05/09	S	29/5/9				✓	✓	✓	
3	SB04_0.8_29/05/09	S	29/5/9				✓	✓		✓
4	SB04_3.0_29/05/09	S	29/5/9				✓	✓		
5	SB18_1.5_29/05/09	S	29/5/9				✓	✓	✓	
6	SB18_3.0_29/05/09	S	29/5/9				✓	✓		✓
7	QC100_29/05/09	S	29/5/9				✓	✓	✓	
8	QC500_29/05/09	W	29/5/9				✓	✓	✓	
9	QC700_29/05/09	W	29/5/9				✓	✓	✓	

Environmental Division
Sydney
Work Order
ES0907880

Telephone : +61-2-8784 8555

RELINQUISHED BY:		RECEIVED BY		
Name: Japson Siwadi	Date: 29/05/09	Name: Scott Stephen	Date: 29/5/9	Con' Note No:
Of: URS	Time: 5:30pm	Of: ALS	Time: 5:50pm	
Name:	Date:	Name:	Date:	Transport Co:
Of:	Time:	Of:	Time:	

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

AUSTRALIAN LABORATORY SERVICES P/L

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES0907904**	Page	: 1 of 8
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 01-JUN-2009
Sampler	: JS	Issue Date	: 05-JUN-2009
Site	: COSTCO		
		No. of samples received	: 6
Quote number	: EN/001/08 V4	No. of samples analysed	: 6

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Spectroscopist	Inorganics
Edwandy Fadjar	Senior Organic Chemist	Organics
Hoa Nguyen	Inorganic Chemist	Inorganics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam Abou-Maraseh	Spectroscopist	Inorganics

General Comments

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG020A-T: Zinc results for samples ES0907904-005 confirmed by re-digestion and reanalysis.**
- **EP080: Level of Reporting raised for toluene due to ambient background levels in the laboratory.**
- **The entire bottle (500 mL) is required for PAH/PHENOL and TPH semi-volatile determination so the customer must supply additional sample bottles for laboratory to analyse duplicates and matrix spikes. These quality control parameters can not be reported when insufficient sample is provided.**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	SB07-1.1-31/05/09	SB22-0.8-31/05/09	SB22-3.0-31/05/09	QC103-31/05/09	----
				Client sampling date / time	31-MAY-2009 15:00	31-MAY-2009 15:00	31-MAY-2009 15:00	31-MAY-2009 15:00	----
					ES0907904-001	ES0907904-002	ES0907904-003	ES0907904-004	----
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		**23.0**	**22.0**	**11.9**	**20.9**	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		**7**	**7**	<5	**8**	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	**1**	----
Chromium	7440-47-3	2	mg/kg		**31**	**34**	**2**	**22**	----
Copper	7440-50-8	5	mg/kg		<5	**6**	**6**	<5	----
Lead	7439-92-1	5	mg/kg		**13**	**11**	**16**	**17**	----
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	<2	----
Zinc	7440-66-6	5	mg/kg		**31**	<5	<5	**360**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	----	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	<0.5	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	----	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	----	<0.5	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	----	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	----	<0.5	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	----	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	----	<0.5	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	----	<0.5	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		<0.5	----	----	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	----	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	----	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	----	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<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	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	SB07-1.1-31/05/09	SB22-0.8-31/05/09	SB22-3.0-31/05/09	QC103-31/05/09	----
				Client sampling date / time	31-MAY-2009 15:00	31-MAY-2009 15:00	31-MAY-2009 15:00	31-MAY-2009 15:00	----
Compound	CAS Number	LOR	Unit		ES0907904-001	ES0907904-002	ES0907904-003	ES0907904-004	----
EP080: BTEX - Continued									
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	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**85.4**	----	----	**89.6**	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**80.0**	----	----	**79.5**	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**82.1**	----	----	**82.1**	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**80.3**	----	----	**80.6**	----
Anthracene-d10	1719-06-8	0.1	%		**59.3**	----	----	**69.9**	----
4-Terphenyl-d14	1718-51-0	0.1	%		**84.3**	----	----	**85.0**	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**92.0**	**85.8**	**97.7**	**90.9**	----
Toluene-D8	2037-26-5	0.1	%		**96.0**	**93.3**	**101**	**94.3**	----
4-Bromofluorobenzene	460-00-4	0.1	%		**86.4**	**86.7**	**94.3**	**89.1**	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID	QC502-31/05/09	QC702-31/05/09	----	----	----
				Client sampling date / time	31-MAY-2009 15:00	31-MAY-2009 15:00	----	----	----
					ES0907904-005	ES0907904-006	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.051**	<0.005	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
EP080: BTEX									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<5	<5	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID	QC502-31/05/09	QC702-31/05/09	----	----	----
				Client sampling date / time	31-MAY-2009 15:00	31-MAY-2009 15:00	----	----	----
					ES0907904-005	ES0907904-006	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**31.0**	**34.6**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**77.0**	**85.3**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**71.6**	**86.4**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**75.6**	**91.4**	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**76.1**	**97.1**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**77.1**	**94.5**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**104**	**106**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**101**	**99.2**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**96.3**	**92.3**	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) 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
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET18418/ 21598 / 1 - 2
Your ref: ES0907904
NATA Accreditation No: 14484

3 June 2009

Australian Laboratory Services Pty Ltd
277, Woodpark Road,
Smithfield,
NSW 2164.

Attn: Mr Victor Kedicioglu
Fax No:02-87848500

Dear Victor,

Asbestos Identification
This report presents the results of two samples, forwarded by Australian Laboratory Services Pty Ltd on 2 June 2009, for analysis for asbestos.

1.Introduction: Two samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with dispersion Staining method **(Safer Environment Method 1.)**

3. Results : **Sample No. 1. ASET18418 / 21598 / 1. ES0907904 - 2 - SB22 _ 0.8_31/05/09**
Approx dimensions 5.6 cm x 4.3 cm x 0.25 cm
The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of plaster.
No asbestos detected.

Sample No. 2. ASET18418 / 21598 / 2. ES0907904 - 3 - SB22 _ 3.0_31/05/09
Approx dimensions 6.6 cm x 5.4 cm x 0.30 cm
The sample consisted of a mixture of clayish soil, stones, plant matter and fragments of plaster.
No asbestos detected.

Analysed and reported by,

Laxman Dias . BSc.
Approved Identifier/ Approved Signatory.

This document is issued in accordance with NATA's Accreditation requirements. Accredited for compliance with ISO/IEC 17025.

SUITE 710 / 90 GEORGE STREET, HORNSBY NSW 2077 – P.O. BOX 1644 HORNSBY WESTFIELD NSW 1635
PHONE: (02) 99872183 FAX: (02)99872151 EMAIL: aset@bigpond.net.au WEBSITE: www.aset.com.au

Environmental Division

QUALITY CONTROL REPORT

Work Order	: **ES0907904**	Page	: 1 of 11
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: COSTCO		
C-O-C number	: ----	Date Samples Received	: 01-JUN-2009
Sampler	: JS	Issue Date	: 05-JUN-2009
Order number	: ----		
		No. of samples received	: 6
Quote number	: EN/001/08 V4	No. of samples analysed	: 6

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

This Quality Control Report contains the following information:

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

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Spectroscopist	Inorganics
Edwandy Fadjar	Senior Organic Chemist	Organics
Hoa Nguyen	Inorganic Chemist	Inorganics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam Abou-Maraseh	Spectroscopist	Inorganics

General Comments

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

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 996232)									
ES0907887-005	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	Anonymous	Anonymous	Anonymous	Anonymous
ES0907905-004	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	Anonymous	Anonymous	Anonymous	Anonymous
EG005T: Total Metals by ICP-AES (QC Lot: 995360)									
ES0907904-001	SB07-1.1-31/05/09	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	31	32	3.9	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	9	23.9	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	13	15	12.1	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	31	11	92.2	No Limit
ES0907904-002	SB22-0.8-31/05/09	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	34	30	9.4	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	8	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	6	7	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	11	14	18.9	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 995361)									
ES0907904-001	SB07-1.1-31/05/09	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES0907904-002	SB22-0.8-31/05/09	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 995437)									
ES0907882-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 995437) - continued									
ES0907882-001	Anonymous	EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 995401)									
ES0907904-001	SB07-1.1-31/05/09	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 995436)									
ES0907882-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	100	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C10 - C14 Fraction	----	50	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
ES0907905-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	100	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C10 - C14 Fraction	----	50	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
EP080: BTEX (QC Lot: 995401)									
ES0907904-001	SB07-1.1-31/05/09	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 995327)									
ES0907842-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Copper	7440-50-8	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Lead	7439-92-1	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907880-009	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Copper	7440-50-8	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Lead	7439-92-1	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 996692)									
ES0907904-005	QC502-31/05/09	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES0907988-004	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 997925)									
ES0907968-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Naphthalene	91-20-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous

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 (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 997925) - continued									
ES0907968-001	Anonymous	EP075(SIM): Acenaphthylene	208-96-8	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthene	83-32-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluorene	86-73-7	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Phenanthrene	85-01-8	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Anthracene	120-12-7	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluoranthene	206-44-0	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benz(a)anthracene	56-55-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Chrysene	218-01-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907968-003	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Naphthalene	91-20-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthylene	208-96-8	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthene	83-32-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluorene	86-73-7	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Phenanthrene	85-01-8	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Anthracene	120-12-7	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluoranthene	206-44-0	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benz(a)anthracene	56-55-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Chrysene	218-01-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 996181)									
ES0907868-004	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907893-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 997924)									
ES0907968-001	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C10 - C14 Fraction	----	50	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	50	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907968-003	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C10 - C14 Fraction	----	50	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	50	µg/L	Anonymous	Anonymous	Anonymous	Anonymous

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 (%)*
EP080: BTEX (QC Lot: 996181)									
ES0907868-004	Anonymous	EP080: Benzene	71-43-2	1	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907893-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous

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

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

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 995360)								
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	103	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.9 mg/kg	103	89.2	117
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.7 mg/kg	108	90.1	114
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.2 mg/kg	95.7	85.2	111
EG005T: Nickel	7440-02-0	2	mg/kg	<2	54.8 mg/kg	103	88.3	116
EG005T: Zinc	7440-66-6	5	mg/kg	<5	104 mg/kg	96.1	81.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 995361)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	88.7	67	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 995437)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	88.7	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	93.5	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	88.4	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	92.3	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	89.1	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	89.5	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	90.4	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	89.6	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	99.4	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	100	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	99.7	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	96.0	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	94.5	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	86.8	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	85.8	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	91.7	72.4	114
EP080/071: Total Petroleum Hydrocarbons (QCLot: 995401)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	105	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 995436)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	108	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	98.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	96.0	72.6	117
EP080: BTEX (QCLot: 995401)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	96.5	67.5	125

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEX (QCLot: 995401) - continued								
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	92.0	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	98.3	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	97.9	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	103	66.7	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 995327)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	90.5	85	111
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	94.6	88	108
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	99.4	92	114
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	90.9	89	115
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	97.9	91	113
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	95.6	91	113
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	94.8	78	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 996692)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	103	81	119
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 997925)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	100	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	103	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	104	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	102	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	105	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	103	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	102	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	102	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	104	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	98.0	62.5	116
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 997925) - continued								
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	103	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	96.8	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	98.3	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	94.0	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	91.3	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	97.5	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 996181)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	93.2	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 997924)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	200 µg/L	81.5	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	200 µg/L	74.5	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	200 µg/L	99.0	62.7	131
EP080: BTEX (QCLot: 996181)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	114	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	108	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	108	76.1	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	110	75.7	123
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	109	77.9	121

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 995360)							
ES0907904-001	SB07-1.1-31/05/09	EG005T: Arsenic	7440-38-2	50 mg/kg	74.4	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.7	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	104	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	108	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	93.3	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	94.4	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	81.6	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 995361)							
ES0907904-001	SB07-1.1-31/05/09	EG035T: Mercury	7439-97-6	5 mg/kg	95.8	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 995437)							
ES0907882-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QCLot: 995401)							
ES0907904-001	SB07-1.1-31/05/09	EP080: C6 - C9 Fraction	----	26 mg/kg	122	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 995436)							
ES0907882-001	Anonymous	EP071: C10 - C14 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C15 - C28 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
EP080: BTEX (QCLot: 995401)							
ES0907904-001	SB07-1.1-31/05/09	EP080: Benzene	71-43-2	2.5 mg/kg	94.0	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	103	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	106	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	101	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	99.9	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 995327)							
ES0907842-002	Anonymous	EG020A-T: Arsenic	7440-38-2	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Cadmium	7440-43-9	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Chromium	7440-47-3	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Copper	7440-50-8	Anonymous	Anonymous	Anonymous	Anonymous

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 995327) - continued							
ES0907842-002	Anonymous	EG020A-T: Lead	7439-92-1	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Nickel	7440-02-0	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Zinc	7440-66-6	Anonymous	Anonymous	Anonymous	Anonymous
EG035T: Total Recoverable Mercury by FIMS (QCLot: 996692)							
ES0907904-005	QC502-31/05/09	EG035T: Mercury	7439-97-6	0.010 mg/L	112	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 997925)							
ES0907968-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QCLot: 996181)							
ES0907868-004	Anonymous	EP080: C6 - C9 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QCLot: 997924)							
ES0907968-002	Anonymous	EP071: C10 - C14 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C15 - C28 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
EP080: BTEX (QCLot: 996181)							
ES0907868-004	Anonymous	EP080: Benzene	71-43-2	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	Anonymous	Anonymous	Anonymous	Anonymous

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES0907904**	Page	: 1 of 8
Client	: URS AUSTRALIA (NSW) PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: COSTCO		
C-O-C number	: ----	Date Samples Received	: 01-JUN-2009
Sampler	: JS	Issue Date	: 05-JUN-2009
Order number	: ----		
		No. of samples received	: 6
Quote number	: EN/001/08 V4	No. of samples analysed	: 6

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

This Interpretive Quality Control Report contains the following information:

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

Analysis Holding Time Compliance

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

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

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved							
SB07-1.1-31/05/09, SB22-0.8-31/05/09, SB22-3.0-31/05/09, QC103-31/05/09	**31-MAY-2009**	**----**	----	----	**02-JUN-2009**	07-JUN-2009	✓
EG005T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved							
SB07-1.1-31/05/09, SB22-0.8-31/05/09, SB22-3.0-31/05/09, QC103-31/05/09	**31-MAY-2009**	**01-JUN-2009**	28-JUN-2009	✓	**02-JUN-2009**	27-NOV-2009	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved							
SB07-1.1-31/05/09, SB22-0.8-31/05/09, SB22-3.0-31/05/09, QC103-31/05/09	**31-MAY-2009**	**01-JUN-2009**	28-JUN-2009	✓	**02-JUN-2009**	28-JUN-2009	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved							
SB07-1.1-31/05/09, QC103-31/05/09	**31-MAY-2009**	**---**	14-JUN-2009	----	**03-JUN-2009**	14-JUN-2009	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved							
SB07-1.1-31/05/09, SB22-0.8-31/05/09, SB22-3.0-31/05/09, QC103-31/05/09	**31-MAY-2009**	**---**	14-JUN-2009	----	**03-JUN-2009**	14-JUN-2009	✓
Soil Glass Jar - Unpreserved							
SB07-1.1-31/05/09, SB22-0.8-31/05/09, SB22-3.0-31/05/09, QC103-31/05/09	**31-MAY-2009**	**01-JUN-2009**	14-JUN-2009	✓	**01-JUN-2009**	14-JUN-2009	✓
EP080: BTEX							
Soil Glass Jar - Unpreserved							
SB07-1.1-31/05/09, SB22-0.8-31/05/09, SB22-3.0-31/05/09, QC103-31/05/09	**31-MAY-2009**	**01-JUN-2009**	14-JUN-2009	✓	**01-JUN-2009**	14-JUN-2009	✓

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
QC502-31/05/09,	QC702-31/05/09	**31-MAY-2009**	**01-JUN-2009**	27-NOV-2009	✓	**02-JUN-2009**	27-NOV-2009	✓
EG035T: Total Recoverable Mercury by FIMS								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
QC502-31/05/09,	QC702-31/05/09	**31-MAY-2009**	**----**	----	----	**04-JUN-2009**	28-JUN-2009	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved								
QC502-31/05/09,	QC702-31/05/09	**31-MAY-2009**	**03-JUN-2009**	07-JUN-2009	✓	**04-JUN-2009**	13-JUL-2009	✓
EP080/071: Total Petroleum Hydrocarbons								
Amber Glass Bottle - Unpreserved								
QC502-31/05/09,	QC702-31/05/09	**31-MAY-2009**	**03-JUN-2009**	07-JUN-2009	✓	**04-JUN-2009**	13-JUL-2009	✓
Amber VOC Vial - HCl or NaHSO4								
QC502-31/05/09,	QC702-31/05/09	**31-MAY-2009**	**---**	---	----	**03-JUN-2009**	14-JUN-2009	✓
EP080: BTEX								
Amber VOC Vial - HCl or NaHSO4								
QC502-31/05/09,	QC702-31/05/09	**31-MAY-2009**	**---**	---	----	**03-JUN-2009**	14-JUN-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)	1	10	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	12	16.7	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	19	10.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	17	11.8	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	10	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	12	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	19	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	12	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	19	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.0	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	12	8.3	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	19	5.3	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	17	5.9	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	10	10.0	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	14	14.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	17	11.8	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	14	14.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	18	11.1	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	14	7.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Total Mercury by FIMS	EG035T	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	14	**7.1**	**5.0**	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	17	**5.9**	**5.0**	✓	ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	14	**7.1**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	18	**5.6**	**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
Asbestos - Count (Solid)	ASB-SOL	SOIL	Asbestos Count on solid matrices using PLM conducted by Subcontracting Laboratory
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 (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
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)
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Analytical Methods	Method	Matrix	Method Descriptions
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

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 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.
Digestion for Total Recoverable Metals	EN25	WATER	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)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

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

Regular Sample Surrogates

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

Outliers : Analysis Holding Time Compliance

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

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

Outliers : Frequency of Quality Control Samples

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

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

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES0907904**		
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	Page	: 1 of 2
Order number	: ----		
C-O-C number	: ----	Quote number	: ES2009URSNSW0253 (EN/001/08 V4)
Site	: COSTCO		
Sampler	: JS	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 01-JUN-2009	Issue Date	: 01-JUN-2009 13:22
Client Requested Due Date	: 05-JUN-2009	Scheduled Reporting Date	: **04-JUN-2009**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 3.6'C - Ice present
No. of coolers/boxes	: 1 HARD	No. of samples received	: 6
Sercurity Seal	: Intact.	No. of samples analysed	: 6

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- Samples received in appropriately pretreated and preserved containers.
- Asbestos analysis will be subcontracted to ASET.
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Nanthini Coilparampil
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

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

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - ASB-SOL (Subcontracted) Asbestos - Count (Solid)	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-04 TPH/BTEX	SOIL - S-07 TPH/BTEX/PAH (SIM)
ES0907904-001	31-MAY-2009 15:00	SB07-1.1-31/05/09		✓		✓
ES0907904-002	31-MAY-2009 15:00	SB22-0.8-31/05/09	✓	✓	✓	
ES0907904-003	31-MAY-2009 15:00	SB22-3.0-31/05/09	✓	✓	✓	
ES0907904-004	31-MAY-2009 15:00	QC103-31/05/09		✓		✓

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - W-02T 8 metals (Total)	WATER - W-07 TPH/BTEX/PAH
ES0907904-005	31-MAY-2009 15:00	QC502-31/05/09	✓	✓
ES0907904-006	31-MAY-2009 15:00	QC702-31/05/09	✓	✓

Requested Deliverables

EQUIS URS_EDMS

- EDI Format - EQUIS V5 (EQUIS_V5)	Email	urs_edms@urscorp.com

MR JAPSON SIWADI

- *AU Certificate of Analysis - NATA (COA)	Email	japson_siwadi@urscorp.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	japson_siwadi@urscorp.com
- A4 - AU Tax Invoice (INV)	Email	japson_siwadi@urscorp.com
- AU Chromatogram Cover Sheet (CHROM)	Email	japson_siwadi@urscorp.com
- AU Interpretive QC Report (Anon QCI Not Rep) (QCI_NoAnon)	Email	japson_siwadi@urscorp.com
- AU QC Report (Anon QC Not Rep) - NATA (QC_NoAnon)	Email	japson_siwadi@urscorp.com
- Default - Chain of Custody (COC)	Email	japson_siwadi@urscorp.com
- EDI Format - ENMRG (ENMRG)	Email	japson_siwadi@urscorp.com
- EDI Format - MRED (MRED)	Email	japson_siwadi@urscorp.com
- Trigger - Subcontract Report (SUBCO)	Email	japson_siwadi@urscorp.com

THE ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	sydney_accounts@urscorp.com

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

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory Services Pty Ltd

CLIENT: URS AUSTRALIA PTY LTD	SAMPLER: Japson Siwadi
ADDRESS : L3 116 MILLER STREET, NORTH SYDNEY, NSW 2060	MOBILE: 4125034013
PROJECT MANAGER (PM): JAPSON SIWADI	PHONE 8925 5785
PROJECT ID: 43217997	EMAIL REPORT TO: japson_siwadi@urscorp.com
SITE: COSTCO P.O. NO.:	EMAIL INVOICE TO: (if different to report)
RESULTS REQUIRED BY (Date): QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

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

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

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

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Heavy metals (8)	TPH/BTEX	PAH	Asbestos
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles				
1	SB07-1.1-31/05/09	S	31/5			1	✓	✓	✓	
2	SB22-0.8-31/05/09	S	31/5			1	✓	✓		✓
3	SB22-3.0-31/05/09	S	31/5			1	✓	✓		✓
4	QC103-31/05/09	S	31/5			1	✓	✓	✓	
5	QC502-31/05/09	W					✓	✓	✓	
6	QC702-31/05/09	W					✓	✓	✓	

Environmental Division
Sydney
Work Order
ES0907904
Telephone : +61-2-8784 8555

CONTRACT WORK
WO: ES0907904
LAB: ASET
DATE: 01-06-09
SPLIT:

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name: Japson Siwadi	Date: 01/06/09	Name: Frank	Date: 01-06-09	Con' Note No:
Of: URS	Time:	Of: ALS	Time: 9:15	
Name:	Date:	Name:	Date:	Transport Co:
Of:	Time:	Of:	Time:	

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

AUSTRALIAN LABORATORY SERVICES P/L

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES0907905**	Page	: 1 of 10
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 01-JUN-2009
Sampler	: JS	Issue Date	: 05-JUN-2009
Site	: COSTCO		
		No. of samples received	: 8
Quote number	: EN/001/08 V4	No. of samples analysed	: 8

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Senior Organic Chemist	Organics
Hoa Nguyen	Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam Abou-Maraseh	Spectroscopist	Inorganics

General Comments

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG020A-T: Zinc results for samples ES0907905-007 & ES0907905-008 confirmed by re-digestion and reanalysis.**
- **EP080: Level of Reporting raised for toluene due to ambient background levels in the laboratory.**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: SB12_0.9_30/05/09	SB12_1.9_30/05/09	SB13_0.8_30/05/09	SB13_3.0_30/05/09	SB14_1.1_30/05/09
				Client sampling date / time: 30-MAY-2009 15:00	30-MAY-2009 15:00	30-MAY-2009 15:00	30-MAY-2009 15:00	30-MAY-2009 15:00
				ES0907905-001	ES0907905-002	ES0907905-003	ES0907905-004	ES0907905-005
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**14.2**	**18.3**	**8.2**	**17.3**	**5.7**
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	**8**	**16**	**5**	**5**	**2**
Copper	7440-50-8	5	mg/kg	**9**	**16**	**6**	**9**	<5
Lead	7439-92-1	5	mg/kg	**18**	**70**	**9**	**10**	<5
Nickel	7440-02-0	2	mg/kg	**2**	**3**	<2	<2	<2
Zinc	7440-66-6	5	mg/kg	**27**	**52**	**9**	**6**	<5
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	**0.3**	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	**2.8**	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	----	**0.8**	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	**4.2**	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	----	**3.8**	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	**2.6**	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	----	**1.9**	<0.5	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	**2.6**	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	**1.2**	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	**2.2**	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	**1.0**	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	**1.3**	<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

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: SB12_0.9_30/05/09	SB12_1.9_30/05/09	SB13_0.8_30/05/09	SB13_3.0_30/05/09	SB14_1.1_30/05/09
				Client sampling date / time: 30-MAY-2009 15:00	30-MAY-2009 15:00	30-MAY-2009 15:00	30-MAY-2009 15:00	30-MAY-2009 15:00
				ES0907905-001	ES0907905-002	ES0907905-003	ES0907905-004	ES0907905-005
EP080: BTEX - Continued								
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
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	**77.6**	**83.0**	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	**74.2**	**83.9**	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	----	**79.5**	**77.6**	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**75.7**	**74.4**	----	----
Anthracene-d10	1719-06-8	0.1	%	----	**70.0**	**70.7**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	**79.7**	**79.3**	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**98.2**	**93.0**	**90.0**	**92.7**	**92.6**
Toluene-D8	2037-26-5	0.1	%	**94.4**	**88.7**	**91.3**	**99.7**	**88.2**
4-Bromofluorobenzene	460-00-4	0.1	%	**90.5**	**84.0**	**84.2**	**93.2**	**85.2**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	QC101_30/05/09	----	----	----	----
				Client sampling date / time	30-MAY-2009 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES0907905-006	----	----	----	----
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		**16.7**	----	----	----	----
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		**4**	----	----	----	----
Copper	7440-50-8	5	mg/kg		<5	----	----	----	----
Lead	7439-92-1	5	mg/kg		**9**	----	----	----	----
Nickel	7440-02-0	2	mg/kg		<2	----	----	----	----
Zinc	7440-66-6	5	mg/kg		**9**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	----	----	----	----
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	----	----	----	----
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	----	----	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	QC101_30/05/09	----	----	----	----
				Client sampling date / time	30-MAY-2009 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES0907905-006	----	----	----	----
EP080: BTEX - Continued									
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	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		73.9	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		73.0	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		72.1	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		68.3	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%		65.5	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		72.1	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		96.4	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		92.8	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		87.9	----	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID	QC501_30/05/09	QC701_30/05/09	----	----	----
				Client sampling date / time	30-MAY-2009 15:00	30-MAY-2009 15:00	----	----	----
					ES0907905-007	ES0907905-008	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.016**	**0.024**	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
EP080: BTEX									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<5	<5	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	QC501_30/05/09	QC701_30/05/09	----	----	----
				Client sampling date / time	30-MAY-2009 15:00	30-MAY-2009 15:00	----	----	----
Compound	CAS Number	LOR	Unit		ES0907905-007	ES0907905-008	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**30.9**	**31.2**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**71.4**	**78.3**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**76.6**	**82.6**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**81.8**	**87.9**	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**81.1**	**89.8**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**83.8**	**90.1**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**104**	**104**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**100**	**98.9**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**95.0**	**96.1**	----	----	----

Surrogate Control Limits

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

Sub-Matrix: WATER		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
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET18417/ 21597 / 1 - 3
Your ref : ES0907905
NATA Accreditation No: 14484

4 June 2009

Australian Laboratory Services Pty Ltd
277, Woodpark Road
Smithfield NSW 2164

Attn: Mr Victor Kedicioglu
Fax No:02-87848500

Dear Victor,

Asbestos Identification
This report presents the results of three samples, forwarded by Australian Laboratory Services Pty Ltd on 2 June 2009, for analysis for asbestos.

1.Introduction: Three samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining Method **(Safer Environment Method 1.)**

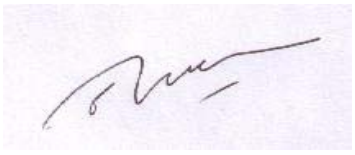
3. Results :

Sample No. 1. ASET18417 / 21597 / 1. ES0907905 – 1 - SB12_0.9_30/05/09.
Approx dimensions 4.0 cm x 3.0 cm x 1.0 cm
The sample consisted of a mixture of clayish soil, stones and plant matter.
No asbestos detected.

Sample No. 2. ASET18417 / 21597 / 2. ES0907905 - 4 - SB13_3.0_30/05/09.
Approx dimensions 4.0 cm x 3.0 cm x 1.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Sample No. 3. ASET18417 / 21597 / 3. ES0907905 - 5 - SB14_1.1_30/05/09.
Approx dimensions 4.0 cm x 3.0 cm x 1.0 cm
The sample consisted of a mixture of sandy soil and stones.
No asbestos detected.

Analysed and reported by,



Imam Malik. BSc.
Mineralogist / Approved Signatory.
Approved Identifier.

This document is issued in accordance with NATA's Accreditation requirements. Accredited for compliance with ISO/IEC 17025.

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

CERTIFICATE OF ANALYSIS 29429

Client:
URS Australia
Level 3, 116 Miller St
North Sydney
NSW 2060

Attention: Japson Siwadi

Sample log in details:

Your Reference:	**43217997, Costco**
No. of samples:	1 Soil
Date samples received:	02/06/09
Date completed instructions received:	02/06/09

Analysis Details:
Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by:	10/06/09
Date of Preliminary Report:	Not issued
Issue Date:	5/06/09

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Accredited for compliance with ISO/IEC 17025.
Tests not covered by NATA are denoted with *.

Results Approved By:

Jacinta Hurst
Operations Manager

ACCREDITED FOR TECHNICAL COMPETENCE

vTPH & BTEX in Soil		
Our Reference:	UNITS	29429-1
Your Reference	----------	QC201-30/05/09
Date Sampled	----------	30/05/2009
Type of sample		Soil
Date extracted	-	3/06/2009
Date analysed	-	4/06/2009
vTPH C_6 - C_9	mg/kg	<25
Benzene	mg/kg	<0.5
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1.0
m+p-xylene	mg/kg	<2.0
o-Xylene	mg/kg	<1.0
Surrogate aaa-Trifluorotoluene	%	108

sTPH in Soil (C10-C36)		
Our Reference:	UNITS	29429-1
Your Reference	----------	QC201-30/05/09
Date Sampled	----------	30/05/2009
Type of sample		Soil
Date extracted	-	3/06/2009
Date analysed	-	4/06/2009
TPH C_{10} - C_{14}	mg/kg	<50
TPH C_{15} - C_{28}	mg/kg	<100
TPH C_{29} - C_{36}	mg/kg	<100
Surrogate o-Terphenyl	%	90

PAHs in Soil		
Our Reference:	UNITS	29429-1
Your Reference	----------	QC201-30/05/09
Date Sampled	----------	30/05/2009
Type of sample		Soil
Date extracted	-	3/06/2009
Date analysed	-	4/06/2009
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Surrogate p-Terphenyl-d_{14}	%	99

Acid Extractable metals in soil		
Our Reference:	UNITS	29429-1
Your Reference	----------	QC201-30/05/09
Date Sampled	----------	30/05/2009
Type of sample		Soil
Date digested	-	3/06/2009
Date analysed	-	4/06/2009
Arsenic	mg/kg	7
Cadmium	mg/kg	<0.5
Chromium	mg/kg	15
Copper	mg/kg	9
Lead	mg/kg	18
Mercury	mg/kg	<0.1
Nickel	mg/kg	3
Zinc	mg/kg	14

Moisture		
Our Reference:	UNITS	29429-1
Your Reference	----------	QC201-30/05/09
Date Sampled	----------	30/05/2009
Type of sample		Soil
Date prepared	-	3/06/2009
Date analysed	-	3/06/2009
Moisture	%	10

Method ID	Methodology Summary
GC.16	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS.
GC.3	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.
GC.12 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Metals.20 ICP-AES	Determination of various metals by ICP-AES.
Metals.21 CV-AAS	Determination of Mercury by Cold Vapour AAS.
LAB.8	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.

QUALITY CONTROL vTPH & BTEX in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			3/06/2009	[NT]	[NT]	LCS-2	3/06/2009
Date analysed	-			4/06/2009	[NT]	[NT]	LCS-2	4/06/2009
vTPH C_6 - C_9	mg/kg	25	GC.16	<25	[NT]	[NT]	LCS-2	93%
Benzene	mg/kg	0.5	GC.16	<0.5	[NT]	[NT]	LCS-2	68%
Toluene	mg/kg	0.5	GC.16	<0.5	[NT]	[NT]	LCS-2	101%
Ethylbenzene	mg/kg	1	GC.16	<1.0	[NT]	[NT]	LCS-2	92%
m+p-xylene	mg/kg	2	GC.16	<2.0	[NT]	[NT]	LCS-2	101%
o-Xylene	mg/kg	1	GC.16	<1.0	[NT]	[NT]	LCS-2	106%
Surrogate aaa-Trifluorotoluene	%		GC.16	80	[NT]	[NT]	LCS-2	111%

QUALITY CONTROL sTPH in Soil (C10-C36)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			3/06/2009	[NT]	[NT]	LCS-2	3/06/2009
Date analysed	-			4/06/2009	[NT]	[NT]	LCS-2	4/06/2009
TPH C_{10} - C_{14}	mg/kg	50	GC.3	<50	[NT]	[NT]	LCS-2	89%
TPH C_{15} - C_{28}	mg/kg	100	GC.3	<100	[NT]	[NT]	LCS-2	99%
TPH C_{29} - C_{36}	mg/kg	100	GC.3	<100	[NT]	[NT]	LCS-2	93%
Surrogate o-Terphenyl	%		GC.3	90	[NT]	[NT]	LCS-2	89%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			3/06/2009	[NT]	[NT]	LCS-2	3/06/2009
Date analysed	-			4/06/2009	[NT]	[NT]	LCS-2	4/06/2009
Naphthalene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	LCS-2	92%
Acenaphthylene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	LCS-2	89%
Phenanthrene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	LCS-2	93%
Anthracene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	LCS-2	86%
Pyrene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	LCS-2	91%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Benzo(a)anthracene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	LCS-2	110%
Benzo(b+k)fluoranthene	mg/kg	0.2	GC.12 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	GC.12 subset	<0.05	[NT]	[NT]	LCS-2	84%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		GC.12 subset	101	[NT]	[NT]	LCS-2	103%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date digested	-			3/6/09	[NT]	[NT]	LCS-2	3/6/09
Date analysed	-			4/6/09	[NT]	[NT]	LCS-2	4/6/09
Arsenic	mg/kg	4	Metals.20 ICP-AES	<4	[NT]	[NT]	LCS-2	105%
Cadmium	mg/kg	0.5	Metals.20 ICP-AES	<0.5	[NT]	[NT]	LCS-2	107%
Chromium	mg/kg	1	Metals.20 ICP-AES	<1	[NT]	[NT]	LCS-2	110%
Copper	mg/kg	1	Metals.20 ICP-AES	<1	[NT]	[NT]	LCS-2	113%
Lead	mg/kg	1	Metals.20 ICP-AES	<1	[NT]	[NT]	LCS-2	106%
Mercury	mg/kg	0.1	Metals.21 CV-AAS	<0.1	[NT]	[NT]	LCS-2	107%
Nickel	mg/kg	1	Metals.20 ICP-AES	<1	[NT]	[NT]	LCS-2	110%
Zinc	mg/kg	1	Metals.20 ICP-AES	<1	[NT]	[NT]	LCS-2	110%

QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank
Date prepared	-			3/06/2009
Date analysed	-			3/06/2009
Moisture	%	0.1	LAB.8	<0.10

Report Comments:

Asbestos was analysed by Approved Identifier: Not applicable for this job
INS: Insufficient sample for this test NT: Not tested PQL: Practical Quantitation Limit <: Less than >: Greater than
RPD: Relative Percent Difference NA: Test not required LCS: Laboratory Control Sample NR: Not requested

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria:

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the sample batch were within laboratory acceptance criteria.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable. Surrogates: 60-140% is acceptable for general organics and 10-140% for SVOC and speciated phenols.

Environmental Division

QUALITY CONTROL REPORT

Work Order	: **ES0907905**	Page	: 1 of 11
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: COSTCO		
C-O-C number	: ----	Date Samples Received	: 01-JUN-2009
Sampler	: JS	Issue Date	: 05-JUN-2009
Order number	: ----		
		No. of samples received	: 8
Quote number	: EN/001/08 V4	No. of samples analysed	: 8

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

This Quality Control Report contains the following information:

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

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Senior Organic Chemist	Organics
Hoa Nguyen	Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics
Wisam Abou-Maraseh	Spectroscopist	Inorganics

General Comments

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

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **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: 996232)									
ES0907887-005	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	Anonymous	Anonymous	Anonymous	Anonymous
ES0907905-004	SB13_3.0_30/05/09	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	17.3	17.1	1.0	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 995360)									
ES0907904-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Chromium	7440-47-3	2	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Nickel	7440-02-0	2	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Arsenic	7440-38-2	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Copper	7440-50-8	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Lead	7439-92-1	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Zinc	7440-66-6	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
ES0907904-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Chromium	7440-47-3	2	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Nickel	7440-02-0	2	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Arsenic	7440-38-2	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Copper	7440-50-8	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Lead	7439-92-1	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Zinc	7440-66-6	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
EG005T: Total Metals by ICP-AES (QC Lot: 997379)									
ES0907905-001	SB12_0.9_30/05/09	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	14	53.1	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	2	2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	9	11	16.8	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	18	48	91.9	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	27	21	25.5	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 995361)									
ES0907904-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
ES0907904-002	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 995437)									
ES0907882-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 995437) - continued									
ES0907882-001	Anonymous	EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 995401)									
ES0907904-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 995436)									
ES0907882-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	100	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C10 - C14 Fraction	----	50	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
ES0907905-001	SB12_0.9_30/05/09	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: 995401)									
ES0907904-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 995327)									
ES0907842-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Copper	7440-50-8	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Lead	7439-92-1	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907880-009	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Copper	7440-50-8	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Lead	7439-92-1	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous

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 (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 995327) - continued									
ES0907880-009	Anonymous	EG020A-T: Nickel	7440-02-0	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 996692)									
ES0907904-005	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907988-004	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 997925)									
ES0907968-001	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Naphthalene	91-20-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthylene	208-96-8	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthene	83-32-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluorene	86-73-7	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Phenanthrene	85-01-8	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Anthracene	120-12-7	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluoranthene	206-44-0	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benz(a)anthracene	56-55-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Chrysene	218-01-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907968-003	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Naphthalene	91-20-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthylene	208-96-8	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthene	83-32-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluorene	86-73-7	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Phenanthrene	85-01-8	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Anthracene	120-12-7	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluoranthene	206-44-0	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benz(a)anthracene	56-55-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Chrysene	218-01-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 996181)									
ES0907868-004	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	Anonymous	Anonymous	Anonymous	Anonymous

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 (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 996181) - continued									
ES0907893-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 997924)									
ES0907968-001	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C10 - C14 Fraction	----	50	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	50	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907968-003	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C10 - C14 Fraction	----	50	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	50	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP080: BTEX (QC Lot: 996181)									
ES0907868-004	Anonymous	EP080: Benzene	71-43-2	1	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0907893-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous

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

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

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 995360)								
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	103	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.9 mg/kg	103	89.2	117
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.7 mg/kg	108	90.1	114
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.2 mg/kg	95.7	85.2	111
EG005T: Nickel	7440-02-0	2	mg/kg	<2	54.8 mg/kg	103	88.3	116
EG005T: Zinc	7440-66-6	5	mg/kg	<5	104 mg/kg	96.1	81.9	112
EG005T: Total Metals by ICP-AES (QCLot: 997379)								
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	98.6	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	105	90.1	114
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.2 mg/kg	91.7	85.2	111
EG005T: Nickel	7440-02-0	2	mg/kg	<2	54.8 mg/kg	101	88.3	116
EG005T: Zinc	7440-66-6	5	mg/kg	<5	104 mg/kg	93.0	81.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 995361)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	88.7	67	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 995437)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	88.7	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	93.5	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	88.4	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	92.3	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	89.1	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	89.5	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	90.4	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	89.6	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	99.4	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	100	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	99.7	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	96.0	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	94.5	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	86.8	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	85.8	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	91.7	72.4	114

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 995401)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	105	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 995436)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	108	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	98.0	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	96.0	72.6	117
EP080: BTEX (QCLot: 995401)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	96.5	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	92.0	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	98.3	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	97.9	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	103	66.7	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 995327)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	90.5	85	111
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	94.6	88	108
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	99.4	92	114
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	90.9	89	115
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	97.9	91	113
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	95.6	91	113
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	94.8	78	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 996692)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	103	81	119
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 997925)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	100	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	103	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	104	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	102	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	105	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	103	64.3	116
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 997925) - continued								
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	102	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	102	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	104	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	98.0	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	103	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	96.8	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	98.3	63.3	117
		0.5	µg/L	<0.5	----	----	----	----
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	----	2 µg/L	94.0	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	91.3	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	97.5	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 996181)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	93.2	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 997924)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	200 µg/L	81.5	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	200 µg/L	74.5	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	200 µg/L	99.0	62.7	131
EP080: BTEX (QCLot: 996181)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	114	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	108	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	108	76.1	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	110	75.7	123
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	109	77.9	121

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 995360)							
ES0907904-001	Anonymous	EG005T: Arsenic	7440-38-2	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Cadmium	7440-43-9	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Chromium	7440-47-3	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Copper	7440-50-8	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Lead	7439-92-1	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Nickel	7440-02-0	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Zinc	7440-66-6	Anonymous	Anonymous	Anonymous	Anonymous
EG035T: Total Recoverable Mercury by FIMS (QCLot: 995361)							
ES0907904-001	Anonymous	EG035T: Mercury	7439-97-6	Anonymous	Anonymous	Anonymous	Anonymous
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 995437)							
ES0907882-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QCLot: 995401)							
ES0907904-001	Anonymous	EP080: C6 - C9 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QCLot: 995436)							
ES0907882-001	Anonymous	EP071: C10 - C14 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C15 - C28 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
EP080: BTEX (QCLot: 995401)							
ES0907904-001	Anonymous	EP080: Benzene	71-43-2	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	Anonymous	Anonymous	Anonymous	Anonymous

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 995327)							
ES0907842-002	Anonymous	EG020A-T: Arsenic	7440-38-2	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Cadmium	7440-43-9	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Chromium	7440-47-3	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Copper	7440-50-8	Anonymous	Anonymous	Anonymous	Anonymous

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 995327) - continued							
ES0907842-002	Anonymous	EG020A-T: Lead	7439-92-1	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Nickel	7440-02-0	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Zinc	7440-66-6	Anonymous	Anonymous	Anonymous	Anonymous
EG035T: Total Recoverable Mercury by FIMS (QCLot: 996692)							
ES0907904-005	Anonymous	EG035T: Mercury	7439-97-6	Anonymous	Anonymous	Anonymous	Anonymous
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 997925)							
ES0907968-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QCLot: 996181)							
ES0907868-004	Anonymous	EP080: C6 - C9 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QCLot: 997924)							
ES0907968-002	Anonymous	EP071: C10 - C14 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C15 - C28 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
EP080: BTEX (QCLot: 996181)							
ES0907868-004	Anonymous	EP080: Benzene	71-43-2	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	Anonymous	Anonymous	Anonymous	Anonymous

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES0907905**	Page	: 1 of 8
Client	: URS AUSTRALIA (NSW) PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: COSTCO		
C-O-C number	: ----	Date Samples Received	: 01-JUN-2009
Sampler	: JS	Issue Date	: 05-JUN-2009
Order number	: ----		
		No. of samples received	: 8
Quote number	: EN/001/08 V4	No. of samples analysed	: 8

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

This Interpretive Quality Control Report contains the following information:

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

Analysis Holding Time Compliance

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

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

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content								
Soil Glass Jar - Unpreserved								
SB12_0.9_30/05/09,	SB12_1.9_30/05/09,	**30-MAY-2009**	**----**	----	----	**02-JUN-2009**	06-JUN-2009	✓
SB13_0.8_30/05/09,	SB13_3.0_30/05/09,							
SB14_1.1_30/05/09,	QC101_30/05/09							
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved								
SB12_0.9_30/05/09,	SB12_1.9_30/05/09,	**30-MAY-2009**	**01-JUN-2009**	27-JUN-2009	✓	**02-JUN-2009**	26-NOV-2009	✓
SB13_0.8_30/05/09,	SB13_3.0_30/05/09,							
SB14_1.1_30/05/09,	QC101_30/05/09							
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved								
SB12_0.9_30/05/09,	SB12_1.9_30/05/09,	**30-MAY-2009**	**01-JUN-2009**	27-JUN-2009	✓	**02-JUN-2009**	27-JUN-2009	✓
SB13_0.8_30/05/09,	SB13_3.0_30/05/09,							
SB14_1.1_30/05/09,	QC101_30/05/09							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved								
SB12_1.9_30/05/09,	SB13_0.8_30/05/09,	**30-MAY-2009**	**---**	13-JUN-2009	----	**03-JUN-2009**	13-JUN-2009	✓
QC101_30/05/09								
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved								
SB12_0.9_30/05/09,	SB12_1.9_30/05/09,	**30-MAY-2009**	**---**	13-JUN-2009	----	**03-JUN-2009**	13-JUN-2009	✓
SB13_0.8_30/05/09,	SB13_3.0_30/05/09,							
SB14_1.1_30/05/09,	QC101_30/05/09							
Soil Glass Jar - Unpreserved								
SB12_0.9_30/05/09,	SB12_1.9_30/05/09,	**30-MAY-2009**	**01-JUN-2009**	13-JUN-2009	✓	**01-JUN-2009**	13-JUN-2009	✓
SB13_0.8_30/05/09,	SB13_3.0_30/05/09,							
SB14_1.1_30/05/09,	QC101_30/05/09							

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEX								
Soil Glass Jar - Unpreserved								
SB12_0.9_30/05/09,	SB12_1.9_30/05/09,	**30-MAY-2009**	**01-JUN-2009**	13-JUN-2009	✓	**01-JUN-2009**	13-JUN-2009	✓
SB13_0.8_30/05/09,	SB13_3.0_30/05/09,							
SB14_1.1_30/05/09,	QC101_30/05/09							

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
QC501_30/05/09,	QC701_30/05/09	**30-MAY-2009**	**01-JUN-2009**	26-NOV-2009	✓	**02-JUN-2009**	26-NOV-2009	✓
EG035T: Total Recoverable Mercury by FIMS								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
QC501_30/05/09,	QC701_30/05/09	**30-MAY-2009**	**----**	----	----	**04-JUN-2009**	27-JUN-2009	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved								
QC501_30/05/09,	QC701_30/05/09	**30-MAY-2009**	**03-JUN-2009**	06-JUN-2009	✓	**04-JUN-2009**	13-JUL-2009	✓
EP080/071: Total Petroleum Hydrocarbons								
Amber Glass Bottle - Unpreserved								
QC501_30/05/09,	QC701_30/05/09	**30-MAY-2009**	**03-JUN-2009**	06-JUN-2009	✓	**04-JUN-2009**	13-JUL-2009	✓
Amber VOC Vial - HCl or NaHSO4								
QC501_30/05/09,	QC701_30/05/09	**30-MAY-2009**	**---**	---	----	**03-JUN-2009**	13-JUN-2009	✓
EP080: BTEX								
Amber VOC Vial - HCl or NaHSO4								
QC501_30/05/09,	QC701_30/05/09	**30-MAY-2009**	**---**	---	----	**03-JUN-2009**	13-JUN-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)	1	10	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	12	16.7	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	3	20	15.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	17	11.8	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	10	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	12	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	20	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	12	8.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	20	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	17	5.9	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.0	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	12	8.3	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	19	5.3	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	17	5.9	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	10	10.0	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	14	14.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	17	11.8	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	14	14.3	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	18	11.1	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	14	7.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Total Mercury by FIMS	EG035T	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	14	**7.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	14	**7.1**	**5.0**	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	17	**5.9**	**5.0**	✓	ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	14	**7.1**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	18	**5.6**	**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
Asbestos - Count (Solid)	ASB-SOL	SOIL	Asbestos Count on solid matrices using PLM conducted by Subcontracting Laboratory
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 (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
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)
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Analytical Methods	Method	Matrix	Method Descriptions
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

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 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.
Digestion for Total Recoverable Metals	EN25	WATER	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)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

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

Regular Sample Surrogates

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

Outliers : Analysis Holding Time Compliance

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

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

Outliers : Frequency of Quality Control Samples

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

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

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES0907905**		
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	Page	: 1 of 3
Order number	: ----		
C-O-C number	: ----	Quote number	: ES2009URSNSW0253 (EN/001/08 V4)
Site	: COSTCO		
Sampler	: JS	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 01-JUN-2009	Issue Date	: 01-JUN-2009 13:23
Client Requested Due Date	: 04-JUN-2009	Scheduled Reporting Date	: **04-JUN-2009**

Delivery Details

Mode of Delivery	: Client Drop off	Temperature	: 2.4'C - Ice present
No. of coolers/boxes	: ----	No. of samples received	: 8
Sercurity Seal	: Intact.	No. of samples analysed	: 8

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- Samples received in appropriately pretreated and preserved containers.
- Asbestos analysis will be subcontracted to ASET.
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Sample QC201_30/05/09 will be forwarded to Envirolab as per COC.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Nanthini Coilparampil
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

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

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - ASB-SOL (Subcontracted) Asbestos - Count (Solid)	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-05 TPH/BTEX/8 Metals	SOIL - S-07 TPH/BTEX/PAH (SIM)
ES0907905-001	30-MAY-2009 15:00	SB12_0.9_30/05/09	✓		✓	
ES0907905-002	30-MAY-2009 15:00	SB12_1.9_30/05/09		✓		✓
ES0907905-003	30-MAY-2009 15:00	SB13_0.8_30/05/09		✓		✓
ES0907905-004	30-MAY-2009 15:00	SB13_3.0_30/05/09	✓		✓	
ES0907905-005	30-MAY-2009 15:00	SB14_1.1_30/05/09	✓		✓	
ES0907905-006	30-MAY-2009 15:00	QC101_30/05/09		✓		✓

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - W-02T 8 metals (Total)	WATER - W-07 TPH/BTEX/PAH
ES0907905-007	30-MAY-2009 15:00	QC501_30/05/09	✓	✓
ES0907905-008	30-MAY-2009 15:00	QC701_30/05/09	✓	✓

Requested Deliverables

EQUIS URS_EDMS

- EDI Format - EQUIS V5 (EQUIS_V5)	Email	urs_edms@urscorp.com

MR JAPSON SIWADI

- *AU Certificate of Analysis - NATA (COA)	Email	japson_siwadi@urscorp.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	japson_siwadi@urscorp.com
- A4 - AU Tax Invoice (INV)	Email	japson_siwadi@urscorp.com
- AU Chromatogram Cover Sheet (CHROM)	Email	japson_siwadi@urscorp.com
- AU Interpretive QC Report (Anon QCI Not Rep) (QCI_NoAnon)	Email	japson_siwadi@urscorp.com
- AU QC Report (Anon QC Not Rep) - NATA (QC_NoAnon)	Email	japson_siwadi@urscorp.com
- Default - Chain of Custody (COC)	Email	japson_siwadi@urscorp.com
- EDI Format - ENMRG (ENMRG)	Email	japson_siwadi@urscorp.com
- EDI Format - MRED (MRED)	Email	japson_siwadi@urscorp.com
- Trigger - Subcontract Report (SUBCO)	Email	japson_siwadi@urscorp.com

THE ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	sydney_accounts@urscorp.com

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

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory Services Pty Ltd

CLIENT: URS AUSTRALIA PTY LTD	SAMPLER: Japson Siwadi
ADDRESS: L3 116 MILLER STREET, NORTH SYDNEY, NSW 2060	MOBILE: 4125034013
PROJECT MANAGER (PM): JAPSON SIWADI	PHONE 8925 5785
PROJECT ID: 43217997	EMAIL REPORT TO: japson_siwadi@urscorp.com
SITE: COSTCO P.O. NO.:	EMAIL INVOICE TO: (if different to report)
RESULTS REQUIRED BY (Date): QUOTE NO.:	ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

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

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

CONTRACT WORK
WO: ES0907905
LAB: ASET Environtech 5627
DATE: 01-06-09
SPLIT:

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

SAMPLE INFORMATION (note: S = Soil, W=Water) | CONTAINER INFORMATION

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	Heavy metals (8)	TPH/BTEX	PAH	Asbestos
1	SB12_0.9_30/05/09	S	30/5/9				✓	✓		✓
2	SB12_1.9_30/05/09	S	30/5				✓	✓	✓	
3	SB13_0.8_30/05/09	S	30/5				✓	✓	✓	
4	SB13_3.0_30/05/09	S	30/5				✓	✓		✓
5	SB14_1.1_30/05/09	S	30/5				✓	✓		✓
6	QC101_30/05/09	S	30/5				✓	✓	✓	
*	QC2[illegible]_30/05/09	S	30/5	Acknowledge Soy			✓	✓	✓	
7	QC501_30/05/09	W	30/5				✓	✓	✓	
8	QC701_30/05/09	W	30/5				✓	✓	✓	

Environmental Division
Sydney
Work Order
ES0907905
Telephone : +61-2-8784 8555

FORWARD TO ENVIROLAB

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name: Japson Siwadi	Date: 01/06/09	Name: Frank	Date: 01-06-09	Con' Note No:
Of: URS	Time: 9:15	Of: ALS	Time: 09:15	
Name:	Date:	Name:	Date:	Transport Co:
Of:	Time:	Of:	Time:	

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

AUSTRALIAN LABORATORY SERVICES P/L

COC Page 1 of 1

* Please forward to ENVIROLAB

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES0908613**	Page	: 1 of 12
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 15-JUN-2009
Sampler	: JAPSON SIWADI	Issue Date	: 19-JUN-2009
Site	: COSTCO		
		No. of samples received	: 17
Quote number	: EN/001/08 V4	No. of samples analysed	: 16

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Nanthini Coilparampil	Senior Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics

General Comments

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

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

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

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

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

- **EG020A-T: Positive results for samples ES0908613 # 015 confirmed by re-digestion and reanalysis.**
- **EP080: Level of reporting raised for toluene due to ambient background levels in the laboratory.**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	SB05-1.5-14/06/09	SB08-0.9-14/06/09	SB09-0.9-14/06/09	SB09-2.8-14/06/09	SB11-3.0-14/06/09
				Client sampling date / time	14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00
					ES0908613-001	ES0908613-002	ES0908613-003	ES0908613-004	ES0908613-005
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		**25.2**	**19.6**	**19.5**	**15.7**	**18.2**
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		**9**	**8**	**6**	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		**21**	**15**	**14**	**6**	**9**
Copper	7440-50-8	5	mg/kg		**5**	**10**	**6**	<5	**6**
Lead	7439-92-1	5	mg/kg		**41**	**13**	**12**	**6**	**6**
Nickel	7440-02-0	2	mg/kg		**2**	<2	<2	<2	<2
Zinc	7440-66-6	5	mg/kg		**29**	**9**	**7**	<5	**5**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	<0.5	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg		----	<0.5	----	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg		----	<0.5	----	<0.5	----
Fluorene	86-73-7	0.5	mg/kg		----	<0.5	----	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg		----	<0.5	----	<0.5	----
Anthracene	120-12-7	0.5	mg/kg		----	<0.5	----	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg		----	<0.5	----	<0.5	----
Pyrene	129-00-0	0.5	mg/kg		----	<0.5	----	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	<0.5	----	<0.5	----
Chrysene	218-01-9	0.5	mg/kg		----	<0.5	----	<0.5	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		----	<0.5	----	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	<0.5	----	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	<0.5	----	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	<0.5	----	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	<0.5	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	<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

Analytical Results

Sub-Matrix: SOIL				Client sample ID	SB05-1.5-14/06/09	SB08-0.9-14/06/09	SB09-0.9-14/06/09	SB09-2.8-14/06/09	SB11-3.0-14/06/09
				Client sampling date / time	14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00
Compound	CAS Number	LOR	Unit		ES0908613-001	ES0908613-002	ES0908613-003	ES0908613-004	ES0908613-005
EP080: BTEX - Continued									
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
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		----	**102**	----	**86.0**	----
2-Chlorophenol-D4	93951-73-6	0.1	%		----	**99.8**	----	**92.3**	----
2.4.6-Tribromophenol	118-79-6	0.1	%		----	**89.6**	----	**76.0**	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	**113**	----	**101**	----
Anthracene-d10	1719-06-8	0.1	%		----	**109**	----	**98.9**	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	**99.2**	----	**91.5**	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**102**	**111**	**115**	**114**	**118**
Toluene-D8	2037-26-5	0.1	%		**101**	**94.5**	**102**	**103**	**97.6**
4-Bromofluorobenzene	460-00-4	0.1	%		**90.3**	**85.1**	**91.5**	**90.6**	**89.2**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	SB16-0.9-14/06/09	SB16-4.5-14/06/09	SB17-2.0-14/06/09	SB19-0.5-14/06/09	SB19-3.5-14/06/09
				Client sampling date / time	14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00
					ES0908613-006	ES0908613-007	ES0908613-008	ES0908613-009	ES0908613-010
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		**5.7**	**20.4**	**7.5**	**2.3**	**16.7**
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	**13**	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		**3**	**10**	**3**	**4**	**7**
Copper	7440-50-8	5	mg/kg		<5	**8**	<5	**7**	<5
Lead	7439-92-1	5	mg/kg		<5	**16**	<5	**7**	**6**
Nickel	7440-02-0	2	mg/kg		**3**	**3**	<2	**6**	<2
Zinc	7440-66-6	5	mg/kg		**8**	**13**	<5	**10**	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	<0.5	----	<0.5
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

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: SB16-0.9-14/06/09	SB16-4.5-14/06/09	SB17-2.0-14/06/09	SB19-0.5-14/06/09	SB19-3.5-14/06/09
				Client sampling date / time: 14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00
				ES0908613-006	ES0908613-007	ES0908613-008	ES0908613-009	ES0908613-010
EP080: BTEX - Continued								
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
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**87.9**	----	**97.3**	----	**86.2**
2-Chlorophenol-D4	93951-73-6	0.1	%	**91.5**	----	**94.4**	----	**94.1**
2.4.6-Tribromophenol	118-79-6	0.1	%	**77.8**	----	**82.2**	----	**77.8**
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**103**	----	**108**	----	**102**
Anthracene-d10	1719-06-8	0.1	%	**100**	----	**108**	----	**102**
4-Terphenyl-d14	1718-51-0	0.1	%	**93.2**	----	**101**	----	**97.5**
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**121**	**110**	**108**	**108**	**94.5**
Toluene-D8	2037-26-5	0.1	%	**84.4**	**94.4**	**100**	**102**	**100**
4-Bromofluorobenzene	460-00-4	0.1	%	**91.6**	**85.5**	**87.6**	**92.5**	**86.5**

Analytical Results

Sub-Matrix: SOIL				Client sample ID	SB20-3.0-14/06/09	SB21-3.0-14/06/09	SB23-1.0-14/06/09	QC105-14/06/09	----
				Client sampling date / time	14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00	----
Compound	CAS Number	LOR	Unit		ES0908613-011	ES0908613-012	ES0908613-013	ES0908613-014	----
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		17.0	16.9	16.0	16.1	----
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		8	<5	<5	5	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg		13	2	11	7	----
Copper	7440-50-8	5	mg/kg		6	<5	<5	10	----
Lead	7439-92-1	5	mg/kg		8	7	10	8	----
Nickel	7440-02-0	2	mg/kg		<2	<2	<2	<2	----
Zinc	7440-66-6	5	mg/kg		<5	<5	<5	<5	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	<0.5	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg		----	<0.5	----	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg		----	<0.5	----	<0.5	----
Fluorene	86-73-7	0.5	mg/kg		----	<0.5	----	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg		----	<0.5	----	<0.5	----
Anthracene	120-12-7	0.5	mg/kg		----	<0.5	----	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg		----	<0.5	----	<0.5	----
Pyrene	129-00-0	0.5	mg/kg		----	<0.5	----	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	<0.5	----	<0.5	----
Chrysene	218-01-9	0.5	mg/kg		----	<0.5	----	<0.5	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		----	<0.5	----	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	<0.5	----	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	<0.5	----	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	<0.5	----	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	<0.5	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	<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	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	SB20-3.0-14/06/09	SB21-3.0-14/06/09	SB23-1.0-14/06/09	QC105-14/06/09	----
				Client sampling date / time	14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00	14-JUN-2009 15:00	----
Compound	CAS Number	LOR	Unit		ES0908613-011	ES0908613-012	ES0908613-013	ES0908613-014	----
EP080: BTEX - Continued									
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	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		----	88.2	----	84.6	----
2-Chlorophenol-D4	93951-73-6	0.1	%		----	106	----	100	----
2.4.6-Tribromophenol	118-79-6	0.1	%		----	84.2	----	77.6	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	107	----	101	----
Anthracene-d10	1719-06-8	0.1	%		----	103	----	100	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	97.9	----	92.9	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		103	98.6	94.8	94.4	----
Toluene-D8	2037-26-5	0.1	%		110	102	109	102	----
4-Bromofluorobenzene	460-00-4	0.1	%		92.8	87.4	94.2	90.0	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	QC504-14/06/09	QC704-14/06/09	----	----	----
				Client sampling date / time	14-JUN-2009 15:00	14-JUN-2009 15:00	----	----	----
Compound	CAS Number	LOR	Unit		ES0908613-015	ES0908613-016	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		**0.0006**	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.024**	<0.005	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
EP080: BTEX									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<5	<5	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	QC504-14/06/09	QC704-14/06/09	----	----	----
				Client sampling date / time	14-JUN-2009 15:00	14-JUN-2009 15:00	----	----	----
Compound	CAS Number	LOR	Unit		ES0908613-015	ES0908613-016	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**26.7**	**34.2**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**63.6**	**76.2**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**96.8**	**92.5**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**101**	**87.5**	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**117**	**107**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**109**	**91.6**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**87.9**	**105**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**87.8**	**110**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**90.3**	**104**	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) 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
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD
ABN 36 088 095 112

Our ref : ASET18530/ 21710 / 1 - 7
Your ref: ES0908613
NATA Accreditation No: 14484

18 June 2009

Australian Laboratory Services Pty Ltd
277 Woodpark Road
Smithfield NSW 2164

Attn: Mr Victor Kedicioglu
Fax No: 02-87848500

Dear Victor,

Asbestos Identification
This report presents the results of seven samples, forwarded by Australian Laboratory Services Pty Ltd on 16 June 2009, for analysis for asbestos.

1.Introduction: Seven samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining Method **(Safer Environment Method 1.)**

3. Results :

Sample No. 1. ASET18530 / 21710 / 1. ES0908613 - 1 – SB05_1.5_14/06/09.
Approx dimensions 4.0 cm x 3.0 cm x 1.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Sample No. 2. ASET18530 / 21710 / 2. ES0908613 - 3 – SB09_0.9_14/06/09.
Approx dimensions 4.0 cm x 3.0 cm x 1.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Sample No. 3. ASET18530 / 21710 / 3. ES0908613 - 5 - SB11_3.0_14/06/09.
Approx dimensions 4.0 cm x 3.0 cm x 1.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

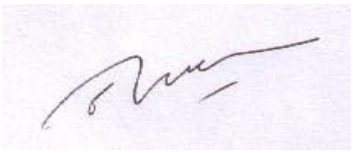
Sample No. 4. ASET18530 / 21710 / 4. ES0908613 - 7 - SB16_4.5_14/06/09.
Approx dimensions 4.0 cm x 3.0 cm x 1.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Sample No. 5. ASET18530 / 21710 / 5. ES0908613 - 9 - SB19_0.5_14/06/09.
Approx dimensions 4.0 cm x 3.0 cm x 1.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Sample No. 6. ASET18530 / 21710 / 6. ES0908613 - 11 - SB20_3.0_14/06/09.
Approx dimensions 4.0 cm x 3.0 cm x 1.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Sample No. 7. ASET18530 / 21710 / 7. ES0908613 - 13 - SB23_1.0_14/06/09.
Approx dimensions 4.0 cm x 3.0 cm x 1.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Analysed and reported by,



Imam Malik. BSc.
Mineralogist / Approved Signatory
Approved Identifier.

This document is issued in accordance with NATA's Accreditation requirements. Accredited for compliance with ISO/IEC 17025.

Environmental Division

QUALITY CONTROL REPORT

Work Order	: **ES0908613**	Page	: 1 of 11
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: COSTCO		
C-O-C number	: ----	Date Samples Received	: 15-JUN-2009
Sampler	: JAPSON SIWADI	Issue Date	: 19-JUN-2009
Order number	: ----		
		No. of samples received	: 17
Quote number	: EN/001/08 V4	No. of samples analysed	: 16

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

This Quality Control Report contains the following information:

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

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Nanthini Coilparampil	Senior Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics

General Comments

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

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 1010192)									
ES0908594-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	Anonymous	Anonymous	Anonymous	Anonymous
ES0908613-009	SB19-0.5-14/06/09	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	2.3	2.2	6.2	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 1010538)									
ES0908613-001	SB05-1.5-14/06/09	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	21	27	25.6	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	2	12	143	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	9	8	19.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	5	13	87.2	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	41	30	29.3	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	29	27	6.7	No Limit
ES0908613-007	SB16-4.5-14/06/09	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	10	10	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	3	2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	13	14	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	9	11.5	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	16	20	19.8	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	13	12	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1010539)									
ES0908613-001	SB05-1.5-14/06/09	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.2	0.0	No Limit
ES0908613-007	SB16-4.5-14/06/09	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1009450)									
ES0908613-002	SB08-0.9-14/06/09	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

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1009450) - continued									
ES0908613-002	SB08-0.9-14/06/09	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: 1009353)									
ES0908613-001	SB05-1.5-14/06/09	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
ES0908616-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1009449)									
ES0908613-002	SB08-0.9-14/06/09	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
ES0908613-011	SB20-3.0-14/06/09	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: 1009353)									
ES0908613-001	SB05-1.5-14/06/09	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
ES0908616-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 1010121)									
EB0909254-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Copper	7440-50-8	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Lead	7439-92-1	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
EB0909254-011	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Copper	7440-50-8	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Lead	7439-92-1	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 1010121) - continued									
EB0909254-011	Anonymous	EG020A-T: Zinc	7440-66-6	0.005	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1010468)									
ES0908531-005	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0908563-010	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1011836)									
ES0908613-015	QC504-14/06/09	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): Dibenz(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
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1009743)									
ES0908580-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0908580-003	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1011835)									
ES0908613-015	QC504-14/06/09	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080: BTEX (QC Lot: 1009743)									
ES0908580-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0908580-003	Anonymous	EP080: Benzene	71-43-2	1	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous

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 (%)*
EP080: BTEX (QC Lot: 1009743) - continued									
ES0908580-003	Anonymous	EP080: ortho-Xylene	95-47-6	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous

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

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

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1010538)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.1 mg/kg	122	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	107	89.2	117
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.7 mg/kg	108	90.1	114
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.2 mg/kg	106	85.2	111
EG005T: Nickel	7440-02-0	2	mg/kg	<2	54.8 mg/kg	110	88.3	116
EG005T: Zinc	7440-66-6	5	mg/kg	<5	104 mg/kg	103	81.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1010539)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	96.7	67	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1009450)								
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	101	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	99.4	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	99.6	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	98.2	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	101	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	102	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	103	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	97.5	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	103	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	99.2	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	98.1	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	101	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	91.6	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	90.9	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	91.4	72.4	114
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1009353)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	91.8	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1009449)								
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	107	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	86.0	72.6	117
EP080: BTEX (QCLot: 1009353)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	86.1	67.5	125

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEX (QCLot: 1009353) - continued								
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	97.0	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	71.3	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	79.0	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	82.7	66.7	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 1010121)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	92.7	85	111
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	94.9	88	108
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	96.9	92	114
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	101	89	115
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	96.7	91	113
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	101	91	113
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	92.2	78	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1010468)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	109	81	119
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1011836)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	97.4	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	87.9	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	91.1	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	85.8	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	98.6	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	95.1	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	95.6	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	96.2	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	85.0	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	81.0	62.5	116
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1011836) - continued								
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	90.6	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	90.0	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	82.7	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	90.2	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	82.2	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	81.8	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1009743)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	103	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1011835)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	115	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	400 µg/L	114	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	106	62.7	131
EP080: BTEX (QCLot: 1009743)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	96.4	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	103	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	96.1	76.1	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	90.3	75.7	123
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	94.8	77.9	121

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1010538)							
ES0908613-001	SB05-1.5-14/06/09	EG005T: Arsenic	7440-38-2	50 mg/kg	90.0	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	94.7	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	86.1	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	105	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	93.6	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	94.5	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	91.6	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1010539)							
ES0908613-001	SB05-1.5-14/06/09	EG035T: Mercury	7439-97-6	5 mg/kg	111	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1009450)							
ES0908613-002	SB08-0.9-14/06/09	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	94.5	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	100	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1009353)							
ES0908613-001	SB05-1.5-14/06/09	EP080: C6 - C9 Fraction	----	26 mg/kg	113	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1009449)							
ES0908613-002	SB08-0.9-14/06/09	EP071: C10 - C14 Fraction	----	640 mg/kg	96.9	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	94.2	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	84.3	70	130
EP080: BTEX (QCLot: 1009353)							
ES0908613-001	SB05-1.5-14/06/09	EP080: Benzene	71-43-2	2.5 mg/kg	74.7	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	82.3	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	75.0	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	79.6	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	78.1	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 1010121)							
EB0909254-002	Anonymous	EG020A-T: Arsenic	7440-38-2	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Cadmium	7440-43-9	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Chromium	7440-47-3	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Copper	7440-50-8	Anonymous	Anonymous	Anonymous	Anonymous

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 1010121) - continued							
EB0909254-002	Anonymous	EG020A-T: Lead	7439-92-1	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Nickel	7440-02-0	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Zinc	7440-66-6	Anonymous	Anonymous	Anonymous	Anonymous
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1010468)							
ES0908531-005	Anonymous	EG035T: Mercury	7439-97-6	Anonymous	Anonymous	Anonymous	Anonymous
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1011836)							
ES0908613-016	QC704-14/06/09	EP075(SIM): Acenaphthene	83-32-9	20 µg/L	83.6	70	130
		EP075(SIM): Pyrene	129-00-0	20 µg/L	89.9	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1009743)							
ES0908580-001	Anonymous	EP080: C6 - C9 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1011835)							
ES0908613-016	QC704-14/06/09	EP071: C10 - C14 Fraction	----	400 µg/L	102	70	130
		EP071: C15 - C28 Fraction	----	400 µg/L	126	70	130
		EP071: C29 - C36 Fraction	----	400 µg/L	86.5	70	130
EP080: BTEX (QCLot: 1009743)							
ES0908580-001	Anonymous	EP080: Benzene	71-43-2	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	Anonymous	Anonymous	Anonymous	Anonymous

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES0908613**	Page	: 1 of 9
Client	: URS AUSTRALIA (NSW) PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: COSTCO		
C-O-C number	: ----	Date Samples Received	: 15-JUN-2009
Sampler	: JAPSON SIWADI	Issue Date	: 19-JUN-2009
Order number	: ----		
		No. of samples received	: 17
Quote number	: EN/001/08 V4	No. of samples analysed	: 16

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

This Interpretive Quality Control Report contains the following information:

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

Analysis Holding Time Compliance

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

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

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content								
Soil Glass Jar - Unpreserved								
SB05-1.5-14/06/09,	SB08-0.9-14/06/09,	**14-JUN-2009**	**----**	----	----	**16-JUN-2009**	21-JUN-2009	✓
SB09-0.9-14/06/09,	SB09-2.8-14/06/09,							
SB11-3.0-14/06/09,	SB16-0.9-14/06/09,							
SB16-4.5-14/06/09,	SB17-2.0-14/06/09,							
SB19-0.5-14/06/09,	SB19-3.5-14/06/09,							
SB20-3.0-14/06/09,	SB21-3.0-14/06/09,							
SB23-1.0-14/06/09,	QC105-14/06/09							
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved								
SB05-1.5-14/06/09,	SB08-0.9-14/06/09,	**14-JUN-2009**	**16-JUN-2009**	12-JUL-2009	✓	**17-JUN-2009**	11-DEC-2009	✓
SB09-0.9-14/06/09,	SB09-2.8-14/06/09,							
SB11-3.0-14/06/09,	SB16-0.9-14/06/09,							
SB16-4.5-14/06/09,	SB17-2.0-14/06/09,							
SB19-0.5-14/06/09,	SB19-3.5-14/06/09,							
SB20-3.0-14/06/09,	SB21-3.0-14/06/09,							
SB23-1.0-14/06/09,	QC105-14/06/09							
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved								
SB05-1.5-14/06/09,	SB08-0.9-14/06/09,	**14-JUN-2009**	**16-JUN-2009**	12-JUL-2009	✓	**17-JUN-2009**	12-JUL-2009	✓
SB09-0.9-14/06/09,	SB09-2.8-14/06/09,							
SB11-3.0-14/06/09,	SB16-0.9-14/06/09,							
SB16-4.5-14/06/09,	SB17-2.0-14/06/09,							
SB19-0.5-14/06/09,	SB19-3.5-14/06/09,							
SB20-3.0-14/06/09,	SB21-3.0-14/06/09,							
SB23-1.0-14/06/09,	QC105-14/06/09							

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved								
SB08-0.9-14/06/09,	SB09-2.8-14/06/09,	**14-JUN-2009**	**15-JUN-2009**	28-JUN-2009	✓	**16-JUN-2009**	25-JUL-2009	✓
SB16-0.9-14/06/09,	SB17-2.0-14/06/09,							
SB19-3.5-14/06/09,	SB21-3.0-14/06/09,							
QC105-14/06/09								
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved								
SB05-1.5-14/06/09,	SB08-0.9-14/06/09,	**14-JUN-2009**	**15-JUN-2009**	28-JUN-2009	✓	**16-JUN-2009**	25-JUL-2009	✓
SB09-0.9-14/06/09,	SB09-2.8-14/06/09,							
SB11-3.0-14/06/09,	SB16-0.9-14/06/09,							
SB16-4.5-14/06/09,	SB17-2.0-14/06/09,							
SB19-0.5-14/06/09,	SB19-3.5-14/06/09,							
SB20-3.0-14/06/09,	SB21-3.0-14/06/09,							
SB23-1.0-14/06/09,	QC105-14/06/09							
Soil Glass Jar - Unpreserved								
SB05-1.5-14/06/09,	SB08-0.9-14/06/09,	**14-JUN-2009**	**15-JUN-2009**	28-JUN-2009	✓	**17-JUN-2009**	28-JUN-2009	✓
SB09-0.9-14/06/09,	SB09-2.8-14/06/09,							
SB11-3.0-14/06/09,	SB16-0.9-14/06/09,							
SB16-4.5-14/06/09,	SB17-2.0-14/06/09,							
SB19-0.5-14/06/09,	SB19-3.5-14/06/09,							
SB20-3.0-14/06/09,	SB21-3.0-14/06/09,							
SB23-1.0-14/06/09,	QC105-14/06/09							
EP080: BTEX								
Soil Glass Jar - Unpreserved								
SB05-1.5-14/06/09,	SB08-0.9-14/06/09,	**14-JUN-2009**	**15-JUN-2009**	28-JUN-2009	✓	**17-JUN-2009**	28-JUN-2009	✓
SB09-0.9-14/06/09,	SB09-2.8-14/06/09,							
SB11-3.0-14/06/09,	SB16-0.9-14/06/09,							
SB16-4.5-14/06/09,	SB17-2.0-14/06/09,							
SB19-0.5-14/06/09,	SB19-3.5-14/06/09,							
SB20-3.0-14/06/09,	SB21-3.0-14/06/09,							
SB23-1.0-14/06/09,	QC105-14/06/09							

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
QC504-14/06/09,	QC704-14/06/09	**14-JUN-2009**	**16-JUN-2009**	11-DEC-2009	✓	**16-JUN-2009**	11-DEC-2009	✓
EG035T: Total Recoverable Mercury by FIMS								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
QC504-14/06/09,	QC704-14/06/09	**14-JUN-2009**	**----**	----	----	**17-JUN-2009**	12-JUL-2009	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved								
QC504-14/06/09,	QC704-14/06/09	**14-JUN-2009**	**17-JUN-2009**	21-JUN-2009	✓	**18-JUN-2009**	27-JUL-2009	✓
EP080/071: Total Petroleum Hydrocarbons								
Amber Glass Bottle - Unpreserved								
QC504-14/06/09,	QC704-14/06/09	**14-JUN-2009**	**17-JUN-2009**	21-JUN-2009	✓	**18-JUN-2009**	27-JUL-2009	✓
Amber VOC Vial - HCl or NaHSO4								
QC504-14/06/09,	QC704-14/06/09	**14-JUN-2009**	**---**	---	----	**17-JUN-2009**	28-JUN-2009	✓
EP080: BTEX								
Amber VOC Vial - HCl or NaHSO4								
QC504-14/06/09,	QC704-14/06/09	**14-JUN-2009**	**---**	---	----	**17-JUN-2009**	28-JUN-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)	1	10	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.0	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	5.0	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	5.0	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	6	16.7	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	19	10.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	9	11.1	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	18	11.1	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	6	16.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Total Mercury by FIMS	EG035T	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	6	**16.7**	**5.0**	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	19	**5.3**	**5.0**	✓	ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	9	**11.1**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	18	**5.6**	**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
Asbestos - Count (Solid)	ASB-SOL	SOIL	Asbestos Count on solid matrices using PLM conducted by Subcontracting Laboratory
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 (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
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)
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Analytical Methods	Method	Matrix	Method Descriptions
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

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 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.
Digestion for Total Recoverable Metals	EN25	WATER	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)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

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

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP080S: TPH(V)/BTEX Surrogates	ES0908613-006	SB16-0.9-14/06/09	**1.2-Dichloroethane-D4**	17060-07-0	121 %	80-120 %	**Recovery greater than upper data quality objective**

Sub-Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP080S: TPH(V)/BTEX Surrogates	ES0908613-015	QC504-14/06/09	**Toluene-D8**	2037-26-5	87.8 %	88-110 %	**Recovery less than lower data quality objective**

Outliers : Analysis Holding Time Compliance

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

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

Outliers : Frequency of Quality Control Samples

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

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

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : **ES0908613**

Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	Page	: 1 of 3
Order number	: ----		
C-O-C number	: ----	Quote number	: ES2009URSNSW0253 (EN/001/08 V4)
Site	: COSTCO		
Sampler	: JAPSON SIWADI	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 15-JUN-2009	Issue Date	: 15-JUN-2009 14:10
Client Requested Due Date	: 22-JUN-2009	Scheduled Reporting Date	: **19-JUN-2009**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 1.2'C - Ice present
No. of coolers/boxes	: 1 HARD	No. of samples received	: 17
Sercurity Seal	: Not intact.	No. of samples analysed	: 16

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- Samples received in appropriately pretreated and preserved containers.
- Asbestos analysis will be subcontracted to ASET.
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- **Sample QC205_14/06/09 will be forwarded to Envirolab as per COC.**
- **Received extra sample SB21_0.8_14/06/09 to be on hold.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Nanthini Coilparampil
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

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

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	(On Hold) SOIL No analysis requested	SOIL - ASB-SOL (Subcontracted) Asbestos - Count (Solid)	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-05 TPH/BTEX/8 Metals	SOIL - S-07 TPH/BTEX/PAH (SIM)
ES0908613-001	14-JUN-2009 15:00	SB05-1.5-14/06/09		✓		✓	
ES0908613-002	14-JUN-2009 15:00	SB08-0.9-14/06/09			✓		✓
ES0908613-003	14-JUN-2009 15:00	SB09-0.9-14/06/09		✓		✓	
ES0908613-004	14-JUN-2009 15:00	SB09-2.8-14/06/09			✓		✓
ES0908613-005	14-JUN-2009 15:00	SB11-3.0-14/06/09		✓		✓	
ES0908613-006	14-JUN-2009 15:00	SB16-0.9-14/06/09			✓		✓
ES0908613-007	14-JUN-2009 15:00	SB16-4.5-14/06/09		✓		✓	
ES0908613-008	14-JUN-2009 15:00	SB17-2.0-14/06/09			✓		✓
ES0908613-009	14-JUN-2009 15:00	SB19-0.5-14/06/09		✓		✓	
ES0908613-010	14-JUN-2009 15:00	SB19-3.5-14/06/09			✓		✓
ES0908613-011	14-JUN-2009 15:00	SB20-3.0-14/06/09		✓		✓	
ES0908613-012	14-JUN-2009 15:00	SB21-3.0-14/06/09			✓		✓
ES0908613-013	14-JUN-2009 15:00	SB23-1.0-14/06/09		✓		✓	
ES0908613-014	14-JUN-2009 15:00	QC105-14/06/09			✓		✓
ES0908613-017	14-JUN-2009 15:00	SB21-0.8-14/06/09	✓				

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - W-02T 8 metals (Total)	WATER - W-07 TPH/BTEX/PAH
ES0908613-015	14-JUN-2009 15:00	QC504-14/06/09	✓	✓
ES0908613-016	14-JUN-2009 15:00	QC704-14/06/09	✓	✓

Requested Deliverables

EQUIS URS_EDMS

- EDI Format - EQUIS V5 (EQUIS_V5)	Email	urs_edms@urscorp.com

MR JAPSON SIWADI

- *AU Certificate of Analysis - NATA (COA)	Email	japson_siwadi@urscorp.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	japson_siwadi@urscorp.com
- AU Chromatogram Cover Sheet (CHROM)	Email	japson_siwadi@urscorp.com
- AU Interpretive QC Report (Anon QCI Not Rep) (QCI_NoAnon)	Email	japson_siwadi@urscorp.com
- AU QC Report (Anon QC Not Rep) - NATA (QC_NoAnon)	Email	japson_siwadi@urscorp.com
- Default - Chain of Custody (COC)	Email	japson_siwadi@urscorp.com
- EDI Format - ENMRG (ENMRG)	Email	japson_siwadi@urscorp.com
- EDI Format - MRED (MRED)	Email	japson_siwadi@urscorp.com
- Trigger - Subcontract Report (SUBCO)	Email	japson_siwadi@urscorp.com

THE ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	sydney_accounts@urscorp.com

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

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory Services Pty Ltd

CLIENT: URS AUSTRALIA PTY LTD
ADDRESS: L3 116 MILLER STREET, NORTH SYDNEY, NSW 2060
PROJECT MANAGER (PM): JAPSON SIWADI
PROJECT ID: 43217997
SITE: COSTCO P.O. NO.:
RESULTS REQUIRED BY (Date): QUOTE NO.:

SAMPLER: Japson Siwadi
MOBILE: 4125034013
PHONE 8925 5785
EMAIL REPORT TO: japson_siwadi@urscorp.com
EMAIL INVOICE TO: (if different to report)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No or N/A
SAMPLE TEMPERATURE 1.2C
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DIPOSAL:

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

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

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Container Type / Code	Total bottles	Heavy metals (8)	TPH/BTEX	PAH	Asbestos
1	SB05-1.5-14/06/09	S	14/6				✓	✓		✓
2	SB08-0.9-14/06/09	S					✓	✓	✓	M
3	SB09-0.9-14/06/09	S					✓	✓		✓
4	SB[redacted]-2.8-14/06/09	S					✓	✓	✓	
5	SB[redacted]-3.0-14/06/09	S					✓	✓		✓
6	SB16-0.9-14/06/09	S					✓	✓	✓	
7	SB16-4.5-14/06/09	S					✓	✓		✓
8	SB17-2.0-14/06/09	S					✓	✓	✓	
9	SB[redacted]-0.5-14/06/09	S					✓	✓		✓
10	SB19-3.5-14/06/09	S					✓	✓	✓	
11	SB20-3.0-14/06/09	S					✓	✓		✓
12	SB21-3.0-14/06/09	S					✓	✓	✓	

CONTRACT: [redacted]RK
WO: ES090[redacted]86 13
LAB: Aset / Asbestos
DATE: Forward to ~~Labmaster~~ EnviroLab.
SPLIT:

RELINQUISHED BY:
Name: Japson Siwadi
Of: URS
Name:
Of:
Date: 15/06/09
Time: 10:00 Am
Date:
Time:

RECEIVED BY
Name: SARADA
Of: ALS
Date: 15.06.09
Time: 10:15
Name:
Of:
Date:
Time:

Environmental Division
Sydney
Work Order
ES0908613

Telephone : +61-2-8784 8555

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

AUSTRALIAN LABORATORY SERVICES P/L

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES0908616**	Page	: 1 of 10
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 15-JUN-2009
Sampler	: JAPSON SIWADI	Issue Date	: 19-JUN-2009
Site	: COSTCO		
		No. of samples received	: 8
Quote number	: EN/001/08 V4	No. of samples analysed	: 8

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Nanthini Coilparampil	Senior Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics

General Comments

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

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

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

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

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 some elements on sample ES09008616-003 due to sample heterogeneity.**
- **EP075(SIM), EP071: The entire bottle is required for PAH, phenol and semi-volatile TPH determinations. Additional sample bottles are required for laboratory reporting of duplicates and matrix spikes.**
- **EP080: Level of reporting raised for toluene due to ambient background levels in the laboratory.**
- **LCS recovery for Copper falls outside ALS Dynamic Control Limit. However, it is within the acceptance criteria based on ALS DQO. No further action is required.**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	SB06-0.9-13/06/09	SB06-4.5-13/06/09	SB10-1.0-13/06/09	SB10-3.0-13/06/09	SB15-0.8-13/06/09
				Client sampling date / time	13-JUN-2009 15:00	13-JUN-2009 15:00	13-JUN-2009 15:00	13-JUN-2009 15:00	13-JUN-2009 15:00
					ES0908616-001	ES0908616-002	ES0908616-003	ES0908616-004	ES0908616-005
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		15.4	20.1	16.1	15.5	2.2
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		14	6	10	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	5	<1	<1
Chromium	7440-47-3	2	mg/kg		10	9	26	5	<2
Copper	7440-50-8	5	mg/kg		130	87	88	59	47
Lead	7439-92-1	5	mg/kg		18	45	92	7	5
Nickel	7440-02-0	2	mg/kg		2	2	40	<2	<2
Zinc	7440-66-6	5	mg/kg		16	33	292	<5	11
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	0.1	0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	<0.5	----	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg		----	<0.5	----	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg		----	<0.5	----	<0.5	----
Fluorene	86-73-7	0.5	mg/kg		----	<0.5	----	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg		----	<0.5	----	<0.5	----
Anthracene	120-12-7	0.5	mg/kg		----	<0.5	----	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg		----	<0.5	----	<0.5	----
Pyrene	129-00-0	0.5	mg/kg		----	<0.5	----	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	<0.5	----	<0.5	----
Chrysene	218-01-9	0.5	mg/kg		----	<0.5	----	<0.5	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		----	<0.5	----	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	<0.5	----	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	<0.5	----	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	<0.5	----	<0.5	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	<0.5	----	<0.5	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	<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	700	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	350	<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

Analytical Results

Sub-Matrix: SOIL				Client sample ID	SB06-0.9-13/06/09	SB06-4.5-13/06/09	SB10-1.0-13/06/09	SB10-3.0-13/06/09	SB15-0.8-13/06/09
				Client sampling date / time	13-JUN-2009 15:00	13-JUN-2009 15:00	13-JUN-2009 15:00	13-JUN-2009 15:00	13-JUN-2009 15:00
Compound	CAS Number	LOR	Unit		ES0908616-001	ES0908616-002	ES0908616-003	ES0908616-004	ES0908616-005
EP080: BTEX - Continued									
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
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		----	88.3	----	88.0	----
2-Chlorophenol-D4	93951-73-6	0.1	%		----	98.4	----	101	----
2.4.6-Tribromophenol	118-79-6	0.1	%		----	85.2	----	81.6	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	103	----	104	----
Anthracene-d10	1719-06-8	0.1	%		----	103	----	102	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	97.7	----	96.1	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		94.4	85.4	94.1	91.4	95.1
Toluene-D8	2037-26-5	0.1	%		101	95.7	107	102	106
4-Bromofluorobenzene	460-00-4	0.1	%		87.5	82.4	87.5	84.3	90.0

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID				
				QC104-13/06/09	----	----	----	----
				Client sampling date / time				
				13-JUN-2009 15:00	----	----	----	----
				ES0908616-006	**----**	**----**	**----**	**----**
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**15.2**	----	----	----	----
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	**4**	----	----	----	----
Copper	7440-50-8	5	mg/kg	**47**	----	----	----	----
Lead	7439-92-1	5	mg/kg	**7**	----	----	----	----
Nickel	7440-02-0	2	mg/kg	<2	----	----	----	----
Zinc	7440-66-6	5	mg/kg	<5	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
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	----	----	----	----
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	----	----	----	----

Analytical Results

Sub-Matrix: SOIL				Client sample ID	QC104-13/06/09	----	----	----	----
				Client sampling date / time	13-JUN-2009 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES0908616-006	----	----	----	----
EP080: BTEX - Continued									
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	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**87.0**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**97.0**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**78.6**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**103**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**101**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**94.4**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**95.8**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**109**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**92.3**	----	----	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	QC503-13/06/09	QC703-13/06/09	----	----	----
				Client sampling date / time	13-JUN-2009 15:00	13-JUN-2009 15:00	----	----	----
Compound	CAS Number	LOR	Unit		ES0908616-007	ES0908616-008	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		<0.001	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	<0.005	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
EP080: BTEX									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<5	<5	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----

Analytical Results

Sub-Matrix: WATER				Client sample ID	QC503-13/06/09	QC703-13/06/09	----	----	----
				Client sampling date / time	13-JUN-2009 15:00	13-JUN-2009 15:00	----	----	----
Compound	CAS Number	LOR	Unit		ES0908616-007	ES0908616-008	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**26.2**	**24.5**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**79.4**	**65.6**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**82.0**	**97.2**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**79.7**	**97.4**	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**104**	**111**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**83.9**	**104**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**99.8**	**98.3**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**101**	**93.3**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**111**	**92.7**	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) 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
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET18531/ 21711 / 1 - 3
Your ref: ES0908616
NATA Accreditation No: 14484

18 June 2009

Australian Laboratory Services Pty Ltd
277 Woodpark Road
Smithfield NSW 2164

Attn: Mr Victor Kedicioglu
Fax No: 02-87848500

Dear Victor,

Asbestos Identification
This report presents the results of three samples, forwarded by Australian Laboratory Services Pty Ltd on 16 June 2009, for analysis for asbestos.

1.Introduction: Three samples forwarded were examined and analysed for the presence of asbestos.

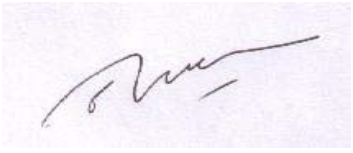
2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining Method **(Safer Environment Method 1.)**

3. Results : **Sample No. 1. ASET18531 / 21711 / 1. ES0908616 - 1 -SB06_0.9_13/06/09.**
Approx dimensions 4.0 cm x 3.0 cm x 1.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Sample No. 2. ASET18531 / 21711 / 2. ES0908616 - 3 -SB10_1.0_13/06/09.
Approx dimensions 4.0 cm x 3.0 cm x 1.0 cm
The sample consisted of a mixture of clayish soil and stones.
No asbestos detected.

Sample No. 3. ASET18531 / 21711 / 3. ES0908616 - 5 -SB15_0.8_13/06/09.
Approx dimensions 4.0 cm x 3.0 cm x 1.0 cm
The sample consisted of a mixture of sandy soil and stones.
No asbestos detected.

Analysed and reported by,



Imam Malik. BSc.
Mineralogist / Approved Signatory
Approved Identifier.

NATA
WORLD RECOGNISED
ACCREDITATION

This document is issued in accordance with NATA's Accreditation requirements. Accredited for compliance with ISO/IEC 17025.

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

CERTIFICATE OF ANALYSIS 29828

Client:
URS Australia
Level 3, 116 Miller St
North Sydney
NSW 2060

Attention: Japson Siwadi

Sample log in details:

Your Reference:	**43217997, Costco**
No. of samples:	1 Soil
Date samples received:	16/06/09
Date completed instructions received:	16/06/09

Analysis Details:
Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details:

Date results requested by:	23/06/09
Date of Preliminary Report:	Not issued
Issue Date:	19/06/09

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Accredited for compliance with ISO/IEC 17025.
Tests not covered by NATA are denoted with *.

Results Approved By:

David Springer
Business Development & Quality Manager

vTPH & BTEX in Soil		
Our Reference:	UNITS	29828-1
Your Reference	----------	QC205-14/06/09
Date Sampled	----------	14/06/2009
Type of sample		Soil
Date extracted	-	17/06/2009
Date analysed	-	18/06/2009
vTPH C_6 - C_9	mg/kg	<25
Benzene	mg/kg	<0.5
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1.0
m+p-xylene	mg/kg	<2.0
o-Xylene	mg/kg	<1.0
Surrogate aaa-Trifluorotoluene	%	112

sTPH in Soil (C10-C36)		
Our Reference:	UNITS	29828-1
Your Reference	----------	QC205-14/06/09
Date Sampled	----------	14/06/2009
Type of sample		Soil
Date extracted	-	17/06/2009
Date analysed	-	17/06/2009
TPH C_{10} - C_{14}	mg/kg	<50
TPH C_{15} - C_{28}	mg/kg	<100
TPH C_{29} - C_{36}	mg/kg	<100
Surrogate o-Terphenyl	%	82

PAHs in Soil		
Our Reference:	UNITS	29828-1
Your Reference	----------	QC205-14/06/09
Date Sampled	----------	14/06/2009
Type of sample		Soil
Date extracted	-	17/06/2009
Date analysed	-	18/06/2009
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Surrogate p-Terphenyl-d_{14}	%	105

Acid Extractable metals in soil		
Our Reference:	UNITS	29828-1
Your Reference	----------	QC205-14/06/09
Date Sampled	----------	14/06/2009
Type of sample		Soil
Date digested	-	17/06/2009
Date analysed	-	17/06/2009
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.5
Chromium	mg/kg	3
Copper	mg/kg	3
Lead	mg/kg	4
Mercury	mg/kg	<0.1
Nickel	mg/kg	<1
Zinc	mg/kg	2

Moisture		
Our Reference:	UNITS	29828-1
Your Reference	----------	QC205-14/06/09
Date Sampled	----------	14/06/2009
Type of sample		Soil
Date prepared	-	17/06/2009
Date analysed	-	17/06/2009
Moisture	%	16

Method ID	Methodology Summary
GC.16	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS.
GC.3	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.
GC.12 subset	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS.
Metals.20 ICP-AES	Determination of various metals by ICP-AES.
Metals.21 CV-AAS	Determination of Mercury by Cold Vapour AAS.
LAB.8	Moisture content determined by heating at 105 deg C for a minimum of 4 hours.

QUALITY CONTROL vTPH & BTEX in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/6/09	[NT]	[NT]	LCS-2	17/6/09
Date analysed	-			18/6/09	[NT]	[NT]	LCS-2	18/6/09
vTPH C_6 - C_9	mg/kg	25	GC.16	<25	[NT]	[NT]	LCS-2	98%
Benzene	mg/kg	0.5	GC.16	<0.5	[NT]	[NT]	LCS-2	100%
Toluene	mg/kg	0.5	GC.16	<0.5	[NT]	[NT]	LCS-2	93%
Ethylbenzene	mg/kg	1	GC.16	<1.0	[NT]	[NT]	LCS-2	105%
m+p-xylene	mg/kg	2	GC.16	<2.0	[NT]	[NT]	LCS-2	100%
o-Xylene	mg/kg	1	GC.16	<1.0	[NT]	[NT]	LCS-2	97%
Surrogate aaa-Trifluorotoluene	%		GC.16	115	[NT]	[NT]	LCS-2	113%

QUALITY CONTROL sTPH in Soil (C10-C36)	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/06/2009	[NT]	[NT]	LCS-2	17/06/2009
Date analysed	-			17/06/2009	[NT]	[NT]	LCS-2	17/06/2009
TPH C_{10} - C_{14}	mg/kg	50	GC.3	<50	[NT]	[NT]	LCS-2	99%
TPH C_{15} - C_{28}	mg/kg	100	GC.3	<100	[NT]	[NT]	LCS-2	108%
TPH C_{29} - C_{36}	mg/kg	100	GC.3	<100	[NT]	[NT]	LCS-2	99%
Surrogate o-Terphenyl	%		GC.3	109	[NT]	[NT]	LCS-2	88%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date extracted	-			17/06/09	[NT]	[NT]	LCS-2	17/06/09
Date analysed	-			18/06/09	[NT]	[NT]	LCS-2	18/06/09
Naphthalene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	LCS-2	97%
Acenaphthylene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Acenaphthene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluorene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	LCS-2	95%
Phenanthrene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	LCS-2	100%
Anthracene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Fluoranthene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	LCS-2	91%
Pyrene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	LCS-2	99%

QUALITY CONTROL PAHs in Soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Benzo(a)anthracene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Chrysene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	LCS-2	115%
Benzo(b+k)fluoranthene	mg/kg	0.2	GC.12 subset	<0.2	[NT]	[NT]	[NR]	[NR]
Benzo(a)pyrene	mg/kg	0.05	GC.12 subset	<0.05	[NT]	[NT]	LCS-2	89%
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Dibenzo(a,h)anthracene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Benzo(g,h,i)perylene	mg/kg	0.1	GC.12 subset	<0.1	[NT]	[NT]	[NR]	[NR]
Surrogate p-Terphenyl-d_{14}	%		GC.12 subset	101	[NT]	[NT]	LCS-2	108%

QUALITY CONTROL Acid Extractable metals in soil	UNITS	PQL	METHOD	Blank	Duplicate Sm#	Duplicate results Base ll Duplicate ll %RPD	Spike Sm#	Spike % Recovery
Date digested	-			17/06/09	[NT]	[NT]	LCS-8	17/06/09
Date analysed	-			17/06/09	[NT]	[NT]	LCS-8	17/06/09
Arsenic	mg/kg	4	Metals.20 ICP-AES	<4	[NT]	[NT]	LCS-8	100%
Cadmium	mg/kg	0.5	Metals.20 ICP-AES	<0.5	[NT]	[NT]	LCS-8	98%
Chromium	mg/kg	1	Metals.20 ICP-AES	<1	[NT]	[NT]	LCS-8	101%
Copper	mg/kg	1	Metals.20 ICP-AES	<1	[NT]	[NT]	LCS-8	107%
Lead	mg/kg	1	Metals.20 ICP-AES	<1	[NT]	[NT]	LCS-8	99%
Mercury	mg/kg	0.1	Metals.21 CV-AAS	<0.1	[NT]	[NT]	LCS-8	114%
Nickel	mg/kg	1	Metals.20 ICP-AES	<1	[NT]	[NT]	LCS-8	101%
Zinc	mg/kg	1	Metals.20 ICP-AES	<1	[NT]	[NT]	LCS-8	101%

QUALITY CONTROL Moisture	UNITS	PQL	METHOD	Blank
Date prepared	-			17/06/2009
Date analysed	-			17/06/2009
Moisture	%	0.1	LAB.8	<0.10

QUALITY CONTROL Acid Extractable metals in soil	UNITS	Dup. Sm#	Duplicate Base + Duplicate + %RPD	Spike Sm#	Spike % Recovery
Date digested	-	[NT]	[NT]	29828-1	17/06/09
Date analysed	-	[NT]	[NT]	29828-1	17/06/09
Arsenic	mg/kg	[NT]	[NT]	29828-1	101%
Cadmium	mg/kg	[NT]	[NT]	29828-1	97%
Chromium	mg/kg	[NT]	[NT]	29828-1	106%
Copper	mg/kg	[NT]	[NT]	29828-1	109%
Lead	mg/kg	[NT]	[NT]	29828-1	102%
Mercury	mg/kg	[NT]	[NT]	29828-1	117%
Nickel	mg/kg	[NT]	[NT]	29828-1	105%
Zinc	mg/kg	[NT]	[NT]	29828-1	103%

Report Comments:

Asbestos was analysed by Approved Identifier: Not applicable for this job
INS: Insufficient sample for this test NT: Not tested PQL: Practical Quantitation Limit <: Less than >: Greater than
RPD: Relative Percent Difference NA: Test not required LCS: Laboratory Control Sample NR: Not requested

Quality Control Definitions

Blank: This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate: This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike: A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike: Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria:

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the sample batch were within laboratory acceptance criteria.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals; 60-140% for organics and 10-140% for SVOC and speciated phenols is acceptable. Surrogates: 60-140% is acceptable for general organics and 10-140% for SVOC and speciated phenols.

Environmental Division

QUALITY CONTROL REPORT

Work Order	: **ES0908616**	Page	: 1 of 11
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: COSTCO		
C-O-C number	: ----	Date Samples Received	: 15-JUN-2009
Sampler	: JAPSON SIWADI	Issue Date	: 19-JUN-2009
Order number	: ----		
		No. of samples received	: 8
Quote number	: EN/001/08 V4	No. of samples analysed	: 8

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

This Quality Control Report contains the following information:

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

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Spectroscopist	Inorganics
Hoa Nguyen	Inorganic Chemist	Inorganics
Nanthini Coilparampil	Senior Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Organics

General Comments

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

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 1010193)									
ES0908615-006	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	Anonymous	Anonymous	Anonymous	Anonymous
ES0908626-002	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	Anonymous	Anonymous	Anonymous	Anonymous
EG005T: Total Metals by ICP-AES (QC Lot: 1010540)									
ES0908616-003	SB10-1.0-13/06/09	EG005T: Cadmium	7440-43-9	1	mg/kg	5	6	24.5	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	26	35	29.7	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	40	33	19.4	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	10	10	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	88	77	13.2	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	92	90	2.2	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	292	350	18.2	0% - 20%
ES0908616-006	QC104-13/06/09	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	4	5	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	47	45	5.4	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	7	7	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1010539)									
ES0908613-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
ES0908613-007	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1010541)									
ES0908616-003	SB10-1.0-13/06/09	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	0.3	81.6	No Limit
ES0908616-006	QC104-13/06/09	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1009450)									
ES0908613-002	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1009450) - continued									
ES0908613-002	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1009353)									
ES0908613-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
ES0908616-001	SB06-0.9-13/06/09	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1009449)									
ES0908613-002	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	100	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C10 - C14 Fraction	----	50	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
ES0908613-011	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	100	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C10 - C14 Fraction	----	50	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
EP080: BTEX (QC Lot: 1009353)									
ES0908613-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
ES0908616-001	SB06-0.9-13/06/09	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 1010122)									
ES0908616-007	QC503-13/06/09	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
ES0908623-012	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous

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 (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 1010122) - continued									
ES0908623-012	Anonymous	EG020A-T: Copper	7440-50-8	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Lead	7439-92-1	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1010468)									
ES0908531-005	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0908563-010	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1011836)									
ES0908613-015	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Naphthalene	91-20-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthylene	208-96-8	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Acenaphthene	83-32-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluorene	86-73-7	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Phenanthrene	85-01-8	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Anthracene	120-12-7	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Fluoranthene	206-44-0	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benz(a)anthracene	56-55-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Chrysene	218-01-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1009743)									
ES0908580-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0908580-003	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1011835)									
ES0908613-015	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C10 - C14 Fraction	----	50	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	50	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP080: BTEX (QC Lot: 1009743)									
ES0908580-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0908580-003	Anonymous	EP080: Benzene	71-43-2	1	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous

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 (%)*
EP080: BTEX (QC Lot: 1009743) - continued									
ES0908580-003	Anonymous	EP080: Ethylbenzene	100-41-4	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous

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

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

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1010540)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.1 mg/kg	123	90.1	124
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	2.76 mg/kg	109	83.3	111
EG005T: Chromium	7440-47-3	2	mg/kg	<2	60.9 mg/kg	109	89.2	117
EG005T: Copper	7440-50-8	5	mg/kg	<5	54.7 mg/kg	# 115	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	112	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: 1010539)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	96.7	67	118
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1010541)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	97.7	67	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1009450)								
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	101	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	99.4	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	99.6	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	98.2	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	101	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	102	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	103	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	97.5	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	103	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	99.2	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	98.1	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	101	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	91.6	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	90.9	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	91.4	72.4	114
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1009353)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	91.8	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1009449)								
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	107	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	86.0	72.6	117

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEX (QCLot: 1009353)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	86.1	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	97.0	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	71.3	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	79.0	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	82.7	66.7	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 1010122)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	87.5	85	111
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	91.5	88	108
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	98.8	92	114
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	93.3	89	115
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	97.2	91	113
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	94.9	91	113
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	83.8	78	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1010468)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	109	81	119
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1011836)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	97.4	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	87.9	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	91.1	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	85.8	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	98.6	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	95.1	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	95.6	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	96.2	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	85.0	64.1	117
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1011836) - continued								
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	81.0	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	90.6	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	90.0	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	82.7	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	90.2	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	82.2	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	81.8	59.1	118
		1	µg/L	<1.0	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1009743)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	103	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1011835)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	115	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	400 µg/L	114	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	106	62.7	131
EP080: BTEX (QCLot: 1009743)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	96.4	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	103	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	96.1	76.1	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	90.3	75.7	123
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	94.8	77.9	121

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1010540)							
ES0908616-003	SB10-1.0-13/06/09	EG005T: Arsenic	7440-38-2	50 mg/kg	107	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	100	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	107	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	86.4	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	119	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	117	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	87.4	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1010539)							
ES0908613-001	Anonymous	EG035T: Mercury	7439-97-6	Anonymous	Anonymous	Anonymous	Anonymous
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1010541)							
ES0908616-003	SB10-1.0-13/06/09	EG035T: Mercury	7439-97-6	5 mg/kg	102	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1009450)							
ES0908613-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1009353)							
ES0908613-001	Anonymous	EP080: C6 - C9 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1009449)							
ES0908613-002	Anonymous	EP071: C10 - C14 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C15 - C28 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
EP080: BTEX (QCLot: 1009353)							
ES0908613-001	Anonymous	EP080: Benzene	71-43-2	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	Anonymous	Anonymous	Anonymous	Anonymous

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 1010122)							
ES0908616-008	QC703-13/06/09	EG020A-T: Arsenic	7440-38-2	1 mg/L	91.9	70	130
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	95.3	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%) MS	Recovery Limits (%) Low	High
EG020T: Total Metals by ICP-MS (QCLot: 1010122) - continued							
ES0908616-008	QC703-13/06/09	EG020A-T: Chromium	7440-47-3	1 mg/L	95.9	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	92.2	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	89.8	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	94.3	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	89.8	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1010468)							
ES0908531-005	Anonymous	EG035T: Mercury	7439-97-6	Anonymous	Anonymous	Anonymous	Anonymous
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1011836)							
ES0908613-016	Anonymous	EP075(SIM): Acenaphthene	83-32-9	Anonymous	Anonymous	Anonymous	Anonymous
		EP075(SIM): Pyrene	129-00-0	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1009743)							
ES0908580-001	Anonymous	EP080: C6 - C9 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1011835)							
ES0908613-016	Anonymous	EP071: C10 - C14 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C15 - C28 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
		EP071: C29 - C36 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
EP080: BTEX (QCLot: 1009743)							
ES0908580-001	Anonymous	EP080: Benzene	71-43-2	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	Anonymous	Anonymous	Anonymous	Anonymous

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES0908616**	Page	: 1 of 8
Client	: URS AUSTRALIA (NSW) PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: COSTCO		
C-O-C number	: ----	Date Samples Received	: 15-JUN-2009
Sampler	: JAPSON SIWADI	Issue Date	: 19-JUN-2009
Order number	: ----		
		No. of samples received	: 8
Quote number	: EN/001/08 V4	No. of samples analysed	: 8

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

This Interpretive Quality Control Report contains the following information:

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

Analysis Holding Time Compliance

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

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

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content								
Soil Glass Jar - Unpreserved								
SB06-0.9-13/06/09,	SB06-4.5-13/06/09,	**13-JUN-2009**	**----**	----	----	**16-JUN-2009**	20-JUN-2009	✓
SB10-1.0-13/06/09,	SB10-3.0-13/06/09,							
SB15-0.8-13/06/09,	QC104-13/06/09							
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved								
SB06-0.9-13/06/09,	SB06-4.5-13/06/09,	**13-JUN-2009**	**16-JUN-2009**	11-JUL-2009	✓	**17-JUN-2009**	10-DEC-2009	✓
SB10-1.0-13/06/09,	SB10-3.0-13/06/09,							
SB15-0.8-13/06/09,	QC104-13/06/09							
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved								
SB06-0.9-13/06/09,	SB06-4.5-13/06/09,	**13-JUN-2009**	**16-JUN-2009**	11-JUL-2009	✓	**17-JUN-2009**	11-JUL-2009	✓
SB10-1.0-13/06/09,	SB10-3.0-13/06/09,							
SB15-0.8-13/06/09,	QC104-13/06/09							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved								
SB06-4.5-13/06/09,	SB10-3.0-13/06/09,	**13-JUN-2009**	**15-JUN-2009**	27-JUN-2009	✓	**16-JUN-2009**	25-JUL-2009	✓
QC104-13/06/09								
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved								
SB06-0.9-13/06/09,	SB06-4.5-13/06/09,	**13-JUN-2009**	**15-JUN-2009**	27-JUN-2009	✓	**16-JUN-2009**	25-JUL-2009	✓
SB10-1.0-13/06/09,	SB10-3.0-13/06/09,							
SB15-0.8-13/06/09,	QC104-13/06/09							
Soil Glass Jar - Unpreserved								
SB06-0.9-13/06/09,	SB06-4.5-13/06/09,	**13-JUN-2009**	**15-JUN-2009**	27-JUN-2009	✓	**17-JUN-2009**	27-JUN-2009	✓
SB10-1.0-13/06/09,	SB10-3.0-13/06/09,							
SB15-0.8-13/06/09,	QC104-13/06/09							

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEX								
Soil Glass Jar - Unpreserved								
SB06-0.9-13/06/09,	SB06-4.5-13/06/09,	**13-JUN-2009**	**15-JUN-2009**	27-JUN-2009	✓	**17-JUN-2009**	27-JUN-2009	✓
SB10-1.0-13/06/09,	SB10-3.0-13/06/09,							
SB15-0.8-13/06/09,	QC104-13/06/09							

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
QC503-13/06/09,	QC703-13/06/09	**13-JUN-2009**	**16-JUN-2009**	10-DEC-2009	✓	**16-JUN-2009**	10-DEC-2009	✓
EG035T: Total Recoverable Mercury by FIMS								
Clear Plastic Bottle - Nitric Acid; Unfiltered								
QC503-13/06/09,	QC703-13/06/09	**13-JUN-2009**	**----**	----	----	**17-JUN-2009**	11-JUL-2009	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Amber Glass Bottle - Unpreserved								
QC503-13/06/09,	QC703-13/06/09	**13-JUN-2009**	**17-JUN-2009**	20-JUN-2009	✓	**18-JUN-2009**	27-JUL-2009	✓
EP080/071: Total Petroleum Hydrocarbons								
Amber Glass Bottle - Unpreserved								
QC503-13/06/09,	QC703-13/06/09	**13-JUN-2009**	**17-JUN-2009**	20-JUN-2009	✓	**18-JUN-2009**	27-JUL-2009	✓
Amber VOC Vial - HCl or NaHSO4								
QC503-13/06/09,	QC703-13/06/09	**13-JUN-2009**	**---**	---	----	**17-JUN-2009**	27-JUN-2009	✓
EP080: BTEX								
Amber VOC Vial - HCl or NaHSO4								
QC503-13/06/09,	QC703-13/06/09	**13-JUN-2009**	**---**	---	----	**17-JUN-2009**	27-JUN-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)	1	10	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	4	33	12.1	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	33	6.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	33	6.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.0	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	33	6.1	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	1	20	5.0	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	20	5.0	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	20	5.0	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	6	16.7	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	19	10.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	16	12.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	9	11.1	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	18	11.1	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	6	16.7	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Total Mercury by FIMS	EG035T	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	16	**6.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	18	**5.6**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	6	**16.7**	**5.0**	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	19	**5.3**	**5.0**	✓	ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	16	**6.3**	**5.0**	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	9	**11.1**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	18	**5.6**	**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
Asbestos - Count (Solid)	ASB-SOL	SOIL	Asbestos Count on solid matrices using PLM conducted by Subcontracting Laboratory
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 (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
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)
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Analytical Methods	Method	Matrix	Method Descriptions
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

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 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.
Digestion for Total Recoverable Metals	EN25	WATER	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)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 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							
EG005T: Total Metals by ICP-AES	1158587-032	----	**Copper**	7440-50-8	115 %	90.1-114%	**Recovery greater than upper control limit**

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

Regular Sample Surrogates

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

Outliers : Analysis Holding Time Compliance

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

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

Outliers : Frequency of Quality Control Samples

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

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

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order : **ES0908616**

Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	Page	: 1 of 2
Order number	: ----		
C-O-C number	: ----	Quote number	: ES2009URSNSW0253 (EN/001/08 V4)
Site	: COSTCO		
Sampler	: JAPSON SIWADI	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 15-JUN-2009	Issue Date	: 15-JUN-2009 14:38
Client Requested Due Date	: 22-JUN-2009	Scheduled Reporting Date	: **19-JUN-2009**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 1.6'C - Ice present
No. of coolers/boxes	: 1 HARD	No. of samples received	: 8
Sercurity Seal	: Not intact.	No. of samples analysed	: 8

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- Samples received in appropriately pretreated and preserved containers.
- Asbestos analysis will be subcontracted to ASET.
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Nanthini Coilparampil
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

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

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - ASB-SOL (Subcontracted) Asbestos - Count (Solid)	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-05 TPH/BTEX/8 Metals	SOIL - S-07 TPH/BTEX/PAH (SIM)
ES0908616-001	13-JUN-2009 15:00	SB06-0.9-13/06/09	✓		✓	
ES0908616-002	13-JUN-2009 15:00	SB06-4.5-13/06/09		✓		✓
ES0908616-003	13-JUN-2009 15:00	SB10-1.0-13/06/09	✓		✓	
ES0908616-004	13-JUN-2009 15:00	SB10-3.0-13/06/09		✓		✓
ES0908616-005	13-JUN-2009 15:00	SB15-0.8-13/06/09	✓		✓	
ES0908616-006	13-JUN-2009 15:00	QC104-13/06/09		✓		✓

Matrix: **WATER**

Laboratory sample ID	Client sampling date / time	Client sample ID	WATER - W-02T 8 metals (Total)	WATER - W-07 TPH/BTEX/PAH
ES0908616-007	13-JUN-2009 15:00	QC503-13/06/09	✓	✓
ES0908616-008	13-JUN-2009 15:00	QC703-13/06/09	✓	✓

Requested Deliverables

EQUIS URS_EDMS

- EDI Format - EQUIS V5 (EQUIS_V5)	Email	urs_edms@urscorp.com

MR JAPSON SIWADI

- *AU Certificate of Analysis - NATA (COA)	Email	japson_siwadi@urscorp.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	japson_siwadi@urscorp.com
- AU Chromatogram Cover Sheet (CHROM)	Email	japson_siwadi@urscorp.com
- AU Interpretive QC Report (Anon QCI Not Rep) (QCI_NoAnon)	Email	japson_siwadi@urscorp.com
- AU QC Report (Anon QC Not Rep) - NATA (QC_NoAnon)	Email	japson_siwadi@urscorp.com
- Default - Chain of Custody (COC)	Email	japson_siwadi@urscorp.com
- EDI Format - ENMRG (ENMRG)	Email	japson_siwadi@urscorp.com
- EDI Format - MRED (MRED)	Email	japson_siwadi@urscorp.com
- Trigger - Subcontract Report (SUBCO)	Email	japson_siwadi@urscorp.com

THE ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	sydney_accounts@urscorp.com

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

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory Services Pty Ltd

CLIENT: URS AUSTRALIA PTY LTD
ADDRESS: L3 116 MILLER STREET, NORTH SYDNEY, NSW 2060
PROJECT MANAGER (PM): JAPSON SIWADI
PROJECT ID: 43217997
SITE: COSTCO P.O. NO.:
RESULTS REQUIRED BY (Date): QUOTE NO.:

SAMPLER: Japson Siwadi
MOBILE: 4125034013
PHONE 8925 5785
EMAIL REPORT TO: japson_siwadi@urscorp.com
EMAIL INVOICE TO: (if different to report)

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No 0 N/A
SAMPLE TEMPERATURE 16 C
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

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

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

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		Heavy metals (8)	TPH/BTEX	PAH	Asbestos
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles				
1	SB06-0.0-13/06/09	S	13/06				✓	✓		✓
2	SB06-4.5-13/06/09	S					✓	✓	✓	
3	SB10-1.0-13/06/09	S					✓	✓		✓
4	SB10-3.0-13/06/09	S					✓	✓	✓	
5	SB15-0.8-13/06/09	S					✓	✓		✓
6	QC104-13/06/09	S					✓	✓	✓	
7	QCSD3-13/06/09	W					✓	✓	✓	
8	QC703-13/06/09	W					✓	✓	✓	

CONTRACT WORK
WO: ES0908616
LAB: Asbestos
DATE:
SPLIT:

Environmental Division
Sydney
Work Order
ES0908616

Telephone : +61-2-8784 8555

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name: Japson Siwadi	Date: 15/06/09	Name: SARADA	Date: 15.06.09	Con' Note No:
Of: URS	Time: 10:00 Am	Of: ALS	Time: 10:15 AM	
Name:	Date:	Name:	Date:	Transport Co:
Of:	Time:	Of:	Time:	

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

AUSTRALIAN LABORATORY SERVICES P/L

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES0909782**	Page	: 1 of 9
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 06-JUL-2009
Sampler	: JS	Issue Date	: 10-JUL-2009
Site	: COSTCO		
		No. of samples received	: 9
Quote number	: EN/001/08 V4	No. of samples analysed	: 9

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

This 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*
		Newcastle
Celine Conceicao	Spectroscopist	Inorganics
Edwandy Fadjar	Senior Organic Chemist	Organics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Victor Kedicioglu	Business Manager - NSW	Inorganics
Wisam Abou-Maraseh	Spectroscopist	Inorganics

General Comments

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **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**
- **EG020A-T: It has been confirmed by re-digestion and re-analysis that total Zinc concentration for batch ES0909782#8 is positive.**
- **EP080:Level of Reporting raised for toluene due to ambient background levels in the laboratory.**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	SB24_1.5_4/07/09	SB24_3.0_4/07/09	SB25_1.0_4/07/09	SB25_4.0_4/07/09	SB26_1.5_4/07/09
				Client sampling date / time	04-JUL-2009 11:00	04-JUL-2009 11:00	04-JUL-2009 11:00	04-JUL-2009 11:00	04-JUL-2009 13:00
					ES0909782-001	ES0909782-002	ES0909782-003	ES0909782-004	ES0909782-005
AS 4964 - 2004 Identification of Asbestos in bulk samples									
Asbestos Detected	1332-21-4	0.1	g/kg		**No**	----	----	**No**	----
Asbestos Type	132207-33-1	0.1	g/kg		**x**	----	----	**x**	----
Sample weight (dry)	----	0.01	g		**48.6**	----	----	**62.2**	----
APPROVED IDENTIFIER:	----	-	-		**P.RENNIE**	----	----	**P.RENNIE**	----
EA055: Moisture Content									
^ Moisture Content (dried @ 103°C)	----	1.0	%		**18.0**	**24.4**	**9.9**	**11.3**	**15.9**
EG005T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		**6**	**12**	<5	**5**	**6**
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		**13**	**46**	**5**	**8**	**18**
Copper	7440-50-8	5	mg/kg		**33**	**6**	<5	**12**	**8**
Lead	7439-92-1	5	mg/kg		**29**	**22**	**9**	**26**	**10**
Nickel	7440-02-0	2	mg/kg		**13**	<2	<2	**3**	<2
Zinc	7440-66-6	5	mg/kg		**49**	<5	**12**	**121**	<5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Fluorene	86-73-7	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Anthracene	120-12-7	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Pyrene	129-00-0	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Chrysene	218-01-9	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
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

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID	SB24_1.5_4/07/09	SB24_3.0_4/07/09	SB25_1.0_4/07/09	SB25_4.0_4/07/09	SB26_1.5_4/07/09
				Client sampling date / time	04-JUL-2009 11:00	04-JUL-2009 11:00	04-JUL-2009 11:00	04-JUL-2009 11:00	04-JUL-2009 13:00
					ES0909782-001	ES0909782-002	ES0909782-003	ES0909782-004	ES0909782-005
EP080/071: Total Petroleum Hydrocarbons - Continued									
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
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		----	**90.0**	**85.2**	----	**91.6**
2-Chlorophenol-D4	93951-73-6	0.1	%		----	**87.0**	**90.4**	----	**85.5**
2.4.6-Tribromophenol	118-79-6	0.1	%		----	**111**	**70.7**	----	**61.7**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	**115**	**93.8**	----	**89.7**
Anthracene-d10	1719-06-8	0.1	%		----	**103**	**98.2**	----	**96.8**
4-Terphenyl-d14	1718-51-0	0.1	%		----	**119**	**105**	----	**117**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**94.9**	**89.1**	**93.2**	**95.0**	**92.6**
Toluene-D8	2037-26-5	0.1	%		**91.0**	**89.6**	**92.2**	**93.6**	**92.5**
4-Bromofluorobenzene	460-00-4	0.1	%		**95.0**	**92.7**	**93.1**	**93.4**	**95.8**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: SB27_0.8_4/07/09	Client sample ID: QC106_4/07/09	----	----	----
				Client sampling date / time: 04-JUL-2009 13:00	04-JUL-2009 11:00	----	----	----
				ES0909782-006	ES0909782-007	----	----	----
AS 4964 - 2004 Identification of Asbestos in bulk samples								
Asbestos Detected	1332-21-4	0.1	g/kg	**No**	**No**	----	----	----
Asbestos Type	132207-33-1	0.1	g/kg	**x**	**x**	----	----	----
Sample weight (dry)	----	0.01	g	**45.6**	**59.7**	----	----	----
APPROVED IDENTIFIER:	----	-	-	**P.RENNIE**	**P.RENNIE**	----	----	----
EA055: Moisture Content								
^ Moisture Content (dried @ 103°C)	----	1.0	%	**22.2**	**12.3**	----	----	----
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**10**	**6**	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	**40**	**10**	----	----	----
Copper	7440-50-8	5	mg/kg	**8**	**11**	----	----	----
Lead	7439-92-1	5	mg/kg	**18**	**27**	----	----	----
Nickel	7440-02-0	2	mg/kg	<2	**3**	----	----	----
Zinc	7440-66-6	5	mg/kg	<5	**95**	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	<100	----	----	----
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**94.4**	**97.0**	----	----	----
Toluene-D8	2037-26-5	0.1	%	**92.9**	**93.7**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**95.2**	**95.8**	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: QC505_4/07/09	QC705_4/07/09	----	----	----
				Client sampling date / time: 04-JUL-2009 15:00	04-JUL-2009 15:00	----	----	----
				ES0909782-008	ES0909782-009	----	----	----
EG020T: Total Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L	**0.018**	<0.005	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	<50	----	----	----
EP080: BTEX								
Benzene	71-43-2	1	µg/L	<1	<1	----	----	----
Toluene	108-88-3	2	µg/L	<5	<5	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	----	----	----

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: QC505_4/07/09	QC705_4/07/09	----	----	----
				Client sampling date / time: 04-JUL-2009 15:00	04-JUL-2009 15:00	----	----	----
				ES0909782-008	ES0909782-009	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**30.7**	**41.1**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**92.9**	**98.6**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**102**	**114**	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**98.4**	**102**	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**99.3**	**106**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**111**	**118**	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**119**	**115**	----	----	----
Toluene-D8	2037-26-5	0.1	%	**97.5**	**98.5**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**101**	**99.3**	----	----	----

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	SB24_1.5_4/07/09 - 04-JUL-2009 11:00	Lumpy light brown clayish soil
EA200: Description	SB25_4.0_4/07/09 - 04-JUL-2009 11:00	Light brown granular soil-some vegetative matter.
EA200: Description	SB27_0.8_4/07/09 - 04-JUL-2009 13:00	Reddish-brown clayish soil with white inclusions.
EA200: Description	QC106_4/07/09 - 04-JUL-2009 11:00	Light brown clayish soil-with some vegetative matter.
EA200: Disintegration	SB24_1.5_4/07/09 - 04-JUL-2009 11:00	N/A
EA200: Disintegration	SB25_4.0_4/07/09 - 04-JUL-2009 11:00	N/A
EA200: Disintegration	SB27_0.8_4/07/09 - 04-JUL-2009 13:00	N/A
EA200: Disintegration	QC106_4/07/09 - 04-JUL-2009 11:00	N/A

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	24	113
2-Chlorophenol-D4	93951-73-6	23	134
2.4.6-Tribromophenol	118-79-6	19	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	30	115
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	18	137
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) 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
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	80	120
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

Environmental Division

QUALITY CONTROL REPORT

Work Order	: **ES0909782**	Page	: 1 of 13
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: COSTCO		
C-O-C number	: ----	Date Samples Received	: 06-JUL-2009
Sampler	: JS	Issue Date	: 10-JUL-2009
Order number	: ----		
		No. of samples received	: 9
Quote number	: EN/001/08 V4	No. of samples analysed	: 9

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

This Quality Control Report contains the following information:

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

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
		Newcastle
Celine Conceicao	Spectroscopist	Inorganics
Edwandy Fadjar	Senior Organic Chemist	Organics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics
Victor Kedicioglu	Business Manager - NSW	Inorganics
Wisam Abou-Maraseh	Spectroscopist	Inorganics

General Comments

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

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 1030986)									
ES0909775-008	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	Anonymous	Anonymous	Anonymous	Anonymous
ES0909775-017	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	Anonymous	Anonymous	Anonymous	Anonymous
EG005T: Total Metals by ICP-AES (QC Lot: 1032140)									
ES0909773-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Chromium	7440-47-3	2	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Nickel	7440-02-0	2	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Arsenic	7440-38-2	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Copper	7440-50-8	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Lead	7439-92-1	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Zinc	7440-66-6	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
ES0909774-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Chromium	7440-47-3	2	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Nickel	7440-02-0	2	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Arsenic	7440-38-2	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Copper	7440-50-8	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Lead	7439-92-1	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Zinc	7440-66-6	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
EG005T: Total Metals by ICP-AES (QC Lot: 1032142)									
ES0909782-005	SB26_1.5_4/07/09	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	18	16	9.7	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	8	9	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	10	9	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	<5	<5	0.0	No Limit
ES0909873-002	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Chromium	7440-47-3	2	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Nickel	7440-02-0	2	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Arsenic	7440-38-2	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Copper	7440-50-8	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Lead	7439-92-1	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Zinc	7440-66-6	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1032141)									
ES0909773-002	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
ES0909774-002	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1031040)									

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: 1031040) - continued									
ES0909782-002	SB24_3.0_4/07/09	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1031507)									
ES0909782-003	SB25_1.0_4/07/09	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
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1030987)									
ES0909782-001	SB24_1.5_4/07/09	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1031039)									
ES0909782-002	SB24_3.0_4/07/09	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: 1031505)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1031505) - continued									
ES0909782-003	SB25_1.0_4/07/09	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: 1030987)									
ES0909782-001	SB24_1.5_4/07/09	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 1031866)									
ES0909740-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Copper	7440-50-8	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Lead	7439-92-1	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0909782-009	QC705_4/07/09	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 1031806)									
ES0909782-008	QC505_4/07/09	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES0909754-003	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1030767)									
ES0909782-009	QC705_4/07/09	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

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 (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 1030767) - continued									
ES0909782-009	QC705_4/07/09	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): Dibenz(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
ES0909782-008	QC505_4/07/09	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): Dibenz(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
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1030725)									
ES0909772-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0909772-018	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1030770)									
ES0909782-008	QC505_4/07/09	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080: BTEX (QC Lot: 1030725)									
ES0909772-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
ES0909772-018	Anonymous	EP080: Benzene	71-43-2	1	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous

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 (%)*
EP080: BTEX (QC Lot: 1030725) - continued									
ES0909772-018	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	2	µg/L	Anonymous	Anonymous	Anonymous	Anonymous

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

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

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1032140)								
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	106	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	104	90.1	114
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.2 mg/kg	102	85.2	111
EG005T: Nickel	7440-02-0	2	mg/kg	<2	54.8 mg/kg	105	88.3	116
EG005T: Zinc	7440-66-6	5	mg/kg	<5	104 mg/kg	102	81.9	112
EG005T: Total Metals by ICP-AES (QCLot: 1032142)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	13.1 mg/kg	113	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	111	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	106	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	107	81.9	112
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1032141)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	1.4 mg/kg	80.2	67	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1031040)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	96.1	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	104	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	81.9	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	90.2	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	92.3	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	104	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	90.3	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	85.9	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	85.5	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	88.2	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	97.1	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	83.0	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	95.3	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	83.7	71	113
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	4 mg/kg	88.9	71.7	113
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	4 mg/kg	79.6	72.4	114

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1031507)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	4 mg/kg	96.9	81.9	113
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	4 mg/kg	87.8	79.6	113
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	4 mg/kg	101	81.5	112
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	4 mg/kg	86.7	79.9	112
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	4 mg/kg	98.8	79.4	114
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	4 mg/kg	110	81.1	112
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	4 mg/kg	89.7	78.8	113
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	4 mg/kg	88.2	78.9	113
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	4 mg/kg	95.3	77.2	112
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	4 mg/kg	104	79.8	114
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	4 mg/kg	84.1	71.8	118
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	4 mg/kg	93.0	74.2	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	4 mg/kg	109	76.4	113
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	4 mg/kg	91.4	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	81.0	72.4	114
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1030987)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	106	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1031039)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	110	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	112	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	88.0	72.6	117
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1031505)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	200 mg/kg	95.0	75.2	116
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	200 mg/kg	105	75.3	113
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	200 mg/kg	100	72.6	117
EP080: BTEX (QCLot: 1030987)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	80.4	67.5	125
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	99.8	69	122
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	78.5	65.3	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	80.7	66.5	124
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	82.4	66.7	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 1031866)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	95.2	85	111

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 1031866) - continued								
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	92.5	88	108
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	97.4	92	114
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	93.4	89	115
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	104	91	113
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	95.0	91	113
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	94.2	78	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1031806)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	92.4	81	119
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1030767)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	----	2 µg/L	86.9	58.6	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	----	2 µg/L	81.1	63.6	114
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	----	2 µg/L	80.1	62.2	113
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	----	2 µg/L	81.6	63.9	115
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	----	2 µg/L	85.6	62.6	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	----	2 µg/L	81.4	64.3	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	----	2 µg/L	81.4	63.6	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	----	2 µg/L	82.4	63.1	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	----	2 µg/L	83.9	64.1	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	----	2 µg/L	81.9	62.5	116
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(b)fluoranthene	205-99-2	0.2	µg/L	----	2 µg/L	81.7	61.7	119
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	----	2 µg/L	82.5	61.7	117
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	----	2 µg/L	86.9	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	81.7	59.9	118
		1	µg/L	<1.0	----	----	----	----
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	----	2 µg/L	80.7	61.2	117
		1	µg/L	<1.0	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1030767) - 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	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1030725)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	89.7	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1030770)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	127	58.9	131
EP071: C15 - C28 Fraction	----	100	µg/L	<100	400 µg/L	115	73.9	138
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	97.5	62.7	131
EP080: BTEX (QCLot: 1030725)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	92.2	76.2	124
EP080: Toluene	108-88-3	2	µg/L	----	10 µg/L	85.2	74.4	124
		5	µg/L	<5	----	----	----	----
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	92.8	76.1	122
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	90.9	75.7	123
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	96.0	77.9	121

Matrix Spike (MS) Report

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

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	Spike Recovery (%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1032140)							
ES0909773-002	Anonymous	EG005T: Arsenic	7440-38-2	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Cadmium	7440-43-9	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Chromium	7440-47-3	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Copper	7440-50-8	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Lead	7439-92-1	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Nickel	7440-02-0	Anonymous	Anonymous	Anonymous	Anonymous
		EG005T: Zinc	7440-66-6	Anonymous	Anonymous	Anonymous	Anonymous
EG005T: Total Metals by ICP-AES (QCLot: 1032142)							
ES0909782-005	SB26_1.5_4/07/09	EG005T: Arsenic	7440-38-2	50 mg/kg	95.2	70	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	108	70	130
		EG005T: Chromium	7440-47-3	50 mg/kg	94.3	70	130
		EG005T: Copper	7440-50-8	250 mg/kg	112	70	130
		EG005T: Lead	7439-92-1	250 mg/kg	107	70	130
		EG005T: Nickel	7440-02-0	50 mg/kg	108	70	130
		EG005T: Zinc	7440-66-6	250 mg/kg	107	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1032141)							
ES0909773-002	Anonymous	EG035T: Mercury	7439-97-6	Anonymous	Anonymous	Anonymous	Anonymous
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1031040)							
ES0909782-002	SB24_3.0_4/07/09	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	112	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	127	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1031507)							
ES0909782-003	SB25_1.0_4/07/09	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	100	70	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	103	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1030987)							
ES0909782-001	SB24_1.5_4/07/09	EP080: C6 - C9 Fraction	----	26 mg/kg	102	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1031039)							
ES0909782-002	SB24_3.0_4/07/09	EP071: C10 - C14 Fraction	----	640 mg/kg	107	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	98.3	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	96.8	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1031505)							
ES0909782-003	SB25_1.0_4/07/09	EP071: C10 - C14 Fraction	----	640 mg/kg	104	70	130
		EP071: C15 - C28 Fraction	----	3140 mg/kg	91.2	70	130
		EP071: C29 - C36 Fraction	----	2860 mg/kg	72.6	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEX (QCLot: 1030987)							
ES0909782-001	SB24_1.5_4/07/09	EP080: Benzene	71-43-2	2.5 mg/kg	75.5	70	130
		EP080: Toluene	108-88-3	2.5 mg/kg	90.0	70	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	78.8	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	82.9	70	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	77.2	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Spike Recovery (%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 1031866)							
ES0909782-009	QC705_4/07/09	EG020A-T: Arsenic	7440-38-2	1 mg/L	85.8	70	130
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	87.7	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	87.3	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	86.0	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	88.5	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	86.7	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	83.8	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 1031806)							
ES0909782-008	QC505_4/07/09	EG035T: Mercury	7439-97-6	0.010 mg/L	96.0	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 1030767)							
ES0909782-009	QC705_4/07/09	EP075(SIM): Acenaphthene	83-32-9	20 µg/L	88.0	70	130
		EP075(SIM): Pyrene	129-00-0	20 µg/L	102	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1030725)							
ES0909772-001	Anonymous	EP080: C6 - C9 Fraction	----	Anonymous	Anonymous	Anonymous	Anonymous
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1030770)							
ES0909782-009	QC705_4/07/09	EP071: C10 - C14 Fraction	----	400 µg/L	124	70	130
		EP071: C15 - C28 Fraction	----	400 µg/L	127	70	130
		EP071: C29 - C36 Fraction	----	400 µg/L	104	70	130
EP080: BTEX (QCLot: 1030725)							
ES0909772-001	Anonymous	EP080: Benzene	71-43-2	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Toluene	108-88-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: Ethylbenzene	100-41-4	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: meta- & para-Xylene	108-38-3 106-42-3	Anonymous	Anonymous	Anonymous	Anonymous
		EP080: ortho-Xylene	95-47-6	Anonymous	Anonymous	Anonymous	Anonymous

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES0909782**	Page	: 1 of 8
Client	: URS AUSTRALIA (NSW) PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: COSTCO		
C-O-C number	: ----	Date Samples Received	: 06-JUL-2009
Sampler	: JS	Issue Date	: 10-JUL-2009
Order number	: ----		
		No. of samples received	: 9
Quote number	: EN/001/08 V4	No. of samples analysed	: 9

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

This Interpretive Quality Control Report contains the following information:

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

Analysis Holding Time Compliance

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

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

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
AS 4964 - 2004 Identification of Asbestos in bulk samples								
Snap Lock Bag								
SB24_1.5_4/07/09,	SB25_4.0_4/07/09,	**04-JUL-2009**	**---**	---	----	**08-JUL-2009**	04-JAN-2010	✓
SB27_0.8_4/07/09,	QC106_4/07/09							
EA055: Moisture Content								
Soil Glass Jar - Unpreserved								
SB24_1.5_4/07/09,	SB24_3.0_4/07/09,	**04-JUL-2009**	**----**	----	----	**06-JUL-2009**	11-JUL-2009	✓
SB25_1.0_4/07/09,	SB25_4.0_4/07/09,							
SB26_1.5_4/07/09,	SB27_0.8_4/07/09,							
QC106_4/07/09								
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved								
SB24_1.5_4/07/09,	SB24_3.0_4/07/09,	**04-JUL-2009**	**07-JUL-2009**	01-AUG-2009	✓	**08-JUL-2009**	31-DEC-2009	✓
SB25_1.0_4/07/09,	SB25_4.0_4/07/09,							
SB26_1.5_4/07/09,	SB27_0.8_4/07/09,							
QC106_4/07/09								
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved								
SB24_1.5_4/07/09,	SB24_3.0_4/07/09,	**04-JUL-2009**	**07-JUL-2009**	01-AUG-2009	✓	**08-JUL-2009**	01-AUG-2009	✓
SB25_1.0_4/07/09,	SB25_4.0_4/07/09,							
SB26_1.5_4/07/09,	SB27_0.8_4/07/09,							
QC106_4/07/09								
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved								
SB24_3.0_4/07/09		**04-JUL-2009**	**06-JUL-2009**	18-JUL-2009	✓	**07-JUL-2009**	15-AUG-2009	✓
Soil Glass Jar - Unpreserved								
SB25_1.0_4/07/09,	SB26_1.5_4/07/09	**04-JUL-2009**	**07-JUL-2009**	18-JUL-2009	✓	**08-JUL-2009**	16-AUG-2009	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved							
SB24_1.5_4/07/09, SB24_3.0_4/07/09, SB25_1.0_4/07/09, SB25_4.0_4/07/09, SB26_1.5_4/07/09, SB27_0.8_4/07/09, QC106_4/07/09	**04-JUL-2009**	**06-JUL-2009**	18-JUL-2009	✓	**07-JUL-2009**	18-JUL-2009	✓
Soil Glass Jar - Unpreserved							
SB24_1.5_4/07/09, SB25_1.0_4/07/09, SB25_4.0_4/07/09, SB26_1.5_4/07/09, SB27_0.8_4/07/09, QC106_4/07/09	**04-JUL-2009**	**07-JUL-2009**	18-JUL-2009	✓	**07-JUL-2009**	16-AUG-2009	✓
EP080: BTEX							
Soil Glass Jar - Unpreserved							
SB24_1.5_4/07/09, SB24_3.0_4/07/09, SB25_1.0_4/07/09, SB25_4.0_4/07/09, SB26_1.5_4/07/09, SB27_0.8_4/07/09, QC106_4/07/09	**04-JUL-2009**	**06-JUL-2009**	18-JUL-2009	✓	**07-JUL-2009**	18-JUL-2009	✓

Matrix: **WATER**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
QC505_4/07/09, QC705_4/07/09	**04-JUL-2009**	**07-JUL-2009**	31-DEC-2009	✓	**08-JUL-2009**	31-DEC-2009	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered							
QC505_4/07/09, QC705_4/07/09	**04-JUL-2009**	**----**	----	----	**09-JUL-2009**	01-AUG-2009	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved							
QC505_4/07/09, QC705_4/07/09	**04-JUL-2009**	**06-JUL-2009**	11-JUL-2009	✓	**07-JUL-2009**	15-AUG-2009	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved							
QC505_4/07/09, QC705_4/07/09	**04-JUL-2009**	**06-JUL-2009**	11-JUL-2009	✓	**07-JUL-2009**	15-AUG-2009	✓
Amber VOC Vial - HCl or NaHSO4							
QC505_4/07/09, QC705_4/07/09	**04-JUL-2009**	**---**	---	----	**07-JUL-2009**	18-JUL-2009	✓
EP080: BTEX							
Amber VOC Vial - HCl or NaHSO4							
QC505_4/07/09, QC705_4/07/09	**04-JUL-2009**	**---**	---	----	**07-JUL-2009**	18-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	5	40.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	16	12.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	4	33	12.1	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	11	18.2	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	8	12.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	2	5	40.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	16	6.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	33	6.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	11	18.2	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	8	12.5	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	2	5	40.0	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	16	6.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	33	6.1	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	11	18.2	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	8	12.5	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	2	5	40.0	5.0	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	16	6.3	5.0	✓	ALS QCS3 requirement
Total Metals by ICP-AES	EG005T	2	33	6.1	5.0	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	2	11	18.2	5.0	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	8	12.5	5.0	✓	ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	19	10.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	19	10.5	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	20	10.0	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	9	11.1	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	2	17	11.8	10.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	19	5.3	5.0	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Total Mercury by FIMS	EG035T	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	19	**5.3**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	9	**11.1**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	17	**5.9**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	19	**5.3**	**5.0**	✓	ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	19	**5.3**	**5.0**	✓	ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071	1	9	**11.1**	**5.0**	✓	ALS QCS3 requirement
TPH Volatiles/BTEX	EP080	1	17	**5.9**	**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 (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3)
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)
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	(APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020): The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
TPH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

Analytical Methods	Method	Matrix	Method Descriptions
TPH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

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 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.
Digestion for Total Recoverable Metals	EN25	WATER	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)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 500 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2). ALS default excludes sediment which may be resident in the container.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

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

Regular Sample Surrogates

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

Outliers : Analysis Holding Time Compliance

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

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

Outliers : Frequency of Quality Control Samples

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

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

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES0909782**		
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	Page	: 1 of 3
Order number	: ----		
C-O-C number	: ----	Quote number	: ES2009URSNSW0253 (EN/001/08 V4)
Site	: COSTCO		
Sampler	: JS	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 06-JUL-2009	Issue Date	: 06-JUL-2009 13:45
Client Requested Due Date	: 10-JUL-2009	Scheduled Reporting Date	: **10-JUL-2009**

Delivery Details

Mode of Delivery	: Client Drop off	Temperature	: 0.4'C - Ice present
No. of coolers/boxes	: ----	No. of samples received	: 9
Sercurity Seal	: Intact.	No. of samples analysed	: 9

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- Samples received in appropriately pretreated and preserved containers.
- Asbestos analysis will be subcontracted to ASET.
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Nanthini Coilparampil
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

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

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - ASB-SOL (Subcontracted) Asbestos - Count (Solid)	SOIL - S-02 8 Metals (incl. Digestion)	SOIL - S-05 TPH/BTEX/8 Metals	SOIL - S-07 TPH/BTEX/PAH (SIM)
ES0909782-001	04-JUL-2009 11:00	SB24_1.5_4/07/09	✓		✓	
ES0909782-002	04-JUL-2009 11:00	SB24_3.0_4/07/09		✓		✓
ES0909782-003	04-JUL-2009 11:00	SB25_1.0_4/07/09		✓		✓
ES0909782-004	04-JUL-2009 11:00	SB25_4.0_4/07/09	✓		✓	
ES0909782-005	04-JUL-2009 13:00	SB26_1.5_4/07/09		✓		✓
ES0909782-006	04-JUL-2009 13:00	SB27_0.8_4/07/09	✓		✓	
ES0909782-007	04-JUL-2009 11:00	QC106_4/07/09	✓		✓	

Matrix: **WATER**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	WATER - W-02T 8 metals (Total)	WATER - W-07 TPH/BTEX/PAH
ES0909782-008	04-JUL-2009 15:00	QC505_4/07/09	✓	✓
ES0909782-009	04-JUL-2009 15:00	QC705_4/07/09	✓	✓

Requested Deliverables

EQUIS URS_EDMS

- EDI Format - EQUIS V5 (EQUIS_V5)	Email	urs_edms@urscorp.com

MR JAPSON SIWADI

- *AU Certificate of Analysis - NATA (COA)	Email	japson_siwadi@urscorp.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	japson_siwadi@urscorp.com
- AU Interpretive QC Report (Anon QCI Not Rep) (QCI_NoAnon)	Email	japson_siwadi@urscorp.com
- AU QC Report (Anon QC Not Rep) - NATA (QC_NoAnon)	Email	japson_siwadi@urscorp.com
- Default - Chain of Custody (COC)	Email	japson_siwadi@urscorp.com
- EDI Format - ENMRG (ENMRG)	Email	japson_siwadi@urscorp.com
- EDI Format - MRED (MRED)	Email	japson_siwadi@urscorp.com
- Trigger - Subcontract Report (SUBCO)	Email	japson_siwadi@urscorp.com

THE ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	sydney_accounts@urscorp.com

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

CHAIN OF CUSTODY DOCUMENTATION

CLIENT: URS AUSTRALIA PTY LTD
ADDRESS : L3 116 MILLER STREET, NORTH SYDNEY, NSW 2060
PROJECT MANAGER (PM): JAPSON SIWADI
PROJECT ID: 43217997
SITE: COSTCO P.O. NO.:
RESULTS REQUIRED BY (**Date**): 10 July 2009 QUOTE NO.:

SAMPLER: Japson Siwadi
MOBILE: 4125034013
PHONE 8925 5785
EMAIL REPORT TO: japson_siwadi@urscorp.com
EMAIL INVOICE TO: (if different to report)

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to a

ces Pty Ltd

Environmental Division
Sydney
Work Order
ES0909782

d samples

ORs etc.

Telephone : +61-2-8784 8555

FOR LABORATORY USE ONLY
COOLER SEAL (circle appropriate)
Intact: Yes No N/A
SAMPLE TEMPERATURE 6.4°C
CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE INFORMATION (note: S = Soil, W=Water) | CONTAINER INFORMATION

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	Heavy metals (8)	TPH/BTEX	PAH	Asbestos
1	SB24_1.5_4/07/09	S	4/07/09	AM			✓	✓		✓
2	SB24_3.0_4/07/09	S		AM			✓	✓	✓	
3	SB25_1.0_4/07/09	S		AM			✓	✓	✓	
4	SB25_4.0_4/07/09	S		AM			✓	✓		✓
5	SB26_1.5_4/07/09	S		PM			✓	✓	✓	
6	SB27_0.8_4/07/09	S		PM			✓	✓		✓
7	QC106_4/07/09	S					✓	✓		✓
8	QC505_4/07/09	W					✓	✓	✓	
9	QC705_4/07/09	W	↓				✓	✓	✓	

Subcon / Forward Lab / Split WO
Lab / Analysis: Asbestos
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No:
Attach By PO / Internal Sheet:

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name: Japson Siwadi	Date: 6/07/09	Name: SARA	Date: 06/07/09	Con' Note No:
Of: URS	Time: 8:00 am	Of: ALS	Time: 8:00AM	
Name:	Date:	Name:	Date:	Transport Co:
Of:	Time:	Of:	Time:	

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

AUSTRALIAN LABORATORY SERVICES P/L

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

CHAIN OF CUSTODY DOCUMENTATION

CLIENT: URS AUSTRALIA PTY LTD		SAMPLER:	Japson Siwadi
ADDRESS : L3 116 MILLER STREET, NORTH SYDNEY, NSW 2060		MOBILE:	4125034013
PROJECT MANAGER (PM): JAPSON SIWADI		PHONE	8925 5785
PROJECT ID: 43217997		EMAIL REPORT TO:	japson_siwadi@urscorp.com
SITE: COSTCO	P.O. NO.:	EMAIL INVOICE TO: (if different to report)	
RESULTS REQUIRED BY (**Date**): 6 August 2009	QUOTE NO.:	**ANALYSIS REQUIRED including SUITES** (note - suite codes must be listed to attract suite prices)	

Australian Laboratory Services Pty Ltd

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

COMMENTS / SPECIAL HANDLING / STORAGE OR DIPOSAL:

CONTRACT WORK
ES09 11064
ALS Brisbane

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

SAMPLE INFORMATION (note: S = Soil, W=Water)					CONTAINER INFORMATION		SPOCAS Suite (Comple
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles	
1	MW01D_3.5_25/07/09	S	25/07/2009	AM	Plastic bag	1	√
2	MW01D_4.0_25/07/09	S	25/07/2009	AM	Plastic bag	1	√
3	MW01D_6.0_25/07/09	S	25/07/2009	AM	Plastic bag	1	√
4	MW02D_1.8_26/07/09	S	26/07/2009	AM	Plastic bag	1	√
5	MW02D_2.9_26/07/09	S	26/07/2009	AM	Plastic bag	1	√
6	MW02D_4.6_26/07/09	S	26/07/2009	AM	Plastic bag	1	√

Environmental Division
Sydney
Work Order
ES0911064

Telephone : +61-2-8784 8555

RELINQUISHED BY:		RECEIVED BY		METHOD OF SHIPMENT
Name: Japson Siwadi	Date: 27/07/09	Name: FADI	Date: 28/7/09	Con' Note No:
Of: URS	Time:09:30 am	Of: ALS	Time: 4pm	
Name:	Date:	Name:	Date:	Transport Co:
Of:	Time:	Of:	Time:	

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

AUSTRALIAN LABORATORY SERVICES P/L

COC Page __1_ of __1_

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES0911064**	Page	: 1 of 5
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 28-JUL-2009
Sampler	: JS	Issue Date	: 05-AUG-2009
Site	: COSTCO		
		No. of samples received	: 6
Quote number	: EN/001/08 V4	No. of samples analysed	: 6

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Inorganics

General Comments

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

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

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

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

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

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Analysis conducted by ALS Brisbane, NATA Site No. 818.**
- **Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from 'kg/t dry weight' to 'kg/m3 in-situ soil', multiply 'reported results' x 'wet bulk density of soil in t/m3'.**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: MW01D_3.5_25/07/09	MW01D_4.0_25/07/09	MW01D_6.0_25/07/09	MW02D_1.8_26/07/09	MW02D_2.9_26/07/09
Client sampling date / time				25-JUL-2009 15:00	25-JUL-2009 15:00	25-JUL-2009 15:00	26-JUL-2009 15:00	26-JUL-2009 15:00
				ES0911064-001	ES0911064-002	ES0911064-003	ES0911064-004	ES0911064-005
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	5.7	5.4	5.3	5.4	4.1
pH OX (23B)	----	0.1	pH Unit	6.9	4.8	2.9	4.2	3.9
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	6	20	11	14	39
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	102	268	102	52
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	82	257	88	13
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	0.03	<0.02	0.02	0.06
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	0.16	0.43	0.16	0.08
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	0.13	0.41	0.14	0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	<0.02	0.02	<0.02	0.04
Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.05	0.58	0.16	0.08
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	0.05	0.56	0.16	0.04
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	33	348	98	25
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.10	0.16	0.04	0.08	<0.02
Peroxide Calcium (23Wh)	----	0.02	% Ca	0.12	0.20	0.08	0.12	0.02
Acid Reacted Calcium (23X)	----	0.02	% Ca	0.03	0.04	0.04	0.05	<0.02
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	14	19	20	24	<10
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.02	0.03	0.03	0.04	<0.02
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.03	0.04	0.06	0.03	0.03
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.03	0.04	0.09	0.04	0.03
Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	<0.02	0.03	<0.02	<0.02
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	<10	23	<10	<10
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	<0.02	0.04	<0.02	<0.02
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	0.08	----	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	17	----	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.03	----	----	----	----
EA029-G: Retained Acidity								
Net Acid Soluble Sulfur (20Je)	----	0.02	% S	----	----	----	----	0.02

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: MW01D_3.5_25/07/09	MW01D_4.0_25/07/09	MW01D_6.0_25/07/09	MW02D_1.8_26/07/09	MW02D_2.9_26/07/09
				Client sampling date / time: 25-JUL-2009 15:00	25-JUL-2009 15:00	25-JUL-2009 15:00	26-JUL-2009 15:00	26-JUL-2009 15:00
				ES0911064-001	ES0911064-002	ES0911064-003	ES0911064-004	ES0911064-005
EA029-G: Retained Acidity - Continued								
acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	----	----	----	----	<10
sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	----	----	----	----	<0.02
HCl Extractable Sulfur (20Be)	----	0.02	% S	----	----	----	----	**0.06**
EA029-H: Acid Base Accounting								
ANC Fineness Factor	----	0.5	-	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S	<0.02	**0.08**	**0.58**	**0.18**	**0.12**
Net Acidity (acidity units)	----	10	mole H+ / t	<10	**52**	**359**	**111**	**74**
Liming Rate	----	1	kg CaCO3/t	<1	**4**	**27**	**8**	**6**

Analytical Results

Sub-Matrix: **SOIL**

Compound	CAS Number	LOR	Unit	Client sample ID: MW02D_4.6_26/07/09	----	----	----	----
				Client sampling date / time: 26-JUL-2009 15:00	----	----	----	----
				ES0911064-006	----	----	----	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**6.7**	----	----	----	----
pH OX (23B)	----	0.1	pH Unit	**2.1**	----	----	----	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	----	----	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	**1280**	----	----	----	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	**1280**	----	----	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	**2.04**	----	----	----	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	**2.04**	----	----	----	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.10**	----	----	----	----
Peroxide Sulfur (23De)	----	0.02	% S	**2.28**	----	----	----	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	**2.19**	----	----	----	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	**1360**	----	----	----	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.15**	----	----	----	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	**0.20**	----	----	----	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	**0.04**	----	----	----	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**23**	----	----	----	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**0.04**	----	----	----	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.11**	----	----	----	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.12**	----	----	----	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting								
ANC Fineness Factor	----	0.5	-	**1.5**	----	----	----	----
Net Acidity (sulfur units)	----	0.02	% S	**2.09**	----	----	----	----
Net Acidity (acidity units)	----	10	mole H+ / t	**1300**	----	----	----	----
Liming Rate	----	1	kg CaCO3/t	**98**	----	----	----	----

Environmental Division

QUALITY CONTROL REPORT

Work Order	: **ES0911064**	Page	: 1 of 6
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: COSTCO		
C-O-C number	: ----	Date Samples Received	: 28-JUL-2009
Sampler	: JS	Issue Date	: 05-AUG-2009
Order number	: ----		
		No. of samples received	: 6
Quote number	: EN/001/08 V4	No. of samples analysed	: 6

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

This Quality Control Report contains the following information:

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

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Inorganics

General Comments

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

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

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

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

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 1057878)									
ES0911064-001	MW01D_3.5_25/07/09	EA029: pH KCl (23A)	----	0.1	pH Unit	5.7	5.8	1.7	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	6.9	6.9	0.0	0% - 20%
EA029-B: Acidity Trail (QC Lot: 1057878)									
ES0911064-001	MW01D_3.5_25/07/09	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.0	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.0	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.0	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	6	5	0.0	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.0	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.0	No Limit
EA029-C: Sulfur Trail (QC Lot: 1057878)									
ES0911064-001	MW01D_3.5_25/07/09	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-D: Calcium Values (QC Lot: 1057878)									
ES0911064-001	MW01D_3.5_25/07/09	EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.10	0.10	0.0	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.12	0.12	0.0	No Limit
		EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.03	0.03	0.0	No Limit
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.02	0.02	0.0	No Limit
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	14	14	0.0	No Limit
EA029-E: Magnesium Values (QC Lot: 1057878)									
ES0911064-001	MW01D_3.5_25/07/09	EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.03	0.03	0.0	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.03	0.03	0.0	No Limit
		EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	<0.02	0.0	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	<0.02	0.0	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	<10	0.0	No Limit
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 1057878)									
ES0911064-001	MW01D_3.5_25/07/09	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	0.08	0.19	78.3	No Limit
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.03	0.06	78.3	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 (%)*
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 1057878) - continued									
ES0911064-001	MW01D_3.5_25/07/09	EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	17	39	78.3	No Limit

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

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

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-B: Acidity Trail (QCLot: 1057878)								
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	----	----	----
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	----	----	----
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 1057878)								
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029-D: Calcium Values (QCLot: 1057878)								
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 1057878)								
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 1057878)								
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-G: Retained Acidity (QCLot: 1057878)								
EA029: Net Acid Soluble Sulfur (20Je)	----	0.02	% S	<0.02	----	----	----	----
EA029: acidity - Net Acid Soluble Sulfur (a-20J)	----	10	mole H+ / t	<10	----	----	----	----
EA029: sulfidic - Net Acid Soluble Sulfur (s-20J)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: HCl Extractable Sulfur (20Be)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

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

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

Environmental Division

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES0911064**	Page	: 1 of 6
Client	: URS AUSTRALIA (NSW) PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: COSTCO		
C-O-C number	: ----	Date Samples Received	: 28-JUL-2009
Sampler	: JS	Issue Date	: 05-AUG-2009
Order number	: ----		
		No. of samples received	: 6
Quote number	: EN/001/08 V4	No. of samples analysed	: 6

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

This Interpretive Quality Control Report contains the following information:

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

Analysis Holding Time Compliance

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

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

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-A: pH Measurements							
Snap Lock Bag - frozen MW01D_3.5_25/07/09, MW01D_4.0_25/07/09, MW01D_6.0_25/07/09	**25-JUL-2009**	**28-JUL-2009**	25-JUL-2010	✓	**04-AUG-2009**	01-NOV-2009	✓
Snap Lock Bag - frozen MW02D_1.8_26/07/09, MW02D_2.9_26/07/09, MW02D_4.6_26/07/09	**26-JUL-2009**	**28-JUL-2009**	26-JUL-2010	✓	**04-AUG-2009**	01-NOV-2009	✓
EA029-B: Acidity Trail							
Snap Lock Bag - frozen MW01D_3.5_25/07/09, MW01D_4.0_25/07/09, MW01D_6.0_25/07/09	**25-JUL-2009**	**28-JUL-2009**	25-JUL-2010	✓	**04-AUG-2009**	01-NOV-2009	✓
Snap Lock Bag - frozen MW02D_1.8_26/07/09, MW02D_2.9_26/07/09, MW02D_4.6_26/07/09	**26-JUL-2009**	**28-JUL-2009**	26-JUL-2010	✓	**04-AUG-2009**	01-NOV-2009	✓
EA029-C: Sulfur Trail							
Snap Lock Bag - frozen MW01D_3.5_25/07/09, MW01D_4.0_25/07/09, MW01D_6.0_25/07/09	**25-JUL-2009**	**28-JUL-2009**	25-JUL-2010	✓	**04-AUG-2009**	01-NOV-2009	✓
Snap Lock Bag - frozen MW02D_1.8_26/07/09, MW02D_2.9_26/07/09, MW02D_4.6_26/07/09	**26-JUL-2009**	**28-JUL-2009**	26-JUL-2010	✓	**04-AUG-2009**	01-NOV-2009	✓
EA029-D: Calcium Values							
Snap Lock Bag - frozen MW01D_3.5_25/07/09, MW01D_4.0_25/07/09, MW01D_6.0_25/07/09	**25-JUL-2009**	**28-JUL-2009**	25-JUL-2010	✓	**04-AUG-2009**	01-NOV-2009	✓
Snap Lock Bag - frozen MW02D_1.8_26/07/09, MW02D_2.9_26/07/09, MW02D_4.6_26/07/09	**26-JUL-2009**	**28-JUL-2009**	26-JUL-2010	✓	**04-AUG-2009**	01-NOV-2009	✓

Matrix: **SOIL**

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

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-E: Magnesium Values								
Snap Lock Bag - frozen MW01D_3.5_25/07/09, MW01D_6.0_25/07/09	MW01D_4.0_25/07/09,	**25-JUL-2009**	**28-JUL-2009**	25-JUL-2010	✓	**04-AUG-2009**	01-NOV-2009	✓
Snap Lock Bag - frozen MW02D_1.8_26/07/09, MW02D_4.6_26/07/09	MW02D_2.9_26/07/09,	**26-JUL-2009**	**28-JUL-2009**	26-JUL-2010	✓	**04-AUG-2009**	01-NOV-2009	✓
EA029-F: Excess Acid Neutralising Capacity								
Snap Lock Bag - frozen MW01D_3.5_25/07/09, MW01D_6.0_25/07/09	MW01D_4.0_25/07/09,	**25-JUL-2009**	**28-JUL-2009**	25-JUL-2010	✓	**04-AUG-2009**	01-NOV-2009	✓
Snap Lock Bag - frozen MW02D_1.8_26/07/09, MW02D_4.6_26/07/09	MW02D_2.9_26/07/09,	**26-JUL-2009**	**28-JUL-2009**	26-JUL-2010	✓	**04-AUG-2009**	01-NOV-2009	✓
EA029-G: Retained Acidity								
Snap Lock Bag - frozen MW01D_3.5_25/07/09, MW01D_6.0_25/07/09	MW01D_4.0_25/07/09,	**25-JUL-2009**	**28-JUL-2009**	25-JUL-2010	✓	**04-AUG-2009**	01-NOV-2009	✓
Snap Lock Bag - frozen MW02D_1.8_26/07/09, MW02D_4.6_26/07/09	MW02D_2.9_26/07/09,	**26-JUL-2009**	**28-JUL-2009**	26-JUL-2010	✓	**04-AUG-2009**	01-NOV-2009	✓
EA029-H: Acid Base Accounting								
Snap Lock Bag - frozen MW01D_3.5_25/07/09, MW01D_6.0_25/07/09	MW01D_4.0_25/07/09,	**25-JUL-2009**	**28-JUL-2009**	25-JUL-2010	✓	**04-AUG-2009**	01-NOV-2009	✓
Snap Lock Bag - frozen MW02D_1.8_26/07/09, MW02D_4.6_26/07/09	MW02D_2.9_26/07/09,	**26-JUL-2009**	**28-JUL-2009**	26-JUL-2010	✓	**04-AUG-2009**	01-NOV-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)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	6	**16.7**	**10.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	6	**16.7**	**5.0**	✓	NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

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

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.

Preparation Methods	Method	Matrix	Method Descriptions
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

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

Regular Sample Surrogates

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

Outliers : Analysis Holding Time Compliance

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

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

Outliers : Frequency of Quality Control Samples

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

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

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive Report

Work Order	: **ES0911064**		
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997	Page	: 1 of 2
Order number	: ----		
C-O-C number	: ----	Quote number	: ES2009URSNSW0253 (EN/001/08 V4)
Site	: COSTCO		
Sampler	: JS	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 28-JUL-2009	Issue Date	: 30-JUL-2009 13:12
Client Requested Due Date	: 06-AUG-2009	Scheduled Reporting Date	: **06-AUG-2009**

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 1.2'C - Ice present
No. of coolers/boxes	: 1 HARD	No. of samples received	: 6
Sercurity Seal	: Intact.	No. of samples analysed	: 6

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Nanthini Coilparampil
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Sample Container(s)/Preservation Non-Compliances

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

- **No sample container / preservation non-compliance exist.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process neccessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Matrix: **SOIL**

Laboratory sample ID	*Client sampling date / time*	*Client sample ID*	SOIL - EA029 SPOCAS
ES0911064-001	25-JUL-2009 15:00	MW01D_3.5_25/07/09	✓
ES0911064-002	25-JUL-2009 15:00	MW01D_4.0_25/07/09	✓
ES0911064-003	25-JUL-2009 15:00	MW01D_6.0_25/07/09	✓
ES0911064-004	26-JUL-2009 15:00	MW02D_1.8_26/07/09	✓
ES0911064-005	26-JUL-2009 15:00	MW02D_2.9_26/07/09	✓
ES0911064-006	26-JUL-2009 15:00	MW02D_4.6_26/07/09	✓

Requested Deliverables

EQUIS URS_EDMS

- EDI Format - EQUIS V5 (EQUIS_V5)	Email	urs_edms@urscorp.com

MR JAPSON SIWADI

- *AU Certificate of Analysis - NATA (COA)	Email	japson_siwadi@urscorp.com
- A4 - AU Sample Receipt Notification - Environmental (SRN)	Email	japson_siwadi@urscorp.com
- AU Interpretive QC Report (Anon QCI Not Rep) (QCI_NoAnon)	Email	japson_siwadi@urscorp.com
- AU QC Report (Anon QC Not Rep) - NATA (QC_NoAnon)	Email	japson_siwadi@urscorp.com
- Default - Chain of Custody (COC)	Email	japson_siwadi@urscorp.com
- EDI Format - ENMRG (ENMRG)	Email	japson_siwadi@urscorp.com
- EDI Format - MRED (MRED)	Email	japson_siwadi@urscorp.com

THE ACCOUNTS PAYABLE

- A4 - AU Tax Invoice (INV)	Email	sydney_accounts@urscorp.com

Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: **ES0911075**	Page	: 1 of 5
Client	: **URS AUSTRALIA (NSW) PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JAPSON SIWADI	Contact	: Charlie Pierce
Address	: LEVEL 3, 116 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2060	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: japson_siwadi@urscorp.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: 89255500	Telephone	: +61-2-8784 8555
Facsimile	: 89255555	Facsimile	: +61-2-8784 8500
Project	: 43217997 REBATCH OF ES0907905	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: REBATCH OF ES0907905		
C-O-C number	: ----	Date Samples Received	: 28-JUL-2009
Sampler	: JS	Issue Date	: 03-AUG-2009
Site	: COSTCO		
		No. of samples received	: 1
Quote number	: EN/001/08 V4	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 Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

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

Signatories	*Position*	*Accreditation Category*
Nanthini Coilparampil	Senior Inorganic Chemist	Inorganics
Pabi Subba	Senior Organic Chemist (Semi-Volatile)	Organics