

Client : CH2M HILL PTY LTD
Project : 347496 MACDONALDTOWN GASWORKS

Work Order : ES0610135
ALS Quote Reference : ----

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Issue Date : 30 Aug 2006

Matrix Type: SOIL **Analysis Holding Time and Preservation**

Method Container / Client Sample ID(s)	Date Sampled	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EG005T: Total Metals by ICP-AES - continued							
Soil Glass Jar - Unpreserved MG08/0.3, MG09B/0.3, MG09B/PIPE, MG09C/1.9, TP15/2.8, QC03, MG10/0.2, MG10A/2.8, MG04/0.5, MG05/0.5, MG06/1.0, MG06/4.7, MG07/4.0, TP12/0.5, TP14/0.25, RP/2.0, MG08/1.5, MG09B/0.6, MG09C/0.3, MG09C/3.8, TP15/4.1, QC04, MG10A/0.7, MG10A/4.0, MG04/1.5, MG05/1.8, MG06/2.0, MG07/1.0, TP12/0.25, TP13/0.25, TP14/1.5, RP/PIPE	17 Aug 2006	22 Aug 2006	13 Feb 2007	Pass	23 Aug 2006	13 Feb 2007	Pass
Soil Glass Jar - Unpreserved TP14/1.0	17 Aug 2006	30 Aug 2006	13 Feb 2007	Pass	30 Aug 2006	13 Feb 2007	Pass
EG035T: Total Mercury by FIMS							
Soil Glass Jar - Unpreserved MG08/0.3, MG09B/0.3, MG09B/PIPE, MG09C/1.9, TP15/2.8, QC03, MG10/0.2, MG10A/2.8, MG04/0.5, MG05/0.5, MG06/1.0, MG06/4.7, MG07/4.0, TP12/0.5, TP14/0.25, RP/2.0, MG08/1.5, MG09B/0.6, MG09C/0.3, MG09C/3.8, TP15/4.1, QC04, MG10A/0.7, MG10A/4.0, MG04/1.5, MG05/1.8, MG06/2.0, MG07/1.0, TP12/0.25, TP13/0.25, TP14/1.5, RP/PIPE	17 Aug 2006	22 Aug 2006	14 Sep 2006	Pass	23 Aug 2006	14 Sep 2006	Pass
Soil Glass Jar - Unpreserved TP14/1.0	17 Aug 2006	30 Aug 2006	14 Sep 2006	Pass	30 Aug 2006	14 Sep 2006	Pass
EK026G: Total Cyanide By Discrete Analyser							

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Matrix Type: SOIL **Analysis Holding Time and Preservation**

Method	Date Sampled	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EK026G: Total Cyanide By Discrete Analyser - continued							
Soil Glass Jar - Unpreserved MG09C/0.3, TP15/0.3, QC04, MG10A/0.7, MG06/4.7, MG09C/1.9, TP15/2.8, MG10/0.2, MG06/1.0, TP14/1.5	17 Aug 2006	23 Aug 2006	13 Feb 2007	Pass	23 Aug 2006	13 Feb 2007	Pass
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved MG08/1.5, MG09B/PIPE, MG10A/2.8, MG05/1.8, MG07/4.0, RP/2.0, MG09B/0.6, MG10/0.2, MG04/1.5, MG06/2.0, TP12/0.5, RP/PIPE	17 Aug 2006	24 Aug 2006	31 Aug 2006	Pass	25 Aug 2006	3 Oct 2006	Pass
EP068: Pesticides by GCMS							
Soil Glass Jar - Unpreserved MG08/1.5, MG09B/PIPE, TP15/4.1, MG10/0.2, MG10A/2.8, MG05/1.8, MG07/4.0, RP/2.0, MG09B/0.6, TP15/2.8, QC04, MG10A/0.7, MG04/1.5, MG06/2.0, TP12/0.5, RP/PIPE	17 Aug 2006	24 Aug 2006	31 Aug 2006	Pass	25 Aug 2006	3 Oct 2006	Pass
EP071: TPH - Semivolatile Fraction							

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Matrix Type: SOIL **Analysis Holding Time and Preservation**

Method		Date Sampled	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EP071: TPH - Semivolatile Fraction - continued								
Soil Glass Jar - Unpreserved		17 Aug 2006	24 Aug 2006	31 Aug 2006	Pass	24 Aug 2006	3 Oct 2006	Pass
MG08/1.5,	MG08/2.1,							
MG08/4.0,	MG09B/0.3,							
MG09B/0.6,	MG09B/2.5,							
MG09B/PIPE,	MG09C/0.3,							
MG09C/1.9,	MG09C/3.8,							
TP15/0.3,	TP15/2.8,							
TP15/4.1,	QC03,							
QC04,	MG10/0.2,							
MG10A/0.7,	MG10A/2.8,							
MG10A/4.0,	MG04/0.5,							
MG04/1.5,	TRIP BLANK 3,							
TRIP SPIKE 3,	MG05/0.5,							
MG05/1.8,	MG05/5.0,							
MG06/1.0,	MG06/2.0,							
MG06/4.7,	MG07/1.0,							
MG07/4.0,	TP12/0.25,							
TP12/0.5,	TP13/0.25,							
TP13/1.0,	TP13/1.5,							
TP14/0.25,	TP14/0.5,							
TP14/1.5,	RP/2.0,							
RP/PIPE,	TS CONTROL							
Soil Glass Jar - Unpreserved TP14/1.0		17 Aug 2006	29 Aug 2006	31 Aug 2006	Pass	29 Aug 2006	8 Oct 2006	Pass
EP075(SIM): PAH/Phenols (SIM)								
Soil Glass Jar - Unpreserved		17 Aug 2006	24 Aug 2006	31 Aug 2006	Pass	24 Aug 2006	3 Oct 2006	Pass
TP14/1.5,	RP/2.0,							
RP/PIPE								

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Matrix Type: SOIL **Analysis Holding Time and Preservation**

Method	Date Sampled	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?	
EP075(SIM): PAH/Phenols (SIM) - continued								
Soil Glass Jar - Unpreserved								
MG08/1.5, MG08/4.0, MG09B/2.5, MG09C/0.3, MG09C/3.8, TP15/2.8, QC03, MG10/0.2, MG10A/2.8, MG04/0.5, MG05/1.8, MG05/5.0, MG06/2.0, MG07/1.0, TP12/0.25, TP13/0.25, TP13/1.5, TP14/0.5,	MG08/2.1, MG09B/0.6, MG09B/PIPE, MG09C/1.9, TP15/0.3, TP15/4.1, QC04, MG10A/0.7, MG10A/4.0, MG04/1.5, MG05/3.4, MG06/1.0, MG06/4.7, MG07/4.0, TP12/0.5, TP13/1.0, TP14/0.25, TP14/1.0	17 Aug 2006	24 Aug 2006	31 Aug 2006	Pass	25 Aug 2006	3 Oct 2006	Pass
EP080: TPH Volatiles/BTEX								
Soil Glass Jar - Unpreserved								
MG08/1.5, MG10/0.2,	MG08/2.1, MG10A/0.7	17 Aug 2006	19 Aug 2006	31 Aug 2006	Pass	21 Aug 2006	31 Aug 2006	Pass
Soil Glass Jar - Unpreserved								
MG08/4.0, MG09B/0.6, MG09B/PIPE, MG09C/1.9, TP15/0.3, TP15/4.1, QC04, MG10A/4.0, MG04/1.5	MG09B/0.3, MG09B/2.5, MG09C/0.3, MG09C/3.8, TP15/2.8, QC03, MG10A/2.8, MG04/0.5,	17 Aug 2006	21 Aug 2006	31 Aug 2006	Pass	23 Aug 2006	31 Aug 2006	Pass
Soil Glass Jar - Unpreserved								
TS CONTROL		17 Aug 2006	22 Aug 2006	31 Aug 2006	Pass	22 Aug 2006	31 Aug 2006	Pass

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Matrix Type: SOIL **Analysis Holding Time and Preservation**

Method	Date Sampled	Extraction / Preparation			Analysis			
Container / Client Sample ID(s)		Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?	
EP080: TPH Volatiles/BTEX - continued								
Soil Glass Jar - Unpreserved								
TRIP BLANK 3, MG05/0.5, MG05/5.0, MG06/2.0, MG07/1.0, TP12/0.25, TP13/0.25, TP13/1.5, TP14/0.5, RP/2.0,	TRIP SPIKE 3, MG05/1.8, MG06/1.0, MG06/4.7, MG07/4.0, TP12/0.5, TP13/1.0, TP14/0.25, TP14/1.5, RP/PIPE	17 Aug 2006	22 Aug 2006	31 Aug 2006	Pass	23 Aug 2006	31 Aug 2006	Pass
Soil Glass Jar - Unpreserved								
TP14/1.0		17 Aug 2006	29 Jul 2006	31 Aug 2006	Pass	29 Aug 2006	31 Aug 2006	Pass

Matrix Type: WATER **Analysis Holding Time and Preservation**

Method	Date Sampled	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EG020A-T: Total Metals by ICP-MS - Suite A							
Clear Plastic Bottle - Nitric Acid; Unfiltered W04	17 Aug 2006	21 Aug 2006	13 Feb 2007	Pass	21 Aug 2006	13 Feb 2007	Pass
EG035T: Total Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered W04	17 Aug 2006	----	----	----	21 Aug 2006	14 Sep 2006	Pass
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved W04	17 Aug 2006	22 Aug 2006	24 Aug 2006	Pass	23 Aug 2006	1 Oct 2006	Pass
EP068: Pesticides							
Amber Glass Bottle - Unpreserved W04	17 Aug 2006	22 Aug 2006	24 Aug 2006	Pass	23 Aug 2006	1 Oct 2006	Pass
EP071: TPH - Semivolatile Fraction							
Amber Glass Bottle - Unpreserved W04	17 Aug 2006	22 Aug 2006	24 Aug 2006	Pass	23 Aug 2006	1 Oct 2006	Pass
EP075(SIM): PAH/Phenols (GC/MS - SIM)							
Amber Glass Bottle - Unpreserved W04	17 Aug 2006	22 Aug 2006	24 Aug 2006	Pass	23 Aug 2006	1 Oct 2006	Pass
EP080: TPH Volatiles/BTEX							
Amber VOC Vial - HCl or NaHSO4 W04	17 Aug 2006	----	----	----	25 Aug 2006	31 Aug 2006	Pass

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Interpretive Quality Control Report - Frequency of Quality Control Samples

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which this work order was processed. Actual rate should be greater than or equal to the expected rate.

Matrix Type: SOIL **Frequency of Quality Control Samples**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
EA055-103: Moisture Content	9	80	11.3	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG005T: Total Metals by ICP-AES	8	79	10.1	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	8	69	11.6	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EK026G: Total Cyanide By Discrete Analyser	2	10	20.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP066: Polychlorinated Biphenyls (PCB)	2	12	16.7	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	2	16	12.5	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	8	75	10.7	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	5	39	12.8	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	12	113	10.6	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Laboratory Control Samples (LCS)					
EG005T: Total Metals by ICP-AES	4	79	5.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	4	69	5.8	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EK026G: Total Cyanide By Discrete Analyser	1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP066: Polychlorinated Biphenyls (PCB)	1	12	8.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	1	16	6.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	4	75	5.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	3	39	7.7	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	6	113	5.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Method Blanks (MB)					
EG005T: Total Metals by ICP-AES	4	79	5.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	4	69	5.8	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EK026G: Total Cyanide By Discrete Analyser	1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP066: Polychlorinated Biphenyls (PCB)	1	12	8.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	1	16	6.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	4	75	5.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	3	39	7.7	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	6	113	5.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Matrix Spikes (MS)					
EG005T: Total Metals by ICP-AES	4	79	5.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	4	69	5.8	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EK026G: Total Cyanide By Discrete Analyser	1	10	10.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP066: Polychlorinated Biphenyls (PCB)	1	12	8.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	1	16	6.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	4	75	5.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	3	39	7.7	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	6	113	5.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement

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Matrix Type: WATER

Frequency of Quality Control Samples

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
EG020A-T: Total Metals by ICP-MS - Suite A	2	14	14.3	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	2	11	18.2	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	2	20	10.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Laboratory Control Samples (LCS)					
EG020A-T: Total Metals by ICP-MS - Suite A	1	14	7.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	1	11	9.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP066: Polychlorinated Biphenyls (PCB)	1	2	50.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides	1	2	50.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	8	12.5	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (GC/MS - SIM)	1	7	14.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	1	20	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Method Blanks (MB)					
EG020A-T: Total Metals by ICP-MS - Suite A	1	14	7.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	1	11	9.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP066: Polychlorinated Biphenyls (PCB)	1	2	50.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides	1	2	50.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	8	12.5	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (GC/MS - SIM)	1	7	14.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	1	20	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Matrix Spikes (MS)					
EG020A-T: Total Metals by ICP-MS - Suite A	1	14	7.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	1	11	9.1	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	1	20	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement

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Interpretive Quality Control Report - Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged on the 'Quality Control Report'. Surrogate recovery limits are static and based on USEPA SW846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). - Anonymous -
 Client Sample IDs refer to samples which are not specifically part of this work order but formed part of the QC process lot.

Non-surrogates

ALS QC Lot	Matrix Type	Laboratory Sample ID	Client Sample ID	Analyte	Data	Limits	Comment
Laboratory Duplicates (DUP)							
EG005T: Total Metals by ICP-AES	SOIL	ES0610135-038	TP12/0.5	Zinc	32.8 %	0-20 %	RPD exceeds LOR based limits
EG005T: Total Metals by ICP-AES	SOIL	ES0610135-042	TP14/0.25	Lead	20.8 %	0-20 %	RPD exceeds LOR based limits
Laboratory Control Samples (LCS)							
EP075(SIM)A: Phenolic Compounds	SOIL	286449-007	----	2,4,5-Trichlorophenol	67.5 %	68.9-112 %	Recovery less than lower control limit
Matrix Spikes (MS)							
EG005T: Total Metals by ICP-AES	SOIL	ES0610135-023	MG04/0.5	Lead	ND	----	MS recovery not determined, background level greater than or equal to 4x spike level.
EP068A: Organochlorine Pesticides (OC)	SOIL	ES0610135-019	MG10/0.2	gamma-BHC	60.4 %	75.65-110.44 %	Recovery less than lower data quality objective
				Heptachlor	38.4 %	72.2-106.71 %	Recovery less than lower data quality objective
				Aldrin	46.3 %	77.54-107.0 %	Recovery less than lower data quality objective
				Dieldrin	56.0 %	76.37-109.7 %	Recovery less than lower data quality objective
				Endrin	ND	----	Matrix spike recovery not determined due to sample matrix interference.
				4,4'-DDT	22.4 %	67.12-118.10 %	Recovery less than lower data quality objective
EP068B: Organophosphorus Pesticides (OP)	SOIL	ES0610135-019	MG10/0.2	Diazinon	56.5 %	75.85-107.06 %	Recovery less than lower data quality objective
				Chlorpyrifos-methyl	46.6 %	74.84-107.91 %	Recovery less than lower data quality objective
				Pirimphos-ethyl	41.1 %	67.98-109.42 %	Recovery less than lower data quality objective
				Bromophos-ethyl	45.6 %	74.94-107.37 %	Recovery less than lower data quality objective
				Prothiofos	70.1 %	75.45-106.05 %	Recovery less than lower data quality objective

1 For all matrices, no method blank result outliers occur.

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Surrogates

ALS QC Lot	Matrix Type	Laboratory Sample ID	Client Sample ID	Analyte	Data	Limits	Comment
Surrogates							
EP068S: Organochlorine Pesticide Surrogate	SOIL	ES0610135-003	MG08/1.5	Dibromo-DDE	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
	SOIL	ES0610135-009	MG09B/PIPE	Dibromo-DDE	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
	SOIL	ES0610135-020	MG10A/0.7	Dibromo-DDE	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
	SOIL	ES0610135-047	RP/PIPE	Dibromo-DDE	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
EP068T: Organophosphorus Pesticide Surrogate	SOIL	ES0610135-003	MG08/1.5	DEF	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
	SOIL	ES0610135-009	MG09B/PIPE	DEF	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
	SOIL	ES0610135-020	MG10A/0.7	DEF	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
	SOIL	ES0610135-047	RP/PIPE	DEF	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
EP075(SIM)S: Phenolic Compound Surrogates	SOIL	ES0610135-009	MG09B/PIPE	Phenol-d6	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
				2-Chlorophenol-D4	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
				2,4,6-Tribromophenol	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
EP075(SIM)T: PAH Surrogates	SOIL	ES0610135-009	MG09B/PIPE	2-Fluorobiphenyl	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
				Anthracene-d10	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
				4-Terphenyl-d14	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences

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				1,2-Dichloroethane-D4	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
				Toluene-D8	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
				4-Bromofluorobenzene	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
	SOIL	ES0610135-016	TP15/4.1	Toluene-D8	118 %	81-117 %	Recovery greater than upper data quality objective
EP080S: TPH(V)/BTEX Surrogates	SOIL	ES0610135-025	TRIP BLANK 3	Toluene-D8	117 %	81-117 %	Recovery greater than upper data quality objective
				1,2-Dichloroethane-D4	79.4 %	80-120 %	Recovery less than lower data quality objective

Outliers : Analysis Holding Time

The following report highlights outliers within this 'Interpretive Quality Control Report - Analysis Holding Time'.

Method Container / Client Sample ID(s)	Date Sampled	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Pass?	Date analysed	Due for analysis	Pass?
EA055-103: Moisture Content							
Soil Glass Jar - Unpreserved TP14/1.0	17 Aug 2006	----	----	----	29 Aug 2006	24 Aug 2006	Fail by 5 days

1 No holding time outliers occur.

Outliers : Frequency of Quality Control Samples

The following report highlights outliers within this 'Interpretive Quality Control Report - Frequency of Quality Control Samples'.

1 No frequency outliers occur.

Client : CH2M HILL PTY LTD
 Project : 347496 MACDONALDTOWN GASWORKS

Work Order : ES0610135
 ALS Quote Reference : ----

Page Number : 13 of 14
 Issue Date : 30 Aug 2006

Method Reference Summary

The analytical procedures used by ALS Environmental are based on established internationally-recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house procedure 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 herein. Reference methods from which ALSE methods are based are provided in parenthesis.

Matrix Type: SOIL

Method Reference Summary

Preparation Methods

EK026PR : NaOH leach for TCN in Soils - APHA 20th ed., 4500 CN- C & N. Samples are extracted by end-over-end tumbling with NaOH.

EN69 : Hot Block Digest for metals in soils sediments and sludges - 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)

ORG16 : Methanolic Extraction of Soils for Purge and Trap - (USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.

ORG17A : Tumbler Extraction of Solids (Option A - Concentrating) - In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

ORG17B : Tumbler Extraction of Solids (Option B - Non-concentrating) - 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.

Analytical Methods

ASB-SOL : Asbestos - Count (Solid) - Asbestos Count on solid matrices conducted by Subcontracting Laboratory

EA055-103 : Moisture Content - 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)

EG005T : Total Metals by ICP-AES - (APHA 20th 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)

EG035T : Total Mercury by FIMS - AS 3550, APHA 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)

EK026G : Total Cyanide By Discrete Analyser - APHA 20th 4500 CN - C & N. Caustic leach extracts of the sample are distilled with sulphuric acid, converting all CN species to HCN. The distillates are analyzed for CN by Seal. This method is compliant with NEPM (1999) Schedule B(3) (Method 403)

EP066 : Polychlorinated Biphenyls (PCB) - (USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Method 504)

EP068 : Pesticides by GCMS - (USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (1999) Schedule B(3) (Method 504,505)

EP071 : TPH - Semivolatile Fraction - (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)

EP075(SIM) : PAH/Phenols (SIM) - (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)

Client : CH2M HILL PTY LTD
Project : 347496 MACDONALDTOWN GASWORKS

Work Order : ES0610135
ALS Quote Reference : ----

Page Number : 14 of 14
Issue Date : 30 Aug 2006

Matrix Type: SOIL

Method Reference Summary

Analytical Methods

EP080 : TPH Volatiles/BTEX - (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)

Matrix Type: WATER

Method Reference Summary

Preparation Methods

EN25 : Digestion for Total Recoverable Metals - 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)

ORG14 : Separatory Funnel Extraction of Liquids - 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.

Analytical Methods

EG020A-T : Total Metals by ICP-MS - Suite A - (APHA 20th 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.

EG035T : Total Mercury by FIMS - AS 3550, APHA 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)

EP066 : Polychlorinated Biphenyls (PCB) - USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

EP068 : Pesticides - USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (1999) Schedule B(3) (Appdx. 2)

EP071 : TPH - Semivolatile Fraction - 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)

EP075(SIM) : PAH/Phenols (GC/MS - SIM) - 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)

EP080 : TPH Volatiles/BTEX - 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)



ALS Environmental

SAMPLE RECEIPT NOTIFICATION (SRN)

Comprehensive report

Client Details

Client : CH2M HILL PTY LTD
 Contact : MR ADAM SULLIVAN
 Address : PO BOX 5392 CHATSWOOD NSW
 AUSTRALIA 1515

 Project : 347496 MACDONALDTOWN GASWORK
 Order number : - Not provided -
 C-O-C Number : - Not provided -
 Site : MACDONALD
 Sampler : - Not provided -

 E-mail : adam.sullivan@ch2m.com.au
 Telephone : 02 9950 0200
 Facsimile : 02 9950 0600

Laboratory Details

Laboratory : ALS Environmental Sydney
 Manager : Greg Vogel
 Address : Smithfield NSW Australia 2164

 Quote number : ----
 Work order : ES0610135

 E-mail : Greg.Vogel@alsenviro.com
 Telephone : +61 (02) 8784 8555
 Facsimile : +61 (02) 8784 8500

Dates

Date Samples Received	: 17 Aug 2006	SRA Issue Date	: 28 Aug 2006
Scheduled Reporting Date	: 30 Aug 2006	Client Requested Date	: 25 Aug 2006

Delivery Details

Mode of Delivery	: Carrier.	Temperature	: CHILLED - Ice present
No. of coolers/boxes	: 2 HARD	No. of samples - Received	55
Security Seal	: Intact.	- Analysed	47

Comments

- 1 Samples received in appropriately pretreated and preserved containers.
 - 1 Sample(s) have been received within recommended holding times.
 - 1 Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).
-
- 1 Analytical work for this work order will be conducted at ALSE Sydney.
 - 1 Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.
 - 1 Please direct any queries related to sample condition / numbering / breakages to Nazeeh Aoun.
 - 1 Please direct any turn around / technical queries to the laboratory contact designated above.
 - 1 When the sampling time is not supplied on the COC documentation, ALSE defaults the sampling time to that of the COC 'relinquishment' time (if supplied). If this also is not supplied, ALSE defaults the sampling time to the 'time of receipt at Laboratory'.

Disclaimer : This document contains privileged and confidential information intended only for the use of the addressee. If you are not the addressee, you are hereby notified that you must not disseminate, copy or take action of its contents. If you have received this document in error, please notify ALS immediately.

SAMPLE RECEIPT NOTIFICATION (SRN) - continued

Client : CH2M HILL PTY LTD
Project : 347496 MACDONALDTOWN GASWORKS

Work Order : ES0610135
ALS Quote Reference : ----



Summary of Sample(s) / Container(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as moisture and preparation tasks, that form an implicit part of that package.

ALS Sample ID.	Client Sample ID - Sample Date	Requested Analysis									
		ASB-SOL - SOIL Asbestos - Count (Solid)	EA055-103 - SOIL Moisture Content	EK026G (Solids) - SOIL Total Cyanide By Discrete Analyser	S-02 - SOIL 8 Metals (incl. Digestion)	S-04 - SOIL TPH/BTEX	S-07 - SOIL TPH/BTEX/PAH (SIM)	S-12 - SOIL OC/OP Pesticides	S-14A - SOIL PAH/Phenols (16 PAH - SIM)	S-19 - SOIL TPH/BTEX/Ph/OC/OP/PCB/8 metals	W-19T - WATER TPH/BTEX/Ph/OC/OP/PCB/8 metals
ES0610135-001	MG08/0.3 - 17 Aug 2006				1						
ES0610135-002	MG08/1.0 - 17 Aug 2006										
ES0610135-003	MG08/1.5 - 17 Aug 2006									1	
ES0610135-004	MG08/2.1 - 17 Aug 2006						1				
ES0610135-005	MG08/4.0 - 17 Aug 2006						1				
ES0610135-006	MG09B/0.3 - 17 Aug 2006				1	1					
ES0610135-007	MG09B/0.6 - 17 Aug 2006									1	
ES0610135-008	MG09B/2.5 - 17 Aug 2006						1				
ES0610135-009	MG09B/PIPE - 17 Aug 2006									1	
ES0610135-010	MG09C/0.3 - 17 Aug 2006		1	1	1		1				
ES0610135-011	MG09C/1.5 - 17 Aug 2006										
ES0610135-012	MG09C/1.9 - 17 Aug 2006		1	1	1		1				
ES0610135-013	MG09C/3.8 - 17 Aug 2006				1		1				
ES0610135-014	TP15/0.3 - 17 Aug 2006		1	1			1				
ES0610135-015	TP15/2.8 - 17 Aug 2006		1	1	1		1	1			
ES0610135-016	TP15/4.1 - 17 Aug 2006				1		1	1			
ES0610135-017	QC03 - 17 Aug 2006				1		1				
ES0610135-018	QC04 - 17 Aug 2006		1	1	1		1	1			
ES0610135-019	MG10/0.2 - 17 Aug 2006	1	1	1						1	
ES0610135-020	MG10A/0.7 - 17 Aug 2006	1	1	1	1	1		1	1		
ES0610135-021	MG10A/2.8 - 17 Aug 2006									1	
ES0610135-022	MG10A/4.0 - 17 Aug 2006				1	1			1		
ES0610135-023	MG04/0.5 - 17 Aug 2006	1			1		1				
ES0610135-024	MG04/1.5 - 17 Aug 2006	1								1	
ES0610135-025	TRIP BLANK 3 - 17 Aug 2006					1					
ES0610135-026	TRIP SPIKE 3 - 17 Aug 2006					1					
ES0610135-027	MG05/0.5 - 17 Aug 2006				1	1					
ES0610135-028	MG05/1.2 - 17 Aug 2006										
ES0610135-029	MG05/1.8 - 17 Aug 2006									1	
ES0610135-030	MG05/3.4 - 17 Aug 2006								1		
ES0610135-031	MG05/5.0 - 17 Aug 2006						1				
ES0610135-032	MG06/1.0 - 17 Aug 2006		1	1	1		1				
ES0610135-033	MG06/2.0 - 17 Aug 2006									1	
ES0610135-034	MG06/4.7 - 17 Aug 2006		1	1	1		1				
ES0610135-035	MG07/1.0 - 17 Aug 2006				1	1			1		
ES0610135-036	MG07/4.0 - 17 Aug 2006									1	
ES0610135-037	TP12/0.25 - 17 Aug 2006	1			1	1			1		
ES0610135-038	TP12/0.5 - 17 Aug 2006									1	
ES0610135-039	TP13/0.25 - 17 Aug 2006	1			1	1			1		
ES0610135-040	TP13/1.0 - 17 Aug 2006						1				
ES0610135-041	TP13/1.5 - 17 Aug 2006						1				
ES0610135-042	TP14/0.25 - 17 Aug 2006	1			1	1			1		
ES0610135-043	TP14/0.5 - 17 Aug 2006						1				
ES0610135-044	TP14/1.0 - 17 Aug 2006				1	1			1		
ES0610135-045	TP14/1.5 - 17 Aug 2006		1	1	1		1				

SAMPLE RECEIPT NOTIFICATION (SRN) - continued

Client : CH2M HILL PTY LTD
Project : 347496 MACDONALDTOWN GASWORKS

Work Order : ES0610135
ALS Quote Reference : ----



ALS Sample ID.	Client Sample ID - Sample Date	Requested Analysis									
		ASB-SOL - SOIL Asbestos - Count (Solid)	EA055-103 - SOIL Moisture Content	EK026G (Solids) - SOIL Total Cyanide By Discrete Analyser	S-02 - SOIL 8 Metals (incl. Digestion)	S-04 - SOIL TPH/BTEX	S-07 - SOIL TPH/BTEX/PAH (SIM)	S-12 - SOIL OC/OP Pesticides	S-14A - SOIL PAH/Phenols (16 PAH - SIM)	S-19 - SOIL TPH/BTEX/P/Ph/OC/OP/PCB/8 metals	W-19T - WATER TPH/BTEX/P/Ph/OC/OP/PCB/8 metals
ES0610135-046	RP/2.0 - 17 Aug 2006									1	
ES0610135-047	RP/PIPE - 17 Aug 2006									1	
ES0610135-048	W04 - 17 Aug 2006										1
ES0610135-049	TS CONTROL - 17 Aug 2006					1					
ES0610135-050	MG08/3.1 - 17 Aug 2006										
ES0610135-051	TP15/1.0 - 17 Aug 2006										
ES0610135-052	MG10/0.6 - 17 Aug 2006										
ES0610135-053	MG06/3.5 - 17 Aug 2006										
ES0610135-055	TP13/0.5 - 17 Aug 2006										
ES0610135-056	TP12 - 18 Aug 2006										
Total(s) :		7	10	10	21	12	19	4	8	12	1

SAMPLE RECEIPT NOTIFICATION (SRN) - continued

Client : CH2M HILL PTY LTD
Project : 347496 MACDONALDTOWN GASWORKS

Work Order : ES0610135
ALS Quote Reference : ----



Requested Reports

1 MR ADAM SULLIVAN

- A4 - Certificate of Analysis - NEPM format	Email	adam.sullivan@ch2m.com.au
- A4 - Quality Control Report - NEPM format	Email	adam.sullivan@ch2m.com.au
- A4 - Interpretive Quality Control Report - NEPM format	Email	adam.sullivan@ch2m.com.au
- Subcontracted Reports	Email	adam.sullivan@ch2m.com.au
- ENMRG Export Format	Email	adam.sullivan@ch2m.com.au
- ESDAT Export Format	Email	adam.sullivan@ch2m.com.au
- Chain of Custody Acknowledgement	Email	adam.sullivan@ch2m.com.au
- A4 - Sample Receipt Notification - Comprehensive format	Email	adam.sullivan@ch2m.com.au
- Invoice	Email	adam.sullivan@ch2m.com.au

Sample Container(s) / Preservation Non-Compliance Log

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

1 No sample container / preservation non-compliance exist.



AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET 9469/ 12631 / 1 - 4

Your ref: ES0610221

NATA Accreditation No: 14484

23 August 2006

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

Attn:Mr Greg Vogel

Dear Greg,

Asbestos Identification

This report presents the results of four samples, forwarded by Australian Laboratory Services Pty. Ltd on 21 August 2006, for analysis for asbestos.

1.Introduction:Four 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. ASET 9469 / 12631 / 1. ES0610221 - 7 - MG10 - 0.2.**
Approx dimensions 14.0 cm x 4.0 cm x 2.0 cm
The sample consisted of a mixture of sandy soil, stones, plant matter, fragments of plaster and brick.
No asbestos detected.

Sample No. 2. ASET 9469 / 12631 / 2. ES0610221 - 8 - MG09 - B.
Approx dimensions 6.0 cm x 7.0 cm x 1.0 cm
The sample consisted of a fragment of a fibro plaster cement material.
Chrysotile asbestos detected.

Sample No. 3. ASET 9469 / 12631 / 3. ES0610221 - 9 - TP18.
Approx dimensions 5.0 cm x 5.0 cm x 0.8 cm
The sample consisted of a mixture of sandy soil and stones.
No asbestos detected.

UNIT 7 LEVEL 2, 1 LEONARD STREET, HORNSBY NSW 2077 – P.O. BOX 1644 HORNSBY NORTHGATE NSW 1635

PHONE: (02) 99872183 FAX: (02)99872151 EMAIL: aset@bigpond.net.au WEBSITE: www.aset.com.au

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ASBESTOS DETECTION & IDENTIFICATION • REPAIR & CALIBRATION OF SCIENTIFIC EQUIPMENT • AIRBORNE FIBRE & SILICA MONITORING



Sample No. 4. ASET 9469 / 12631 / 4. ES0610221 - 18 - TP11 - 0.2.

Approx dimensions 14.0 cm x 3.0 cm x 2.0 cm

The sample consisted of a mixture of clayish sandy soil, stones, plant matter, plaster and fragments of bitumen.

No asbestos detected.

Analysed and reported by,

A handwritten signature in blue ink, appearing to read "Karu Jayasundara", is written on a light yellow rectangular background.

**Karu Jayasundara. BSc (Hons) MAus IMM.
Mineralogist / Chartered Professional of Geology
Approved Signatory.**





CERTIFICATE OF ANALYSIS

<i>Client</i>	: CH2M HILL PTY LTD	<i>Laboratory</i>	: ALS Environmental Sydney	<i>Page</i>	: 1 of 19
<i>Contact</i>	: MR ADAM SULLIVAN	<i>Contact</i>	: Greg Vogel	<i>Work Order</i>	: ES0610221
<i>Address</i>	: PO BOX 5392 CHATSWOOD NSW AUSTRALIA 1515	<i>Address</i>	: 277-289 Woodpark Road Smithfield NSW Australia 2164		
<i>E-mail</i>	: adam.sullivan@ch2m.com.au	<i>E-mail</i>	: Greg.Vogel@alsenviro.com		
<i>Telephone</i>	: 02 9950 0200	<i>Telephone</i>	: +61 (02) 8784 8555		
<i>Facsimile</i>	: 02 9950 0600	<i>Facsimile</i>	: +61 (02) 8784 8500		
<i>Project</i>	: 347496 MACDONALDTOWN GASWORKS	<i>Quote number</i>	: ----	<i>Date received</i>	: 18 Aug 2006
<i>Order number</i>	: - Not provided -			<i>Date issued</i>	: 29 Aug 2006
<i>C-O-C number</i>	: - Not provided -			<i>No. of samples</i>	- Received : 22
<i>Site</i>	: MACDONALDTOWN				Analysed : 18

ALSE - Excellence in Analytical Testing



NATA Accredited Laboratory
825

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

Accredited for compliance with
ISO/IEC 17025.

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatory</i>	<i>Position</i>	<i>Department</i>
Celine Conceicao	Spectroscopist	Inorganics - NATA 825 (10911 - Sydney)
Pabi Subba		Organics - NATA 825 (10911 - Sydney)
PHALAK INTAKESONE	Organics Co-ordinator	Organics - NATA 825 (10911 - Sydney)
Phyu Phyu Lwin	Spectroscopist	Inorganics - NATA 825 (10911 - Sydney)
Sarah Millington	Senior Inorganic Chemist	Inorganics - NATA 825 (10911 - Sydney)

Comments

This report for the ALSE reference ES0610221 supersedes any previous reports with this reference. Results apply to the samples as submitted. All pages of this report have been checked and approved for release.

This report contains the following information:

1 Analytical results for samples submitted

When moisture determination has been performed, results are reported on a dry weight basis. When a reported 'less than' result is higher than the LOR, this may be due to primary sample extracts/digestion dilution and/or insufficient sample amount for analysis. Surrogate Recovery Limits are static and based on USEPA SW846 or ALS-QWI/EN38 (in the absence of specified USEPA limits). Where LOR of reported result differ from standard LOR, this may be due to high moisture, reduced sample amount or matrix interference. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number, LOR = Limit of Reporting. * Indicates failed Surrogate Recoveries.

1 Surrogate control limits

The analytical procedures used by ALS Environmental are based on established internationally-recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house procedure 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 herein. Reference methods from which ALSE methods are based are provided in parenthesis.

Specific comments for Work Order **ES0610221**

EPO75(SIM) : Surrogate (Phenol-d6) could not be determined for sample W06 due to sample matrix interference.

LCS recovery for various organic analytes fall outside ALS dynamic control limits, However they are within the acceptance criteria based on USEPA SW-846.

EPO66 & EPO68 :Sample MG11/2.0 required dilution due to matrix interferences. LOR values have been adjusted accordingly.

EPO68: Surrogate (TP16/1.0) could not be determined for sample TP16/1.0 due to sample matrix interferences.

Page Number : 3 of 19
 Client : CH2M HILL PTY LTD
 Work Order : ES0610221



Analytical Results

Client Sample ID : TP16/3.5				TP18/1.2	TP18/3.2	TP18/4.4	DUP08
Sample Matrix Type / Description : SOIL				SOIL	SOIL	SOIL	SOIL
Sample Date / Time : 17 Aug 2006 15:00				17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00
Laboratory Sample ID : ES0610221-001				ES0610221-002	ES0610221-004	ES0610221-005	ES0610221-006
Analyte	CAS number	LOR	Units				
EA055: Moisture Content							
Moisture Content (dried @ 103°C)		1.0	%	19.2	18.8	23.4	15.5
EG005T: Total Metals by ICP-AES							
Arsenic	7440-38-2	5	mg/kg	7	7	6	<5
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	14	22	25	16
Copper	7440-50-8	5	mg/kg	14	16	14	<5
Lead	7439-92-1	5	mg/kg	23	73	19	5
Nickel	7440-02-0	2	mg/kg	<2	<2	6	<2
Zinc	7440-66-6	5	mg/kg	<5	52	17	33
EG035T: Total Mercury by FIMS							
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
EK025G: Free cyanide by Discrete Analyser							
Total Cyanide	57-12-5	1.0	mg/kg	<1.0	3.0	<1.0	<1.0
EP066: Polychlorinated Biphenyls (PCB)							
Total Polychlorinated biphenyls		0.10	mg/kg	----	<0.10	----	<0.10
EP068A: Organochlorine Pesticides (OC)							
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	<0.05
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	<0.05
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	<0.05
4,4'-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	<0.05
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	<0.05
4,4'-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	<0.05
4,4'-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	<0.2

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Analytical Results

				Client Sample ID :	TP16/3.5	TP18/1.2	TP18/3.2	TP18/4.4	DUP08
				Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
				Sample Date / Time :	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00
				Laboratory Sample ID :					
Analyte	CAS number	LOR	Units		ES0610221-001	ES0610221-002	ES0610221-004	ES0610221-005	ES0610221-006
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	<0.05	----	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	<0.05	----	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		----	<0.2	----	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg		----	<0.05	----	----	<0.05
Diazinon	333-41-5	0.05	mg/kg		----	<0.05	----	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	<0.05	----	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		----	<0.2	----	----	<0.2
Malathion	121-75-5	0.05	mg/kg		----	<0.05	----	----	<0.05
Fenthion	55-38-9	0.05	mg/kg		----	<0.05	----	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	<0.05	----	----	<0.05
Parathion	56-38-2	0.2	mg/kg		----	<0.2	----	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	<0.05	----	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	<0.05	----	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	<0.05	----	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		----	<0.05	----	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		----	<0.05	----	----	<0.05
Ethion	563-12-2	0.05	mg/kg		----	<0.05	----	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		----	<0.05	----	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		----	<0.05	----	----	<0.05
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg		<1.0	<1.0	----	----	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg		<2.0	<2.0	----	----	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5

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Analytical Results

Client Sample ID : Sample Matrix Type / Description : Sample Date / Time : Laboratory Sample ID :				TP16/3.5 SOIL 17 Aug 2006 15:00 ES0610221-001	TP18/1.2 SOIL 17 Aug 2006 15:00 ES0610221-002	TP18/3.2 SOIL 17 Aug 2006 15:00 ES0610221-004	TP18/4.4 SOIL 17 Aug 2006 15:00 ES0610221-005	DUP08 SOIL 17 Aug 2006 15:00 ES0610221-006
Analyte	CAS number	LOR	Units					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction		2	mg/kg	<2	<2	<2	<2	<2
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	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
meta- & para-Xylene	108-38-3	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
	106-42-3							
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	91.4	----	----	74.4
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE		0.1	%	----	98.5	----	----	78.4
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	97.9	----	----	75.7
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	81.0	76.5	76.1	72.0	76.7
2-Chlorophenol-D4	93951-73-6	0.1	%	88.2	84.0	82.8	78.6	84.5
2,4,6-Tribromophenol	118-79-6	0.1	%	79.4	78.0	75.4	65.9	67.0
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	90.9	85.3	87.6	82.1	85.7
Anthracene-d10	1719-06-8	0.1	%	86.2	84.8	87.6	80.9	86.5



Analytical Results				Client Sample ID :	TP16/3.5	TP18/1.2	TP18/3.2	TP18/4.4	DUP08
Sample Matrix Type / Description :					SOIL	SOIL	SOIL	SOIL	SOIL
Sample Date / Time :					17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00
Laboratory Sample ID :									
Analyte	CAS number	LOR	Units		ES0610221-001	ES0610221-002	ES0610221-004	ES0610221-005	ES0610221-006
EP075(SIM)T: PAH Surrogates									
4-Terphenyl-d14	1718-51-0	0.1	%		79.2	73.6	75.5	70.5	75.9
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.1	%		92.3	85.2	86.4	83.9	91.9
Toluene-D8	2037-26-5	0.1	%		101	89.5	89.9	91.3	93.8
4-Bromofluorobenzene	460-00-4	0.1	%		95.9	90.7	89.2	89.4	89.7

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Analytical Results

Client Sample ID : Sample Matrix Type / Description : Sample Date / Time : Laboratory Sample ID :				TRIP BLANK SOIL 17 Aug 2006 15:00 ES0610221-010	MG11/0.2 SOIL 17 Aug 2006 15:00 ES0610221-014	MG11/1.5 SOIL 17 Aug 2006 15:00 ES0610221-015	MG11/2.0 SOIL 17 Aug 2006 15:00 ES0610221-016	MG11/4.0 SOIL 17 Aug 2006 15:00 ES0610221-017
Analyte	CAS number	LOR	Units					
EA055: Moisture Content								
Moisture Content (dried @ 103°C)		1.0	%	<1.0	11.7	18.3	18.9	20.1
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	38	----	<5	7
Cadmium	7440-43-9	1	mg/kg	----	<1	----	<1	<1
Chromium	7440-47-3	2	mg/kg	----	18	----	10	26
Copper	7440-50-8	5	mg/kg	----	94	----	6	<5
Lead	7439-92-1	5	mg/kg	----	174	----	25	13
Nickel	7440-02-0	2	mg/kg	----	11	----	<2	<2
Zinc	7440-66-6	5	mg/kg	----	143	----	17	<5
EG035T: Total Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	0.2	----	<0.1	<0.1
EK025G: Free cyanide by Discrete Analyser								
Total Cyanide	57-12-5	1.0	mg/kg	----	<1.0	2.5	3.5	<1.0
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls		0.10	mg/kg	----	----	----	<0.25	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	<0.12	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	----	----	<0.12	----
beta-BHC	319-85-7	0.05	mg/kg	----	----	----	<0.12	----
gamma-BHC	58-89-9	0.05	mg/kg	----	----	----	<0.12	----
delta-BHC	319-86-8	0.05	mg/kg	----	----	----	<0.12	----
Heptachlor	76-44-8	0.05	mg/kg	----	----	----	<0.12	----
Aldrin	309-00-2	0.05	mg/kg	----	----	----	<0.12	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	----	<0.12	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	----	----	<0.12	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	----	----	<0.12	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	----	----	<0.12	----
Dieldrin	60-57-1	0.05	mg/kg	----	----	----	<0.12	----
4,4'-DDE	72-55-9	0.05	mg/kg	----	----	----	<0.12	----
Endrin	72-20-8	0.05	mg/kg	----	----	----	<0.12	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	----	----	<0.12	----
4,4'-DDD	72-54-8	0.05	mg/kg	----	----	----	<0.12	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	<0.12	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	<0.12	----
4,4'-DDT	50-29-3	0.2	mg/kg	----	----	----	<0.2	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	<0.12	----
Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	<0.2	----

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 Client : CH2M HILL PTY LTD
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Analytical Results

				Client Sample ID :	TRIP BLANK	MG11/0.2	MG11/1.5	MG11/2.0	MG11/4.0
				Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
				Sample Date / Time :	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00
				Laboratory Sample ID :					
Analyte	CAS number	LOR	Units		ES0610221-010	ES0610221-014	ES0610221-015	ES0610221-016	ES0610221-017
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	----	----	<0.12	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	----	----	<0.12	----
Monocrotophos	6923-22-4	0.2	mg/kg		----	----	----	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg		----	----	----	<0.12	----
Diazinon	333-41-5	0.05	mg/kg		----	----	----	<0.12	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	----	----	<0.12	----
Parathion-methyl	298-00-0	0.2	mg/kg		----	----	----	<0.2	----
Malathion	121-75-5	0.05	mg/kg		----	----	----	<0.12	----
Fenthion	55-38-9	0.05	mg/kg		----	----	----	<0.12	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	----	----	<0.12	----
Parathion	56-38-2	0.2	mg/kg		----	----	----	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	----	----	<0.12	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	----	----	<0.12	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	----	----	<0.12	----
Fenamiphos	22224-92-6	0.05	mg/kg		----	----	----	<0.12	----
Prothiofos	34643-46-4	0.05	mg/kg		----	----	----	<0.12	----
Ethion	563-12-2	0.05	mg/kg		----	----	----	<0.12	----
Carbophenothion	786-19-6	0.05	mg/kg		----	----	----	<0.12	----
Azinphos Methyl	86-50-0	0.05	mg/kg		----	----	----	<0.12	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	----	----	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		----	----	----	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		----	----	----	0.6	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg		----	----	----	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg		----	----	----	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg		----	----	----	0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg		----	----	----	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg		----	----	----	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		----	----	----	<0.5	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg		----	----	----	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg		----	----	----	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg		----	----	----	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	9.8	----	2.6	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		----	14.8	----	25.4	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		----	1.4	----	6.3	<0.5
Fluorene	86-73-7	0.5	mg/kg		----	4.9	----	48.2	<0.5

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Analytical Results

Client Sample ID : Sample Matrix Type / Description : Sample Date / Time : Laboratory Sample ID :				TRIP BLANK SOIL 17 Aug 2006 15:00 ES0610221-010	MG11/0.2 SOIL 17 Aug 2006 15:00 ES0610221-014	MG11/1.5 SOIL 17 Aug 2006 15:00 ES0610221-015	MG11/2.0 SOIL 17 Aug 2006 15:00 ES0610221-016	MG11/4.0 SOIL 17 Aug 2006 15:00 ES0610221-017
Analyte	CAS number	LOR	Units					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Phenanthrene	85-01-8	0.5	mg/kg	----	110	----	157	<0.5
Anthracene	120-12-7	0.5	mg/kg	----	26.0	----	47.8	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	----	141	----	94.7	<0.5
Pyrene	129-00-0	0.5	mg/kg	----	147	----	121	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	49.8	----	47.6	<0.5
Chrysene	218-01-9	0.5	mg/kg	----	39.4	----	33.3	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	45.1	----	40.1	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	16.9	----	13.8	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	42.0	----	48.8	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	19.6	----	15.6	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	----	6.4	----	4.9	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	----	22.5	----	21.7	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction		2	mg/kg	<2	<2	----	10	<2
C10 - C14 Fraction		50	mg/kg	<50	290	----	330	<50
C15 - C28 Fraction		100	mg/kg	<100	4720	----	5760	<100
C29 - C36 Fraction		100	mg/kg	<100	1200	----	1660	<100
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
meta- & para-Xylene	108-38-3	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
	106-42-3							
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	----	<0.2	<0.2
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	83.0	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE		0.1	%	----	----	----	74.0	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	64.8	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	81.9	----	83.0	82.7
2-Chlorophenol-D4	93951-73-6	0.1	%	----	84.9	----	86.2	87.5
2,4,6-Tribromophenol	118-79-6	0.1	%	----	116	----	106	96.8
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	86.1	----	84.9	87.6
Anthracene-d10	1719-06-8	0.1	%	----	89.1	----	89.2	87.4



Analytical Results

Analytical Results

Client Sample ID :				TRIP BLANK	MG11/0.2	MG11/1.5	MG11/2.0	MG11/4.0
Sample Matrix Type / Description :				SOIL	SOIL	SOIL	SOIL	SOIL
Sample Date / Time :				17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00
Laboratory Sample ID :				ES0610221-010	ES0610221-014	ES0610221-015	ES0610221-016	ES0610221-017
Analyte	CAS number	LOR	Units					
EP075(SIM)T: PAH Surrogates								
4-Terphenyl-d14	1718-51-0	0.1	%	----	67.0	----	66.9	75.2
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	97.4	80.2	----	116	90.5
Toluene-D8	2037-26-5	0.1	%	101	101	----	106	89.4
4-Bromofluorobenzene	460-00-4	0.1	%	96.0	94.5	----	109	91.3

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 Work Order : ES0610221



Analytical Results

Client Sample ID : Sample Matrix Type / Description : Sample Date / Time : Laboratory Sample ID :				TP11/0.2 SOIL 17 Aug 2006 15:00 ES0610221-018	TP11/1.0 SOIL 17 Aug 2006 15:00 ES0610221-019	TP11/3.5 SOIL 17 Aug 2006 15:00 ES0610221-020	TP16/0.3 SOIL 17 Aug 2006 15:00 ES0610221-021	TP16/1.0 SOIL 17 Aug 2006 15:00 ES0610221-022
Analyte	CAS number	LOR	Units					
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	----	<0.05
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	----	<0.2
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	----	<0.05
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	----	<0.05
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	----	<0.05
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	----	<0.05
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	<1.0	----	----	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	0.6
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	----	<2.0	----	----	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	0.8	<0.5	<0.5	1.0	38.7
Acenaphthylene	208-96-8	0.5	mg/kg	1.4	<0.5	<0.5	1.1	11.0
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	9.8
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	14.0

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Analytical Results

Client Sample ID : TP11/0.2				TP11/0.2	TP11/1.0	TP11/3.5	TP16/0.3	TP16/1.0
Sample Matrix Type / Description : SOIL				SOIL	SOIL	SOIL	SOIL	SOIL
Sample Date / Time : 17 Aug 2006 15:00				17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00
Laboratory Sample ID : ES0610221-018				ES0610221-018	ES0610221-019	ES0610221-020	ES0610221-021	ES0610221-022
Analyte	CAS number	LOR	Units					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Phenanthrene	85-01-8	0.5	mg/kg	4.9	<0.5	<0.5	2.3	42.8
Anthracene	120-12-7	0.5	mg/kg	2.0	<0.5	<0.5	1.4	17.9
Fluoranthene	206-44-0	0.5	mg/kg	9.0	<0.5	<0.5	5.4	50.0
Pyrene	129-00-0	0.5	mg/kg	10.5	<0.5	<0.5	7.1	72.3
Benz(a)anthracene	56-55-3	0.5	mg/kg	6.1	<0.5	<0.5	5.0	23.8
Chrysene	218-01-9	0.5	mg/kg	5.1	<0.5	<0.5	4.4	21.2
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	6.9	<0.5	<0.5	7.7	37.1
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.3	<0.5	<0.5	2.3	9.3
Benzo(a)pyrene	50-32-8	0.5	mg/kg	6.2	<0.5	<0.5	6.9	39.4
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.9	<0.5	<0.5	4.0	13.9
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	1.1	<0.5	<0.5	1.4	4.7
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	3.6	<0.5	<0.5	5.2	19.2
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction		2	mg/kg	<2	<2	<2	13	166
C10 - C14 Fraction		50	mg/kg	<50	<50	<50	60	320
C15 - C28 Fraction		100	mg/kg	850	<100	<100	760	5120
C29 - C36 Fraction		100	mg/kg	510	<100	<100	460	2200
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	1.2	3.1
Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	<0.2	2.8	3.7
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	<0.2	0.3	6.4
meta- & para-Xylene	108-38-3	0.2	mg/kg	<0.2	<0.2	<0.2	3.5	53.8
ortho-Xylene	106-42-3							
	95-47-6	0.2	mg/kg	<0.2	<0.2	<0.2	2.1	7.4
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	80.9	----	----	63.2
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE		0.1	%	----	93.4	----	----	68.2
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	83.0	----	----	Not Determined
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	78.3	84.7	81.6	73.0	92.7
2-Chlorophenol-D4	93951-73-6	0.1	%	81.5	89.1	84.9	78.2	97.7
2,4,6-Tribromophenol	118-79-6	0.1	%	99.2	97.3	92.2	97.2	119
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	85.5	88.8	87.5	85.4	93.6
Anthracene-d10	1719-06-8	0.1	%	84.3	88.1	86.0	83.3	94.9



Analytical Results				Client Sample ID :	TP11/0.2	TP11/1.0	TP11/3.5	TP16/0.3	TP16/1.0
				Sample Matrix Type / Description :	SOIL	SOIL	SOIL	SOIL	SOIL
				Sample Date / Time :	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00
				Laboratory Sample ID :					
Analyte	CAS number	LOR	Units	ES0610221-018	ES0610221-019	ES0610221-020	ES0610221-021	ES0610221-022	
EP075(SIM)T: PAH Surrogates									
4-Terphenyl-d14	1718-51-0	0.1	%	71.0	76.6	74.8	70.8	75.6	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.1	%	90.0	93.5	90.2	105	96.8	
Toluene-D8	2037-26-5	0.1	%	87.8	95.1	95.6	99.7	89.6	
4-Bromofluorobenzene	460-00-4	0.1	%	86.6	91.9	92.3	97.6	92.0	

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Analytical Results

Client Sample ID :				W05	W06	QA01		
Sample Matrix Type / Description :				WATER	WATER	WATER		
Sample Date / Time :				17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00		
Laboratory Sample ID :								
Analyte	CAS number	LOR	Units	ES0610221-011	ES0610221-012	ES0610221-013		
EG020T: Total Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	0.001	<0.001		
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.0005	<0.0001		
Chromium	7440-47-3	0.001	mg/L	<0.001	0.008	<0.001		
Copper	7440-50-8	0.001	mg/L	<0.001	0.007	<0.001		
Lead	7439-92-1	0.001	mg/L	0.003	0.107	0.003		
Nickel	7440-02-0	0.001	mg/L	<0.001	0.004	<0.001		
Zinc	7440-66-6	0.005	mg/L	0.016	0.277	0.026		
EG035T: Total Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001		
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls		1	µg/L	<1	<1	<1		
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	<0.5		
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	<0.5		
beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	<0.5		
gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	<0.5		
delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	<0.5		
Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	<0.5		
Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	<0.5		
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	<0.5		
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	<0.5		
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	<0.5		
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	<0.5		
Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	<0.5		
4,4'-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	<0.5		
Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	<0.5		
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	<0.5		
4,4'-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	<0.5		
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	<0.5		
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	<0.5		
4,4'-DDT	50-29-3	2	µg/L	<2	<2	<2		
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	<0.5		
Methoxychlor	72-43-5	2	µg/L	<2	<2	<2		
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	<0.5	<0.5	<0.5		
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	<0.5	<0.5		
Monocrotophos	6923-22-4	2	µg/L	<2	<2	<2		

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Analytical Results

Client Sample ID : Sample Matrix Type / Description : Sample Date / Time : Laboratory Sample ID :				W05 WATER 17 Aug 2006 15:00 ES0610221-011	W06 WATER 17 Aug 2006 15:00 ES0610221-012	QA01 WATER 17 Aug 2006 15:00 ES0610221-013		
Analyte	CAS number	LOR	Units					
EP068B: Organophosphorus Pesticides (OP)								
Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	<0.5		
Diazinon	333-41-5	0.5	µg/L	<0.5	<0.5	<0.5		
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	<0.5	<0.5		
Parathion-methyl	298-00-0	2	µg/L	<2	<2	<2		
Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	<0.5		
Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	<0.5		
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	<0.5		
Parathion	56-38-2	2	µg/L	<2	<2	<2		
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	<0.5	<0.5		
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	<0.5	<0.5		
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	<0.5	<0.5		
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	<0.5		
Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	<0.5		
Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	<0.5		
Carbophenothion	786-19-6	0.5	µg/L	<0.5	<0.5	<0.5		
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	<0.5	<0.5		
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	1.0	µg/L	<1.0	63.5	<1.0		
2-Chlorophenol	95-57-8	1.0	µg/L	<1.0	<1.0	<1.0		
2-Methylphenol	95-48-7	1.0	µg/L	<1.0	<1.0	<1.0		
3- & 4-Methylphenol	1319-77-3	2.0	µg/L	<2.0	<2.0	<2.0		
2-Nitrophenol	88-75-5	1.0	µg/L	<1.0	<1.0	<1.0		
2,4-Dimethylphenol	105-67-9	1.0	µg/L	<1.0	<1.0	<1.0		
2,4-Dichlorophenol	120-83-2	1.0	µg/L	<1.0	<1.0	<1.0		
2,6-Dichlorophenol	87-65-0	1.0	µg/L	<1.0	<1.0	<1.0		
4-Chloro-3-Methylphenol	59-50-7	1.0	µg/L	<1.0	<1.0	<1.0		
2,4,6-Trichlorophenol	88-06-2	1.0	µg/L	<1.0	<1.0	<1.0		
2,4,5-Trichlorophenol	95-95-4	1.0	µg/L	<1.0	<1.0	<1.0		
Pentachlorophenol	87-86-5	2.0	µg/L	<2.0	<2.0	<2.0		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0		
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0		
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0		
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0		
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0		
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0		
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0		

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Analytical Results

Client Sample ID :				W05	W06	QA01		
Sample Matrix Type / Description :				WATER	WATER	WATER		
Sample Date / Time :				17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00		
Laboratory Sample ID :								
Analyte	CAS number	LOR	Units	ES0610221-011	ES0610221-012	ES0610221-013		
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0		
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0		
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0		
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	<1.0		
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0		
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5		
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0		
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0		
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0		
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction		20	µg/L	<20	<20	<20		
C10 - C14 Fraction		50	µg/L	<50	420	<50		
C15 - C28 Fraction		100	µg/L	<100	<100	<100		
C29 - C36 Fraction		50	µg/L	<50	<50	<50		
EP080: BTEX								
Benzene	71-43-2	1	µg/L	<1	<1	<1		
Toluene	108-88-3	2	µg/L	<2	<2	<2		
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2		
meta- & para-Xylene	108-38-3	2	µg/L	<2	<2	<2		
ortho-Xylene	106-42-3							
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2		
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	97.7	90.8	88.1		
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE		0.1	%	85.9	77.8	76.2		
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	85.8	78.0	75.6		
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	27.1	Not Determined	28.1		
2-Chlorophenol-D4	93951-73-6	0.1	%	74.2	69.8	74.8		
2,4,6-Tribromophenol	118-79-6	0.1	%	67.1	69.2	63.8		
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	82.8	80.4	76.8		
Anthracene-d10	1719-06-8	0.1	%	83.9	78.5	75.1		
4-Terphenyl-d14	1718-51-0	0.1	%	79.9	74.2	69.2		
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	110	109	117		



Analytical Results

Client Sample ID :				W05	W06	QA01		
Sample Matrix Type / Description :				WATER	WATER	WATER		
Sample Date / Time :				17 Aug 2006 15:00	17 Aug 2006 15:00	17 Aug 2006 15:00		
Laboratory Sample ID :								
Analyte	CAS number	LOR	Units	ES0610221-011	ES0610221-012	ES0610221-013		
EP080S: TPH(V)/BTEX Surrogates								
Toluene-D8	2037-26-5	0.1	%	105	92.5	98.9		
4-Bromofluorobenzene	460-00-4	0.1	%	102	88.5	100		

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 Work Order : ES0610221



Surrogate Control Limits

Matrix Type: WATER - Surrogate Control Limits

Surrogate Control Limits

Method name	Analyte name	Lower Limit	Upper Limit
EP066: Polychlorinated Biphenyls (PCB)			
EP066S: PCB Surrogate	Decachlorobiphenyl	10	164
EP068: Pesticides			
EP068S: Organochlorine Pesticide Surrogate	Dibromo-DDE	10	136
EP068T: Organophosphorus Pesticide Surrogate	DEF	10	136
EP075(SIM): PAH/Phenols (GC/MS - SIM)			
EP075(SIM)S: Phenolic Compound Surrogates	Phenol-d6	10	94
	2-Chlorophenol-D4	23	134
	2,4,6-Tribromophenol	10	123
EP075(SIM)T: PAH Surrogates	2-Fluorobiphenyl	43	116
	Anthracene-d10	27	133
	4-Terphenyl-d14	33	141
EP080: TPH Volatiles/BTEX			
EP080S: TPH(V)/BTEX Surrogates	1,2-Dichloroethane-D4	80	120
	Toluene-D8	88	110
	4-Bromofluorobenzene	86	115

Matrix Type: SOIL - Surrogate Control Limits

Surrogate Control Limits

Method name	Analyte name	Lower Limit	Upper Limit
EP066: Polychlorinated Biphenyls (PCB)			
EP066S: PCB Surrogate	Decachlorobiphenyl	10	164
EP068: Pesticides by GCMS			
EP068S: Organochlorine Pesticide Surrogate	Dibromo-DDE	10	136
EP068T: Organophosphorus Pesticide Surrogate	DEF	10	136
EP075(SIM): PAH/Phenols (SIM)			
EP075(SIM)S: Phenolic Compound Surrogates	Phenol-d6	24	113
	2-Chlorophenol-D4	23	134
	2,4,6-Tribromophenol	19	122
EP075(SIM)T: PAH Surrogates	2-Fluorobiphenyl	30	115
	Anthracene-d10	27	133
	4-Terphenyl-d14	18	137
EP080: TPH Volatiles/BTEX			
EP080S: TPH(V)/BTEX Surrogates	1,2-Dichloroethane-D4	80	120
	Toluene-D8	81	117
	4-Bromofluorobenzene	74	121