Matrix Type: WATER

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP075F: Haloethers						
EP075F: Haloethers - (QC Lot: 49392)		µg/L	µg/L	%	%	%
Bis(2-chloroethyl) ether	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	100	81	111
Bis(2-chloroethoxy) methane	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	100	74	111
4-Chlorophenyl phenyl ether	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	77.5	67	113
4-Bromophenyl phenyl ether	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	74.8	63	117
EP075G: Chlorinated Hydrocarbons						
EP075G: Chlorinated Hydrocarbons - (QC Lot: 49392)		µg/L	µg/L	%	%	%
1,4-Dichlorobenzene	2 µg/L	<2	----	----	----	----
1,3-Dichlorobenzene	2 µg/L	<2	----	----	----	----
1,4-Dichlorobenzene	2 µg/L	----	5	79.8	45	121
1,3-Dichlorobenzene	2 µg/L	----	5	78.0	45	122
1,2-Dichlorobenzene	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	77.4	48	117
Hexachloroethane	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	76.6	34	117
1,2,4-Trichlorobenzene	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	75.2	43	119
Hexachloropropylene	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	73.3	32	114
Hexachlorobutadiene	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	75.2	39	117
Hexachlorocyclopentadiene	10 µg/L	<10	----	----	----	----
	10 µg/L	----	5	41.0	0	119
Pentachlorobenzene	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	79.2	64	118
Hexachlorobenzene (HCB)	4 µg/L	<4	----	----	----	----
	4 µg/L	----	5	80.7	66	119

Matrix Type: WATER

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP075H: Anilines and Benzidines						
EP075H: Anilines and Benzidines - (QC Lot: 49392)		µg/L	µg/L	%	%	%
Aniline	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	49.4	6	121
4-Chloroaniline	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	92.3	40	118
2-Nitroaniline	4 µg/L	<4	----	----	----	----
	4 µg/L	----	5	83.0	60	113
3-Nitroaniline	4 µg/L	<4	----	----	----	----
	4 µg/L	----	5	78.3	55	110
Dibenzofuran	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	82.3	70	116
4-Nitroaniline	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	77.8	46	117
Carbazole	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	81.5	69	109
3,3'-Dichlorobenzidine	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	82.1	48	138

Matrix Type: WATER

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP075I: Organochlorine Pesticides						
EP075I: Organochlorine Pesticides - (QC Lot: 49392)		µg/L	µg/L	%	%	%
alpha-BHC	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	88.7	71	114
beta-BHC	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	94.6	67	118
gamma-BHC	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	88.3	67	118
delta-BHC	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	90.7	70	105
Heptachlor	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	82.3	71	101
Aldrin	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	86.6	70	102
Heptachlor epoxide	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	84.0	68	108
alpha-Endosulfan	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	90.5	68	108
4,4'-DDE	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	81.2	65	109
Dieldrin	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	91.6	76	107
Endrin	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	81.8	66	108
beta-Endosulfan	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	88.0	67	113
4,4'-DDD	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	80.3	61	117
Endosulfan sulfate	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	92.7	61	117
4,4'-DDT	4 µg/L	<4	----	----	----	----
	4 µg/L	----	5	74.3	54	113

Matrix Type: WATER

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP075J: Organophosphorus Pesticides						
EP075J: Organophosphorus Pesticides - (QC Lot: 49392)		µg/L	µg/L	%	%	%
Dichlorvos	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	100	72	107
Dimethoate	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	101	63	107
Diazinon	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	90.4	62	113
Chlorpyrifos-methyl	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	80.6	72	103
Malathion	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	91.4	77	110
Fenthion	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	79.5	63	111
Chlorpyrifos	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	81.0	68	110
Pirimphos-ethyl	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	84.8	59	112
Chlorfenvinphos	2 µg/L	<2	----	----	----	----
	2 µg/L	----	6	90.2	48	125
Prothiofos	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	84.3	67	108
Ethion	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	79.0	59	113

Matrix Type: WATER

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

Analyte name	LOR	Method blank result	Actual Results: Spike concentration	Actual Results: Spike Recovery LCS	Recovery Limits: Dynamic Recovery Limits Low	Recovery Limits: Dynamic Recovery Limits High
EP075K: Miscellaneous Compounds						
EP075K: Miscellaneous Compounds - (QC Lot: 49392)		µg/L	µg/L	%	%	%
1,3,5-Trichlorobenzene	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	85.3	18	138
1,2,4,5-Tetrachlorobenzene	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	80.9	26	137
Methanesulfonate methyl	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	63.7	19	124
Methanesulfonate ethyl	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	92.4	70	109
cis-Isosafrole	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	74.8	65	113
trans-Isosafrole	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	85.7	65	115
Safrole	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	92.5	68	105
Diallate	2 µg/L	<2	----	----	----	----
	2 µg/L	----	5	102	77	113
2,3,4,6-Tetrachlorophenol	2 µg/L	<2	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons						
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 49391)		µg/L	µg/L	%	%	%
C10 - C14 Fraction	50 µg/L	<50	----	----	----	----
	50 µg/L	----	200	110	75	134
C15 - C28 Fraction	100 µg/L	<100	----	----	----	----
	100 µg/L	----	200	121	87	132
C29 - C36 Fraction	50 µg/L	<50	----	----	----	----
	50 µg/L	----	200	101	80	126
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 50189)		µg/L	µg/L	%	%	%
C6 - C9 Fraction	20 µg/L	----	260	96.3	80	120
	20 µg/L	<20	----	----	----	----

Quality Control Report - Matrix Spikes (MS)

The quality control term **Matrix Spike (MS)** refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC type is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQO's). 'Ideal' recovery ranges stated may be waived in the event of sample matrix interferences. - Anonymous - Client Sample IDs refer to samples which are not specifically part of this work order but formed part of the QC process lot. *Abbreviations: **LOR** = Limit of Reporting, **RPD** = Relative Percent Difference.*

* Indicates failed QC

Matrix Type: WATER

					Actual Results		Recovery Limits	
					Sample Result	Spike Recovery	Static Limits	
Analyte name	*Laboratory Sample ID*	*Client Sample ID*	*LOR*	*Spike Concentration*		*MS*	*Low*	*High*
EG020F: Dissolved Metals by ICP-MS								
EG020F: Dissolved Metals by ICP-MS - (QC Lot: 51549)				mg/L	mg/L	%	%	%
Arsenic	ES0501691-001	MW36S	0.001 mg/L	0.2	0.002	100	70	130
Cadmium			0.0001 mg/L	0.05	0.0001	99.7	70	130
Chromium			0.001 mg/L	0.2	<0.001	88.8	70	130
Copper			0.001 mg/L	0.2	<0.001	102	70	130
Lead			0.001 mg/L	0.2	0.009	98.2	70	130
Nickel			0.001 mg/L	0.2	0.012	105	70	130
Zinc			0.005 mg/L	0.2	0.270	70.2	70	130
EG035F: Dissolved Mercury by FIMS								
EG035F: Dissolved Mercury by FIMS - (QC Lot: 50660)				mg/L	mg/L	%	%	%
Mercury	ES0501691-001	MW36S	0.0001 mg/L	0.0100	<0.0001	94.9	70	130
EK055G: Ammonia as N by Discrete Analyser								
EK055G: Ammonia as N by Discrete Analyser - (QC Lot: 49536)				mg/L	mg/L	%	%	%
Ammonia as N	ES0501642-004	Anonymous	0.01 mg/L	1.00	0.315	127	70	130
EK059G: NOX as N by Discrete Analyser								
EK059G: NOX as N by Discrete Analyser - (QC Lot: 49176)				mg/L	mg/L	%	%	%
Nitrite + Nitrate as N	ES0501665-001	Anonymous	0.01 mg/L	0.60	0.429	106	70	130
EK061: Total Kjeldahl Nitrogen (TKN)								
EK061: Total Kjeldahl Nitrogen (TKN) - (QC Lot: 48939)				mg/L	mg/L	%	%	%
Total Kjeldahl Nitrogen as N	ES0501581-001	Anonymous	0.1 mg/L	5.0	0.5	119	70	130
EP005: Total Organic Carbon (TOC)								
EP005: Total Organic Carbon (TOC) - (QC Lot: 49043)				mg/L	mg/L	%	%	%
Total Organic Carbon	ES0501668-010	Anonymous	1 mg/L	100	<1	78.0	70	130
EP026: Chemical Oxygen Demand (COD)								
EP026: Chemical Oxygen Demand (COD) - (QC Lot: 50066)				mg/L	mg/L	%	%	%
Chemical Oxygen Demand	ES0501668-010	Anonymous	5 mg/L	143	7	106	70	130
EP074A: Monocyclic Aromatic Hydrocarbons								
EP074A: Monocyclic Aromatic Hydrocarbons - (QC Lot: 50190)				µg/L	µg/L	%	%	%

Matrix Type: WATER

Analyte name	Laboratory Sample ID	Client Sample ID	LOR	Spike Concentration	Actual Results: Sample Result	Actual Results: Spike Recovery MS	Recovery Limits Static Limits: Low	Recovery Limits Static Limits: High
Benzene	ES0501691-001	MW36S	5 µg/L	25	<5	92.6	70	130
Toluene			5 µg/L	25	<5	98.0	70	130
EP074E: Halogenated Aliphatic Compounds								
EP074E: Halogenated Aliphatic Compounds - (QC Lot: 50190)				µg/L	µg/L	%	%	%
1,1-Dichloroethene	ES0501691-001	MW36S	5 µg/L	25	<5	93.6	70	130
Trichloroethene			5 µg/L	25	<5	95.5	70	130
EP074F: Halogenated Aromatic Compounds								
EP074F: Halogenated Aromatic Compounds - (QC Lot: 50190)				µg/L	µg/L	%	%	%
Chlorobenzene	ES0501691-001	MW36S	5 µg/L	25	<5	108	70	130
EP080/071: Total Petroleum Hydrocarbons								
EP080/071: Total Petroleum Hydrocarbons - (QC Lot: 50189)				µg/L	µg/L	%	%	%
C6 - C9 Fraction	ES0501668-010	Anonymous	20 µg/L	250	<20	97.8	80	120

ALS Environmental

INTERPRETIVE QUALITY CONTROL REPORT

Client	: **SINCLAIR KNIGHT MERZ**	**Laboratory**	: ALS Environmental Sydney	**Page**	: 1 of 8
Contact	: MS LOUSIE MACDONALD	**Contact**	: Greg Vogel		
Address	: P O BOX 164 ST LEONARDS NSW AUSTRALIA 2065	**Address**	: 277-289 Woodpark Road Smithfield NSW Australia 2164	**Work order**	: **ES0501691**
				Amendment No.	:
Project	: EN01669	**Quote number**	: ----	**Date received**	: 7 Mar 2005
Order number	: - Not provided -			**Date issued**	: 17 Mar 2005
C-O-C number	: - Not provided -				
Site	: - Not provided -				
E-mail	: lmacdonald@skm.com.au	**E-mail**	: Greg.Vogel@alsenviro.com	**No. of samples**	
Telephone	: (02) 9928-2100	**Telephone**	: 61-2-87848555	**Received**	: 3
Facsimile	: (02) 9928-2272	**Facsimile**	: 61-2-87848500	**Analysed**	: 3

This Interpretive Quality Control Report was issued on 17 Mar 2005 for the ALS work order reference ES0501691 and supersedes any previous reports with this reference.
This report contains the following information:

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