

Client : CH2M HILL PTY LTD
 Project : 347496 McDonaldtown Gasworks

Work Order : ES0610062
 ALS Quote Reference : ----

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 Issue Date : 28 Aug 2006

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	6	59	10.2	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG005T: Total Metals by ICP-AES	4	40	10.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	4	40	10.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EK026G: Total Cyanide By Discrete Analyser	2	19	10.5	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP066: Polychlorinated Biphenyls (PCB)	2	18	11.1	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	2	20	10.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	4	38	10.5	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	4	36	11.1	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	6	60	10.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Laboratory Control Samples (LCS)					
EG005T: Total Metals by ICP-AES	2	40	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	2	40	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EK026G: Total Cyanide By Discrete Analyser	1	19	5.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP066: Polychlorinated Biphenyls (PCB)	1	18	5.6	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	1	20	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	2	38	5.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	2	36	5.6	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	3	60	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Method Blanks (MB)					
EG005T: Total Metals by ICP-AES	2	40	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	2	40	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EK026G: Total Cyanide By Discrete Analyser	1	19	5.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP066: Polychlorinated Biphenyls (PCB)	1	18	5.6	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	1	20	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	2	38	5.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	2	36	5.6	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	3	60	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Matrix Spikes (MS)					
EG005T: Total Metals by ICP-AES	2	40	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EG035T: Total Mercury by FIMS	2	40	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EK026G: Total Cyanide By Discrete Analyser	1	19	5.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP066: Polychlorinated Biphenyls (PCB)	1	18	5.6	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides by GCMS	1	20	5.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	2	38	5.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (SIM)	2	36	5.6	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP080: TPH Volatiles/BTEX	3	60	5.0	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)					
EP080: TPH Volatiles/BTEX	2	20	10.0	10.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
Laboratory Control Samples (LCS)					
EP066: Polychlorinated Biphenyls (PCB)	1	3	33.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides	1	3	33.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	4	25.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (GC/MS - SIM)	1	3	33.3	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)					
EP066: Polychlorinated Biphenyls (PCB)	1	3	33.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP068: Pesticides	1	3	33.3	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP071: TPH - Semivolatile Fraction	1	4	25.0	5.0	NEPM 1999 Schedule B(3) and ALSE QCS3 requirement
EP075(SIM): PAH/Phenols (GC/MS - SIM)	1	3	33.3	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)					
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)							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	SOIL	ES0610062-001	MG02/0.2	Naphthalene	40.6 %	0-20 %	RPD exceeds LOR based limits
Laboratory Control Samples (LCS)							
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons	SOIL	285483-002	----	Benzo(k)fluoranthene	120 %	74.2-117 %	Recovery greater than upper control limit
Matrix Spikes (MS)							
EP068B: Organophosphorus Pesticides (OP)	SOIL	ES0610062-015	TP05/0.5	Pirimphos-ethyl	63.2 %	67.98-109.42 %	Recovery less than lower data quality objective

- 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							
EP066S: PCB Surrogate	SOIL	ES0610062-044	TAR WELL #2	Decachlorobiphenyl	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
EP068S: Organochlorine Pesticide Surrogate	SOIL	ES0610062-044	TAR WELL #2	Dibromo-DDE	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
EP068T: Organophosphorus Pesticide Surrogate	SOIL	ES0610062-044	TAR WELL #2	DEF	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences
EP075(SIM)S: Phenolic Compound Surrogates	SOIL	ES0610062-044	TAR WELL #2	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	ES0610062-044	TAR WELL #2	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
EP080S: TPH(V)/BTEX Surrogates	SOIL	ES0610062-007	TRIP SPIKE 2	Toluene-D8	119 %	81-117 %	Recovery greater than upper data quality objective
	SOIL	ES0610062-013	TP04/3.0	Toluene-D8	118 %	81-117 %	Recovery greater than upper data quality objective
	SOIL	ES0610062-015	TP05/0.5	Toluene-D8	119 %	81-117 %	Recovery greater than upper data quality objective
				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
Surrogates							
EP075(SIM)S: Phenolic Compound Surrogates	WATER	ES0610062-043	W03	Phenol-d6	ND	----	Surrogate recovery not determined due to either primary sample extract dilution or matrix interferences

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Outliers : Analysis Holding Time

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

- 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.

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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)

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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

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

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 McDonaldtown Gasworks
Order number : - Not provided -
C-O-C Number : - Not provided -
Site : MACDONALDTOWN
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 : ES0610062

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

Dates

Date Samples Received : 16 Aug 2006
SRA Issue Date : 22 Aug 2006
Scheduled Reporting Date : 23 Aug 2006
Client Requested Date : 23 Aug 2006

Delivery Details

Mode of Delivery : Carrier.
No. of coolers/boxes : 2 HARD
Security Seal : Intact.

Temperature : CHILLED - Ice present
No. of samples - Received : 59
- Analysed : 45

Comments

- 1 Samples received in appropriately pretreated and preserved containers.
- 1 Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).
- 1 Asbestos analysis to be conducted by ASET.
- 1 Samples "W01,W02,W03" analysis to be conducted TPH/BTEX/PAH/OC/PCB as per A.Sullivan 17/08/06 1.20pm.
Sample "TP09 1.5 16/08/06" was received extra and has been placed on hold as advised.
- 1 Sample(s) have been received within recommended holding times.

- 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'.

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SAMPLE RECEIPT NOTIFICATION (SRN) - continued

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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-05 - SOIL TPH/BTEX/8 Metals	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
ES0610062-001	MG02/0.2 - 16 Aug 2006					1				1	
ES0610062-002	MG02/1.8 - 16 Aug 2006		1	1							1
ES0610062-003	MG02/2.0 - 16 Aug 2006										
ES0610062-004	MG02/3.3 - 16 Aug 2006										
ES0610062-005	MG02/4.7 - 16 Aug 2006							1			
ES0610062-006	TRIP BLANK 2 - 16 Aug 2006					1					
ES0610062-007	TRIP SPIKE 2 - 16 Aug 2006					1					
ES0610062-008	TP02/4.5 - 16 Aug 2006				1			1	1		
ES0610062-009	MG03/0.1 - 16 Aug 2006	1									1
ES0610062-010	TP04/0.25 - 16 Aug 2006	1									
ES0610062-011	TP04/0.5 - 16 Aug 2006							1			
ES0610062-012	TP04/0.7 - 16 Aug 2006				1			1	1		
ES0610062-013	TP04/3.0 - 16 Aug 2006							1			
ES0610062-014	TP05/0.25 - 16 Aug 2006	1								1	
ES0610062-015	TP05/0.5 - 16 Aug 2006										1
ES0610062-016	TP05/1.5 - 16 Aug 2006				1			1			
ES0610062-017	TP05/2.0 - 16 Aug 2006							1			
ES0610062-018	DUP03 - 16 Aug 2006							1			
ES0610062-019	TP06/0.25 - 16 Aug 2006	1								1	
ES0610062-020	TP06/0.5 - 16 Aug 2006		1	1				1			
ES0610062-021	TP06/1.0 - 16 Aug 2006		1	1							1
ES0610062-022	TP06/2.5 - 16 Aug 2006							1			
ES0610062-023	TP07/0.25 - 16 Aug 2006	1									
ES0610062-024	TP07/0.5 - 16 Aug 2006		1	1	1			1			
ES0610062-025	TP07/1.5 - 16 Aug 2006							1			
ES0610062-026	TP07/2.0 - 16 Aug 2006							1			
ES0610062-027	TP08/0.25 - 16 Aug 2006	1								1	
ES0610062-028	TP08/0.5 - 16 Aug 2006		1	1							1
ES0610062-029	TP08/1.0 - 16 Aug 2006		1	1			1			1	
ES0610062-030	TP08/2.0 - 16 Aug 2006				1			1			
ES0610062-031	TP09/0.25 - 16 Aug 2006	1									
ES0610062-032	TP09/0.5 - 16 Aug 2006							1			
ES0610062-033	TP09/1.0 - 16 Aug 2006		1	1			1			1	
ES0610062-034	TP09/2.5 - 16 Aug 2006				1			1			
ES0610062-035	TP10/0.25 - 16 Aug 2006	1									
ES0610062-036	TP10/1.0 - 16 Aug 2006		1	1							1
ES0610062-037	TP10/2.0 - 16 Aug 2006		1	1	1			1			
ES0610062-038	TP10/4.0 - 16 Aug 2006				1			1			
ES0610062-039	DUP04 - 16 Aug 2006				1			1			
ES0610062-040	DUP05 - 16 Aug 2006				1			1			
ES0610062-041	W01 - 16 Aug 2006										
ES0610062-042	W02 - 16 Aug 2006										
ES0610062-043	W03 - 16 Aug 2006										
ES0610062-044	TAR WELL #2 - 16 Aug 2006		1	1							1
ES0610062-045	TRIP SPIKE CONTROL - 16 Aug 2006					1					

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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-05 - SOIL TPH/BTEX/8 Metals	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
ES0610062-046	MG02/0.2 - 16 Aug 2006										
ES0610062-047	MG02/1.5 - 16 Aug 2006										
ES0610062-048	MG02/2.7 - 16 Aug 2006										
ES0610062-049	MG02/3.7 - 16 Aug 2006										
ES0610062-050	TP04/2.0 - 16 Aug 2006										
ES0610062-051	TP05/1.0 - 16 Aug 2006										
ES0610062-052	TP06/1.5 - 16 Aug 2006										
ES0610062-053	TP07/1.0 - 16 Aug 2006										
ES0610062-054	TP08/1.5 - 16 Aug 2006										
ES0610062-055	TP09/2.0 - 16 Aug 2006										
ES0610062-056	TP10/0.5 - 16 Aug 2006										
ES0610062-057	TP10/1.5 - 16 Aug 2006										
ES0610062-058	TP10/3.0 - 16 Aug 2006										
ES0610062-060	TP09/1.5 - 16 Aug 2006										
Total(s) :		8	10	10	10	4	2	20	2	6	7

SAMPLE RECEIPT NOTIFICATION (SRN) - continued

Client : CH2M HILL PTY LTD
Project : 347496 McDonaldtown Gasworks

Work Order : ES0610062
ALS Quote Reference : ----



ALS Sample ID.	Client Sample ID - Sample Date	Requested Analysis									
		W-07 - WATER TPH/BTEX/PAH	W-11 - WATER OC/PCB								
ES0610062-001	MG02/0.2 - 16 Aug 2006										
ES0610062-002	MG02/1.8 - 16 Aug 2006										
ES0610062-003	MG02/2.0 - 16 Aug 2006										
ES0610062-004	MG02/3.3 - 16 Aug 2006										
ES0610062-005	MG02/4.7 - 16 Aug 2006										
ES0610062-006	TRIP BLANK 2 - 16 Aug 2006										
ES0610062-007	TRIP SPIKE 2 - 16 Aug 2006										
ES0610062-008	TP02/4.5 - 16 Aug 2006										
ES0610062-009	MG03/0.1 - 16 Aug 2006										
ES0610062-010	TP04/0.25 - 16 Aug 2006										
ES0610062-011	TP04/0.5 - 16 Aug 2006										
ES0610062-012	TP04/0.7 - 16 Aug 2006										
ES0610062-013	TP04/3.0 - 16 Aug 2006										
ES0610062-014	TP05/0.25 - 16 Aug 2006										
ES0610062-015	TP05/0.5 - 16 Aug 2006										
ES0610062-016	TP05/1.5 - 16 Aug 2006										
ES0610062-017	TP05/2.0 - 16 Aug 2006										
ES0610062-018	DUP03 - 16 Aug 2006										
ES0610062-019	TP06/0.25 - 16 Aug 2006										
ES0610062-020	TP06/0.5 - 16 Aug 2006										
ES0610062-021	TP06/1.0 - 16 Aug 2006										
ES0610062-022	TP06/2.5 - 16 Aug 2006										
ES0610062-023	TP07/0.25 - 16 Aug 2006										
ES0610062-024	TP07/0.5 - 16 Aug 2006										
ES0610062-025	TP07/1.5 - 16 Aug 2006										
ES0610062-026	TP07/2.0 - 16 Aug 2006										
ES0610062-027	TP08/0.25 - 16 Aug 2006										
ES0610062-028	TP08/0.5 - 16 Aug 2006										
ES0610062-029	TP08/1.0 - 16 Aug 2006										
ES0610062-030	TP08/2.0 - 16 Aug 2006										
ES0610062-031	TP09/0.25 - 16 Aug 2006										
ES0610062-032	TP09/0.5 - 16 Aug 2006										
ES0610062-033	TP09/1.0 - 16 Aug 2006										
ES0610062-034	TP09/2.5 - 16 Aug 2006										
ES0610062-035	TP10/0.25 - 16 Aug 2006										
ES0610062-036	TP10/1.0 - 16 Aug 2006										
ES0610062-037	TP10/2.0 - 16 Aug 2006										
ES0610062-038	TP10/4.0 - 16 Aug 2006										
ES0610062-039	DUP04 - 16 Aug 2006										
ES0610062-040	DUP05 - 16 Aug 2006										
ES0610062-041	W01 - 16 Aug 2006										
ES0610062-042	W02 - 16 Aug 2006										
ES0610062-043	W03 - 16 Aug 2006										
ES0610062-044	TAR WELL #2 - 16 Aug 2006										
ES0610062-045	TRIP SPIKE CONTROL - 16 Aug 2006										
ES0610062-046	MG02/0.2 - 16 Aug 2006										
ES0610062-047	MG02/1.5 - 16 Aug 2006										
ES0610062-048	MG02/2.7 - 16 Aug 2006										
ES0610062-049	MG02/3.7 - 16 Aug 2006										

SAMPLE RECEIPT NOTIFICATION (SRN) - continued

Client : CH2M HILL PTY LTD
Project : 347496 McDonaldtown Gasworks

Work Order : ES0610062
ALS Quote Reference : ----



ALS Sample ID.	Client Sample ID - Sample Date	Requested Analysis									
		W-07 - WATER TPH/BTEX/PAH	W-11 - WATER OC/PCB								
ES0610062-050	TP04/2.0 - 16 Aug 2006										
ES0610062-051	TP05/1.0 - 16 Aug 2006										
ES0610062-052	TP06/1.5 - 16 Aug 2006										
ES0610062-053	TP07/1.0 - 16 Aug 2006										
ES0610062-054	TP08/1.5 - 16 Aug 2006										
ES0610062-055	TP09/2.0 - 16 Aug 2006										
ES0610062-056	TP10/0.5 - 16 Aug 2006										
ES0610062-057	TP10/1.5 - 16 Aug 2006										
ES0610062-058	TP10/3.0 - 16 Aug 2006										
ES0610062-060	TP09/1.5 - 16 Aug 2006										
Total(s) :		3	3								

SAMPLE RECEIPT NOTIFICATION (SRN) - continued

Client : CH2M HILL PTY LTD
Project : 347496 McDonaldtown Gasworks

Work Order : ES0610062
ALS Quote Reference : ----



Requested Reports

1 **MR ADAM SULLIVAN**

- A4 - Certificate of Analysis - NEPM format	Email	adam.sullivan@ch2m.com.au
- A4 - Interpretive Quality Control Report - NEPM format	Email	adam.sullivan@ch2m.com.au
- A4 - Quality Control Report - NEPM format	Email	adam.sullivan@ch2m.com.au
- Subcontracted Reports	Email	adam.sullivan@ch2m.com.au
- ESDAT Export Format	Email	adam.sullivan@ch2m.com.au
- ENMRG Export Format	Email	adam.sullivan@ch2m.com.au
- A4 - Sample Receipt Notification - Comprehensive format	Email	adam.sullivan@ch2m.com.au
- Chain of Custody Acknowledgement	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 : ASET9438/ 12600 / 1 - 7

Your ref :ES0610135 -

NATA Accreditation No: 14484

23 August 2006

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

Attn:Mr Greg Vogel,
Fax No:02-87848500

Dear Greg,

Asbestos Identification

This report presents the results of seven samples, forwarded by Australian Laboratory Services Pty Ltd on 18 August 2006, 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. ASET9438 / 12600 / 1. ES0610135 - 019 - MG10 - 0.2.**
Approx dimensions 5.0 cm x 4.5 cm x 3.5 cm
The sample consisted of a mixture of blackish soil, stones, plant matter and fragments of plaster, brick and glass.
No asbestos detected.

Sample No. 2. ASET9438 / 12600 / 2. ES0610135 - 020 - MG10 A - 0.7.
Approx dimensions 4.5 cm x 5.0 cm x 3.5 cm
The sample consisted of mixture of blackish soil, stones, fragments of plaster, bitumin and glass.
No asbestos detected.

Sample No. 3. ASET9438 / 12600 / 3. ES0610135 - 023 - MG 04 - 1.5.
Approx dimensions 5.0 cm x 4.5 cm x 4.0 cm
The sample consisted of a mixture of soil, stones, plant matter and fragments of plaster, fibre cement* and brick.
Chrysotile* asbestos and Crocidolite* asbestos detected.

Sample No. 4. ASET9438 / 12600 / 4. ES0610135 - 024 - MG 04 -1.5.
Approx dimensions 6.0 cm x 5.0 cm x 1.0 cm
The sample consisted of a fragment of a fibro cement material.
Chrysotile asbestos and Amosite asbestos detected.

Sample No. 5. ASET9438 / 12600 / 5. ES0610135 - 037 - TP12 - 0.25.
Approx dimensions 6.0 cm x 5.0 cm x 3.5 cm
The sample consisted of a mixture of soil, stones, plant matter and fragments of fibre cement*, brick and plaster.
Chrysotile* 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

OCCUPATIONAL HEALTH & SAFETY STUDIES • INDOOR AIR QUALITY SURVEYS • HAZARDOUS MATERIAL SURVEYS • RADIATION SURVEYS • ASBESTOS SURVEYS
ASBESTOS DETECTION & IDENTIFICATION • REPAIR & CALIBRATION OF SCIENTIFIC EQUIPMENT • AIRBORNE FIBRE & SILICA MONITORING



Sample No. 6. ASET9438 / 12600 / 6. ES0610135 - 039 - TP 13 - 0.25.

Approx dimensions 6.0 cm x 5.0 cm x 4.0 cm

The sample consisted of a mixture of soil, stones, plant matter and fragments of plaster, ceramic brick, ceramic tiles, and glass.

No asbestos detected.

Sample No. 7. ASET9438 / 12600 / 7. ES0610135 - 042 - TP14 - 0.25.

Approx dimensions 5.0 cm x 4.0 cm x 2.5 cm

The sample consisted of a mixture of soil, stones, plant matter and fragments of plaster, bitumin and brick.

No asbestos detected.

Analysed and reported by,

A handwritten signature in black ink, appearing to read "Mahen De Silva", with a stylized flourish at the end.

**Mahen De Silva . BSc. MSc. Grad Dip (Occ Hyg)
Occupational Hygienist / Approved Signatory.**





CERTIFICATE OF ANALYSIS

<i>Client</i>	: CH2M HILL PTY LTD	<i>Laboratory</i>	: ALS Environmental Sydney	<i>Page</i>	: 1 of 40
<i>Contact</i>	: MR ADAM SULLIVAN	<i>Contact</i>	: Greg Vogel	<i>Work Order</i>	: ES0610135
<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>	: 17 Aug 2006
<i>Order number</i>	: - Not provided -			<i>Date issued</i>	: 30 Aug 2006
<i>C-O-C number</i>	: - Not provided -			<i>No. of samples</i>	- Received : 55
<i>Site</i>	: MACDONALD				Analysed : 46

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)
Peter Dickenson	Senior Spectroscopist	Inorganics - 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 ES0610135 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 **ES0610135**

Poor duplicate precision for Pb and Zn due to sample heterogeneity.

EP080 : Surrogates could not be determined for sample MG09B/PIPE due to sample matrix interferences.

EPO68: Poor matrix spike recovery due to sample matrix interferences. Confirmed by re-extraction and re-analysis.

Sample TRIP SPIKE contains volatile compounds spiked into the sample containers prior to dispatch from the laboratory. BTEX compounds spiked at 20 ug/L.

EP080: The trip spike and its control have been analysed for volatile TPH and BTEX only. The trip spike and control were prepared in the lab using reagent grade sand spiked with petrol. The spike was dispatched from the lab and the control retained.

EPO66 & EPO68 : Particular samples required dilution due to the presence of high level contaminants. LOR values have been adjusted accordingly. Surrogates were diluted outside of the analytical range and were therefore not determined.

Page Number : 3 of 40
 Client : CH2M HILL PTY LTD
 Work Order : ES0610135



Analytical Results

Client Sample ID : MG08/0.3				MG08/0.3	MG08/1.5	MG08/2.1	MG08/4.0	MG09B/0.3
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 : ES0610135-001				ES0610135-001	ES0610135-003	ES0610135-004	ES0610135-005	ES0610135-006
Analyte	CAS number	LOR	Units					
EA055: Moisture Content								
Moisture Content (dried @ 103°C)		1.0	%	19.0	23.5	25.1	16.8	24.3
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	7	<5	----	----	11
Cadmium	7440-43-9	1	mg/kg	1	<1	----	----	<1
Chromium	7440-47-3	2	mg/kg	8	12	----	----	15
Copper	7440-50-8	5	mg/kg	125	<5	----	----	28
Lead	7439-92-1	5	mg/kg	643	7	----	----	311
Nickel	7440-02-0	2	mg/kg	19	<2	----	----	11
Zinc	7440-66-6	5	mg/kg	1100	<5	----	----	100
EG035T: Total Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.4	<0.1	----	----	0.1
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	----	<1.25	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<1.25	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	----	<1.25	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<1.25	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	----	<1.25	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	----	<1.25	----	----	----
Aldrin	309-00-2	0.05	mg/kg	----	<1.25	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<1.25	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<1.25	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<1.25	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<1.25	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	----	<1.25	----	----	----
4,4'-DDE	72-55-9	0.05	mg/kg	----	<1.25	----	----	----
Endrin	72-20-8	0.05	mg/kg	----	<1.25	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<1.25	----	----	----
4,4'-DDD	72-54-8	0.05	mg/kg	----	<1.25	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<1.25	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<1.25	----	----	----
4,4'-DDT	50-29-3	0.2	mg/kg	----	<1.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<1.25	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	----	<1.2	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<1.25	----	----	----

Page Number : 4 of 40
 Client : CH2M HILL PTY LTD
 Work Order : ES0610135



Analytical Results

				Client Sample ID :	MG08/0.3	MG08/1.5	MG08/2.1	MG08/4.0	MG09B/0.3
				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		ES0610135-001	ES0610135-003	ES0610135-004	ES0610135-005	ES0610135-006
EP068B: Organophosphorus Pesticides (OP)									
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	<1.25	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		----	<1.2	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		----	<1.25	----	----	----
Diazinon	333-41-5	0.05	mg/kg		----	<1.25	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	<1.25	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		----	<1.2	----	----	----
Malathion	121-75-5	0.05	mg/kg		----	<1.25	----	----	----
Fenthion	55-38-9	0.05	mg/kg		----	<1.25	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	<1.25	----	----	----
Parathion	56-38-2	0.2	mg/kg		----	<1.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	<1.25	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	<1.25	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	<1.25	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		----	<1.25	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg		----	<1.25	----	----	----
Ethion	563-12-2	0.05	mg/kg		----	<1.25	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg		----	<1.25	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg		----	<1.25	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	6.0	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		----	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		----	6.8	----	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg		----	12.2	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		----	<0.5	----	----	----
2,4-Dimethylphenol	105-67-9	0.5	mg/kg		----	14.0	----	----	----
2,4-Dichlorophenol	120-83-2	0.5	mg/kg		----	<0.5	----	----	----
2,6-Dichlorophenol	87-65-0	0.5	mg/kg		----	<0.5	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg		----	<0.5	----	----	----
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg		----	<0.5	----	----	----
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg		----	<0.5	----	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg		----	<2.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	4820	128	3.4	----
Acenaphthylene	208-96-8	0.5	mg/kg		----	479	8.1	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg		----	1100	14.3	0.7	----
Fluorene	86-73-7	0.5	mg/kg		----	849	17.5	0.5	----
Phenanthrene	85-01-8	0.5	mg/kg		----	2250	50.3	1.9	----

Page Number : 5 of 40
 Client : CH2M HILL PTY LTD
 Work Order : ES0610135



Analytical Results

Client Sample ID : Sample Matrix Type / Description : Sample Date / Time : Laboratory Sample ID :				MG08/0.3 SOIL 17 Aug 2006 15:00 ES0610135-001	MG08/1.5 SOIL 17 Aug 2006 15:00 ES0610135-003	MG08/2.1 SOIL 17 Aug 2006 15:00 ES0610135-004	MG08/4.0 SOIL 17 Aug 2006 15:00 ES0610135-005	MG09B/0.3 SOIL 17 Aug 2006 15:00 ES0610135-006
Analyte	CAS number	LOR	Units					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Anthracene	120-12-7	0.5	mg/kg	----	650	11.8	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg	----	1180	20.2	0.8	----
Pyrene	129-00-0	0.5	mg/kg	----	1390	34.8	1.1	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	534	8.2	<0.5	----
Chrysene	218-01-9	0.5	mg/kg	----	447	7.2	<0.5	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	----	276	3.2	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	304	4.4	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	444	6.9	<0.5	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	198	2.2	<0.5	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	----	59.6	0.6	<0.5	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	----	257	3.5	<0.5	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction		2	mg/kg	----	51	97	<2	12
C10 - C14 Fraction		50	mg/kg	----	99100	740	<50	790
C15 - C28 Fraction		100	mg/kg	----	310000	1620	<100	13800
C29 - C36 Fraction		100	mg/kg	----	26000	430	<100	6110
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	----	0.2	0.3	<0.2	0.5
Toluene	108-88-3	0.2	mg/kg	----	0.5	0.4	<0.2	1.1
Ethylbenzene	100-41-4	0.2	mg/kg	----	3.6	12.3	<0.2	0.3
meta- & para-Xylene	108-38-3	0.2	mg/kg	----	4.7	5.0	<0.2	2.4
ortho-Xylene	106-42-3							
	95-47-6	0.2	mg/kg	----	5.9	1.0	<0.2	1.6
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	102	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE		0.1	%	----	Not Determined	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	Not Determined	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	----	84.5	102	89.2	----
2-Chlorophenol-D4	93951-73-6	0.1	%	----	82.6	103	90.1	----
2,4,6-Tribromophenol	118-79-6	0.1	%	----	70.8	117	79.5	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	58.2	99.8	86.0	----
Anthracene-d10	1719-06-8	0.1	%	----	81.6	99.8	88.6	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	114	88.8	77.8	----



Analytical Results				Client Sample ID :		MG08/0.3	MG08/1.5	MG08/2.1	MG08/4.0	MG09B/0.3
				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 :		ES0610135-001	ES0610135-003	ES0610135-004	ES0610135-005	ES0610135-006
Analyte	CAS number	LOR	Units							
EP080S: TPH(V)/BTEX Surrogates										
1,2-Dichloroethane-D4	17060-07-0	0.1	%	----	109	88.7	89.5	104		
Toluene-D8	2037-26-5	0.1	%	----	98.1	94.7	82.5	116		
4-Bromofluorobenzene	460-00-4	0.1	%	----	108	96.4	86.8	113		

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Analytical Results

Analytical Results	Client Sample ID :			MG09B/0.6	MG09B/2.5	MG09B/PIPE	MG09C/0.3	MG09C/1.9			
	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 :			ES0610135-007	ES0610135-008	ES0610135-009	ES0610135-010	ES0610135-012			
Analyte	CAS number	LOR	Units								
EP068B: Organophosphorus Pesticides (OP)											
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	----	<2.50	----	----			
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	----	<2.50	----	----			
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	----	<2.5	----	----			
Dimethoate	60-51-5	0.05	mg/kg	<0.05	----	<2.50	----	----			
Diazinon	333-41-5	0.05	mg/kg	<0.05	----	<2.50	----	----			
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	----	<2.50	----	----			
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	----	<2.5	----	----			
Malathion	121-75-5	0.05	mg/kg	<0.05	----	<2.50	----	----			
Fenthion	55-38-9	0.05	mg/kg	<0.05	----	<2.50	----	----			
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	----	<2.50	----	----			
Parathion	56-38-2	0.2	mg/kg	<0.2	----	<2.5	----	----			
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	----	<2.50	----	----			
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	----	<2.50	----	----			
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	----	<2.50	----	----			
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	----	<2.50	----	----			
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	----	<2.50	----	----			
Ethion	563-12-2	0.05	mg/kg	<0.05	----	<2.50	----	----			
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	----	<2.50	----	----			
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	----	<2.50	----	----			
EP075(SIM)A: Phenolic Compounds											
Phenol	108-95-2	0.5	mg/kg	<0.5	----	2060	----	----			
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	<2.0	----	----			
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	1730	----	----			
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	<1.0	----	3590	----	----			
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	<2.0	----	----			
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	2490	----	----			
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	<2.0	----	----			
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	2.4	----	----			
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	<0.5	----	<2.0	----	----			
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	<2.0	----	----			
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	<2.0	----	----			
Pentachlorophenol	87-86-5	2.0	mg/kg	<2.0	----	<4.0	----	----			
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons											
Naphthalene	91-20-3	0.5	mg/kg	<0.5	0.7	9750	0.6	4.5			
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	2260	0.8	5.9			
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	355	<0.5	8.3			
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	1720	<0.5	7.6			

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Analytical Results

				Client Sample ID :	MG09B/0.6	MG09B/2.5	MG09B/PIPE	MG09C/0.3	MG09C/1.9
				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		ES0610135-007	ES0610135-008	ES0610135-009	ES0610135-010	ES0610135-012
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	3920	2.9	15.4
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	1380	1.0	3.6
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	1770	6.8	6.9
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	1870	7.8	9.4
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	921	4.4	2.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	765	4.3	2.3
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg		<0.5	<0.5	364	4.1	1.2
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	545	3.9	1.6
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	595	5.0	2.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	241	3.2	1.0
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	99.3	1.3	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	250	3.9	1.3
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction		2	mg/kg		<2	<2	3770	<2	18
C10 - C14 Fraction		50	mg/kg		<50	<50	402000	<50	300
C15 - C28 Fraction		100	mg/kg		<100	<100	654000	630	360
C29 - C36 Fraction		100	mg/kg		<100	<100	124000	520	<100
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	576	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	1210	<0.2	0.4
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	156	<0.2	0.5
meta- & para-Xylene	108-38-3	0.2	mg/kg		<0.2	<0.2	1040	<0.2	0.4
ortho-Xylene	106-42-3								
	95-47-6	0.2	mg/kg		<0.2	<0.2	476	<0.2	0.2
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		85.7	----	118	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE		0.1	%		95.0	----	Not Determined	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		94.4	----	Not Determined	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		87.2	94.7	Not Determined	76.2	78.1
2-Chlorophenol-D4	93951-73-6	0.1	%		91.2	96.9	Not Determined	85.8	87.8
2,4,6-Tribromophenol	118-79-6	0.1	%		76.2	83.6	Not Determined	91.1	104
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		86.7	94.8	Not Determined	79.1	83.4
Anthracene-d10	1719-06-8	0.1	%		89.2	96.0	Not Determined	84.7	87.2



Analytical Results				Client Sample ID :	MG09B/0.6	MG09B/2.5	MG09B/PIPE	MG09C/0.3	MG09C/1.9
				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		ES0610135-007	ES0610135-008	ES0610135-009	ES0610135-010	ES0610135-012
EP075(SIM)T: PAH Surrogates									
4-Terphenyl-d14	1718-51-0	0.1	%		79.3	87.0	Not Determined	77.4	80.8
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.1	%		88.4	91.6	Not Determined	106	97.0
Toluene-D8	2037-26-5	0.1	%		84.0	83.3	Not Determined	112	98.2
4-Bromofluorobenzene	460-00-4	0.1	%		93.8	105	Not Determined	113	114

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Analytical Results

Client Sample ID : Sample Matrix Type / Description : Sample Date / Time : Laboratory Sample ID :				MG09C/3.8 SOIL 17 Aug 2006 15:00 ES0610135-013	TP15/0.3 SOIL 17 Aug 2006 15:00 ES0610135-014	TP15/2.8 SOIL 17 Aug 2006 15:00 ES0610135-015	TP15/4.1 SOIL 17 Aug 2006 15:00 ES0610135-016	QC03 SOIL 17 Aug 2006 15:00 ES0610135-017
Analyte	CAS number	LOR	Units					
EP068B: Organophosphorus Pesticides (OP)								
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	<0.12	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	<0.2	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	----	----	<0.12	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	----	----	<0.12	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	<0.12	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	<0.2	<0.2	----
Malathion	121-75-5	0.05	mg/kg	----	----	<0.12	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	----	----	<0.12	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	<0.12	<0.05	----
Parathion	56-38-2	0.2	mg/kg	----	----	<0.2	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	<0.12	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	----	<0.12	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	<0.12	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	----	<0.12	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	----	----	<0.12	<0.05	----
Ethion	563-12-2	0.05	mg/kg	----	----	<0.12	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	----	----	<0.12	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	<0.12	<0.05	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	164	7.8	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	0.5	19.4	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	8.0	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	25.1	0.9	<0.5
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	1.2	57.3	3.3	<0.5
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	19.7	0.8	<0.5
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	2.5	35.6	1.6	<0.5
Pyrene	129-00-0	0.5	mg/kg	<0.5	2.9	31.0	1.9	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	1.8	16.0	0.7	<0.5
Chrysene	218-01-9	0.5	mg/kg	<0.5	1.7	12.7	0.6	<0.5
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	<0.5	1.6	7.1	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	1.7	9.3	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	2.2	10.8	0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	1.4	4.1	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	0.6	1.6	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	1.7	4.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction		2	mg/kg	<2	<2	107	65	<2

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Analytical Results

				Client Sample ID : Sample Matrix Type / Description : Sample Date / Time : Laboratory Sample ID :	MG09C/3.8 SOIL 17 Aug 2006 15:00 ES0610135-013	TP15/0.3 SOIL 17 Aug 2006 15:00 ES0610135-014	TP15/2.8 SOIL 17 Aug 2006 15:00 ES0610135-015	TP15/4.1 SOIL 17 Aug 2006 15:00 ES0610135-016	QC03 SOIL 17 Aug 2006 15:00 ES0610135-017
Analyte	CAS number	LOR	Units						
EP080/071: Total Petroleum Hydrocarbons									
C10 - C14 Fraction		50	mg/kg		<50	<50	450	<50	<50
C15 - C28 Fraction		100	mg/kg		<100	230	1400	<100	<100
C29 - C36 Fraction		100	mg/kg		<100	150	240	<100	<100
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	1.8	2.7	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	10.9	10.6	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	17.5	4.9	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	38.7	15.5	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	17.5	9.3	<0.2
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE		0.1	%		----	----	85.6	83.7	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	----	80.9	94.6	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		83.2	77.9	77.5	86.1	74.4
2-Chlorophenol-D4	93951-73-6	0.1	%		88.1	83.8	82.5	89.6	77.2
2,4,6-Tribromophenol	118-79-6	0.1	%		89.2	88.3	79.7	76.7	67.6
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		77.1	78.0	83.2	87.1	76.4
Anthracene-d10	1719-06-8	0.1	%		78.3	82.5	85.8	86.8	75.8
4-Terphenyl-d14	1718-51-0	0.1	%		76.5	75.6	77.9	82.5	73.9
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.1	%		107	88.9	93.6	111	86.4
Toluene-D8	2037-26-5	0.1	%		90.3	105	85.0	118	85.3
4-Bromofluorobenzene	460-00-4	0.1	%		98.8	116	103	118	90.0

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Analytical Results

Client Sample ID : Sample Matrix Type / Description : Sample Date / Time : Laboratory Sample ID :				QC04 SOIL 17 Aug 2006 15:00 ES0610135-018	MG10/0.2 SOIL 17 Aug 2006 15:00 ES0610135-019	MG10A/0.7 SOIL 17 Aug 2006 15:00 ES0610135-020	MG10A/2.8 SOIL 17 Aug 2006 15:00 ES0610135-021	MG10A/4.0 SOIL 17 Aug 2006 15:00 ES0610135-022
Analyte	CAS number	LOR	Units					
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	<0.12	<0.05	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	16.6	<0.5	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	11.0	<0.5	<0.5
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	<1.0	31.5	<1.0	<1.0
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	17.4	<0.5	<0.5
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol	87-86-5	2.0	mg/kg	----	<2.0	<2.0	<2.0	<2.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	378	0.8	179	73.7	0.7
Acenaphthylene	208-96-8	0.5	mg/kg	39.2	1.0	154	7.4	<0.5
Acenaphthene	83-32-9	0.5	mg/kg	12.5	<0.5	26.8	3.7	<0.5
Fluorene	86-73-7	0.5	mg/kg	45.3	<0.5	160	12.7	<0.5



Analytical Results

Client Sample ID :				QC04	MG10/0.2	MG10A/0.7	MG10A/2.8	MG10A/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	ES0610135-018	ES0610135-019	ES0610135-020	ES0610135-021	ES0610135-022
EP075(SIM)T: PAH Surrogates								
4-Terphenyl-d14	1718-51-0	0.1	%	74.8	78.8	82.1	78.0	75.6
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	83.8	116	93.5	115	108
Toluene-D8	2037-26-5	0.1	%	83.6	96.6	99.9	93.8	93.9
4-Bromofluorobenzene	460-00-4	0.1	%	103	93.7	105	110	114

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 Work Order : ES0610135



Analytical Results

Analytical Results Client Sample ID : Sample Matrix Type / Description : Sample Date / Time : Laboratory Sample ID :				MG04/0.5	MG04/1.5	TRIP BLANK 3	TRIP SPIKE 3	MG05/0.5
				SOIL	SOIL	SOIL	SOIL	SOIL
				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
				ES0610135-023	ES0610135-024	ES0610135-025	ES0610135-026	ES0610135-027
Analyte	CAS number	LOR	Units					
EA055: Moisture Content								
Moisture Content (dried @ 103°C)		1.0	%	19.5	21.8	19.2	1.3	11.5
EG005T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	13	6	----	----	11
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	<1
Chromium	7440-47-3	2	mg/kg	11	10	----	----	32
Copper	7440-50-8	5	mg/kg	195	110	----	----	117
Lead	7439-92-1	5	mg/kg	2140	744	----	----	325
Nickel	7440-02-0	2	mg/kg	17	6	----	----	41
Zinc	7440-66-6	5	mg/kg	342	180	----	----	311
EG035T: Total Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.3	0.7	----	----	0.7
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls		0.10	mg/kg	----	<0.10	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	----	----
4,4'-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	----	----
4,4'-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	----	----
4,4'-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	----	----

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 Client : CH2M HILL PTY LTD
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Analytical Results

				Client Sample ID : Sample Matrix Type / Description : Sample Date / Time : Laboratory Sample ID :	MG04/0.5 SOIL 17 Aug 2006 15:00 ES0610135-023	MG04/1.5 SOIL 17 Aug 2006 15:00 ES0610135-024	TRIP BLANK 3 SOIL 17 Aug 2006 15:00 ES0610135-025	TRIP SPIKE 3 SOIL 17 Aug 2006 15:00 ES0610135-026	MG05/0.5 SOIL 17 Aug 2006 15:00 ES0610135-027
Analyte	CAS number	LOR	Units						
EP068B: Organophosphorus Pesticides (OP)									
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	----	----	----
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	----	----	----
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	----	----	----
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	----	----	----
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	----	----	----
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1.0	mg/kg	----	<1.0	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	----	----
2,4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	----	----
2,4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	----	----
2,6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	----	----
4-Chloro-3-Methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	----	----
2,4,6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	----	----
2,4,5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2.0	mg/kg	----	<2.0	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg	<0.5	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	5.5	1.7	----	----	----	----

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Analytical Results

Client Sample ID : Sample Matrix Type / Description : Sample Date / Time : Laboratory Sample ID :				MG04/0.5 SOIL 17 Aug 2006 15:00 ES0610135-023	MG04/1.5 SOIL 17 Aug 2006 15:00 ES0610135-024	TRIP BLANK 3 SOIL 17 Aug 2006 15:00 ES0610135-025	TRIP SPIKE 3 SOIL 17 Aug 2006 15:00 ES0610135-026	MG05/0.5 SOIL 17 Aug 2006 15:00 ES0610135-027
Analyte	CAS number	LOR	Units					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Anthracene	120-12-7	0.5	mg/kg	1.7	0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	9.9	2.7	----	----	----
Pyrene	129-00-0	0.5	mg/kg	9.3	2.6	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	5.1	1.3	----	----	----
Chrysene	218-01-9	0.5	mg/kg	4.8	1.4	----	----	----
Benzo(b)fluoranthene	205-99-2	0.5	mg/kg	4.3	1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	5.2	1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	6.0	1.3	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	3.4	0.6	----	----	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	1.4	<0.5	----	----	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	4.2	0.7	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction		2	mg/kg	<2	<2	<2	34	<2
C10 - C14 Fraction		50	mg/kg	<50	<50	<50	----	280
C15 - C28 Fraction		100	mg/kg	1340	240	<100	----	10800
C29 - C36 Fraction		100	mg/kg	470	<100	<100	----	2260
EP080: BTEX								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	2.6	<0.2
Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	<0.2	10.0	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	<0.2	2.6	<0.2
meta- & para-Xylene	108-38-3	0.2	mg/kg	<0.2	<0.2	<0.2	10.6	<0.2
ortho-Xylene	106-42-3							
	95-47-6	0.2	mg/kg	<0.2	<0.2	<0.2	4.1	<0.2
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	79.7	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE		0.1	%	----	85.0	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	87.3	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	78.4	87.8	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	81.4	88.4	----	----	----
2,4,6-Tribromophenol	118-79-6	0.1	%	75.1	77.7	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	81.3	84.2	----	----	----
Anthracene-d10	1719-06-8	0.1	%	83.4	87.9	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	76.3	80.3	----	----	----



Analytical Results

				Client Sample ID :	MG04/0.5	MG04/1.5	TRIP BLANK 3	TRIP SPIKE 3	MG05/0.5
				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		ES0610135-023	ES0610135-024	ES0610135-025	ES0610135-026	ES0610135-027
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.1	%		90.1	117	120	117	90.6
Toluene-D8	2037-26-5	0.1	%		102	109	117	106	115
4-Bromofluorobenzene	460-00-4	0.1	%		113	109	109	120	112

