

Client : SINCLAIR KNIGHT MERZ
Project : EN01669Work Order : ES0501691
ALS Quote Reference : ---
Page Number : 5 of 10
Issue Date : 17 Mar 2005

Analytical Results

Client Sample ID :				MW36S	MW35S	MW41D	
Sample Matrix Type / Description :				WATER / WATER	WATER / WATER	WATER / WATER	
Sample Date / Time :				4 Mar 2005	4 Mar 2005	4 Mar 2005	
Laboratory Sample ID :				ES0501691-001	ES0501691-002	ES0501691-003	
Analyte	CAS number	LOR	Units				
EP075A: Phenolic Compounds							
Phenol	108-95-2	2	µg/L	# <2	<2	<2	
2-Chlorophenol	95-57-8	2	µg/L	# <2	<2	<2	
2-Methylphenol	95-48-7	2	µg/L	# <2	<2	<2	
3- & 4-Methylphenol	1319-77-3	2	µg/L	# <4	# <3	<2	
2-Nitrophenol	88-75-5	2	µg/L	# <2	<2	<2	
2,4-Dimethylphenol	105-67-9	2	µg/L	# <2	<2	<2	
2,4-Dichlorophenol	120-83-2	2	µg/L	# <2	<2	<2	
2,6-Dichlorophenol	87-65-0	2	µg/L	# <2	<2	<2	
4-Chloro-3-Methylphenol	59-50-7	2	µg/L	# <2	<2	<2	
2,4,6-Trichlorophenol	88-06-2	2	µg/L	# <2	<2	<2	
2,4,5-Trichlorophenol	95-95-4	2	µg/L	# <2	<2	<2	
Pentachlorophenol	87-86-5	4	µg/L	<4	<4	<4	
EP075B: Polynuclear Aromatic Hydrocarbons							
Naphthalene	91-20-3	2	µg/L	# <2	<2	<2	
2-Methylnaphthalene	91-57-6	2	µg/L	# <2	<2	<2	
2-Chloronaphthalene	91-58-7	2	µg/L	# <2	<2	<2	
Acenaphthylene	208-96-8	2	µg/L	# <2	<2	<2	
Acenaphthene	83-32-9	2	µg/L	# <2	<2	<2	
Fluorene	86-73-7	2	µg/L	# <2	<2	<2	
Phenanthrene	85-01-8	2	µg/L	3	<2	<2	
Anthracene	120-12-7	2	µg/L	# <2	<2	<2	
Fluoranthene	206-44-0	2	µg/L	# <2	<2	<2	
Pyrene	129-00-0	2	µg/L	2	<2	<2	
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	# <2	<2	<2	
Benz(a)anthracene	56-55-3	2	µg/L	# <2	<2	<2	
Chrysene	218-01-9	2	µg/L	# <2	<2	<2	
Benzo(b) & Benzo(k)fluoranthene	205-99-2	4	µg/L	# <4	<4	<4	
7,12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	# <2	<2	<2	
Benzo(a)pyrene	50-32-8	2	µg/L	# <2	<2	<2	
3-Methylcholanthrene	56-49-5	2	µg/L	# <2	<2	<2	
Indeno(1,2,3-cd)pyrene	193-39-5	2	µg/L	# <2	<2	<2	
Dibenz(a,h)anthracene	53-70-3	2	µg/L	# <2	<2	<2	
Benzo(g,h,i)perylene	191-24-2	2	µg/L	# <2	<2	<2	
EP075C: Phthalate Esters							
Dimethyl phthalate	131-11-3	2	µg/L	# <2	<2	<2	
Diethyl phthalate	84-66-2	2	µg/L	# <2	<2	<2	



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Analyte	Client Sample ID :				MW36S				MW36S				MW41D			
	Sample Matrix Type / Description :				WATER / WATER				WATER / WATER				WATER / WATER			
	CAS number	LOR	Units	Sample Date / Time :	ES0501691-001	ES0501691-002	ES0501691-003	ES0501691-003	ES0501691-002	ES0501691-003	ES0501691-003	ES0501691-003	ES0501691-003	ES0501691-003	ES0501691-003	ES0501691-003
EP075C: Phthalate Esters																
Di-n-butyl phthalate	84-74-2	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Butyl benzyl phthalate	85-68-7	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L		<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Di-n-octylphthalate	117-84-0	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
EP075D: Nitrosamines																
N-Nitrosomethylethylamine	10595-95-6	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
N-Nitrosodiethylamine	55-18-5	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
N-Nitrosopyrrolidine	930-55-2	4	µg/L		<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
N-Nitrosomorpholine	59-89-2	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
N-Nitrosopiperidine	100-75-4	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
N-Nitrosodibutylamine	924-16-3	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
N-Nitrosodiphenyl & Diphenylamine	86-30-6	4	µg/L		# <4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Methapyrene	91-80-5	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
EP075E: Nitroaromatics and Ketones																
2-Picoline	109-06-8	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acetophenone	98-86-2	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Nitrobenzene	98-95-3	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Isophorone	78-59-1	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
2,6-Dinitrotoluene	606-20-2	4	µg/L		<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
2,4-Dinitrotoluene	121-14-2	4	µg/L		<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
1-Naphthylamine	134-32-7	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
5-Nitro-o-toluidine	99-55-8	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Azobenzene	103-33-3	2	µg/L		# <4	<4	<4	<4	# <3	<3	<3	<3	<3	<3	<3	<3
1,3,5-Trinitrobenzene	99-35-4	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Phenacetin	62-44-2	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
4-Aminobiphenyl	92-67-1	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Pentachloronitrobenzene	82-68-8	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Pronamide	23950-58-5	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Dimethylaminoazobenzene	60-11-7	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chlorobenzilate	510-15-6	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
EP075F: Haloethers																
Bis(2-chloroethyl) ether	111-44-4	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L		# <2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

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Analytical Results

Analytical Results				
Client Sample ID :		MW36S	MW35S	MW41D
Sample Matrix Type / Description :		WATER / WATER	WATER / WATER	WATER / WATER
Sample Date / Time :		4 Mar 2005	4 Mar 2005	4 Mar 2005
Laboratory Sample ID :		ES0501691-001	ES0501691-002	ES0501691-003
Laboratory Sample ID :		ES0501691-001	ES0501691-002	ES0501691-003
Analyte	CAS number	LOR	Units	
EP075F: Haloethers				
4-Bromophenyl phenyl ether	101-55-3	2	µg/L	# <2
EP075G: Chlorinated Hydrocarbons				
1,4-Dichlorobenzene	106-46-7	2	µg/L	# <2
1,3-Dichlorobenzene	541-73-1	2	µg/L	# <2
1,2-Dichlorobenzene	95-50-1	2	µg/L	# <2
Hexachloroethane	67-72-1	2	µg/L	# <2
1,2,4-Trichlorobenzene	120-82-1	2	µg/L	# <2
Hexachloropropylene	1888-71-7	2	µg/L	# <2
Hexachlorobutadiene	87-68-3	2	µg/L	# <2
Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10
Pentachlorobenzene	608-93-5	2	µg/L	# <2
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4
EP075H: Anilines and Benzidines				
Aniline	62-53-3	2	µg/L	# <2
4-Chloroaniline	106-47-8	2	µg/L	# <2
2-Nitroaniline	88-74-4	4	µg/L	<4
3-Nitroaniline	99-09-2	4	µg/L	<4
Dibenzofuran	132-64-9	2	µg/L	# <2
4-Nitroaniline	100-01-6	2	µg/L	# <2
Carbazole	86-74-8	2	µg/L	# <2
3,3'-Dichlorobenzidine	91-94-1	2	µg/L	# <2
EP075I: Organochlorine Pesticides				
alpha-BHC	319-84-6	2	µg/L	# <2
beta-BHC	319-85-7	2	µg/L	# <2
gamma-BHC	58-89-9	2	µg/L	# <2
delta-BHC	319-86-8	2	µg/L	# <2
Heptachlor	76-44-8	2	µg/L	# <2
Aldrin	309-00-2	2	µg/L	# <2
Heptachlor epoxide	1024-57-3	2	µg/L	# <2
alpha-Endosulfan	959-98-8	2	µg/L	# <2
4,4'-DDE	72-55-9	2	µg/L	# <2
Dieldrin	60-57-1	2	µg/L	# <2
Endrin	72-20-8	2	µg/L	# <2
beta-Endosulfan	33213-65-9	2	µg/L	# <2
4,4'-DDD	72-54-8	2	µg/L	# <2
Endosulfan sulfate	1031-07-8	2	µg/L	# <2



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Analytical Results

Client Sample ID :		MW36S		MW35S		MW41D	
Sample Matrix Type / Description : Sample Date / Time :		WATER / WATER 4 Mar 2005 0:00		WATER / WATER 4 Mar 2005 0:00		WATER / WATER 4 Mar 2005 0:00	
Laboratory Sample ID :		ES0501691-001		ES0501691-002		ES0501691-003	
Analyte	CAS number	LOR	Units				
EP075i: Organochlorine Pesticides							
4,4'-DDT	50-29-3	4	µg/L	<4	<4	<4	
EP075j: Organophosphorus Pesticides							
Dichlorvos	62-73-7	2	µg/L	# <2	<2	<2	
Dimethoate	60-51-5	2	µg/L	# <2	<2	<2	
Diazinon	333-41-5	2	µg/L	# <2	<2	<2	
Chlorpyrifos-methyl	5598-13-0	2	µg/L	# <2	<2	<2	
Malathion	121-75-5	2	µg/L	# <2	<2	<2	
Fenthion	55-38-9	2	µg/L	# <2	<2	<2	
Chlorpyrifos	2921-88-2	2	µg/L	# <2	<2	<2	
Phosphor-ethyl	23505-41-1	2	µg/L	# <2	<2	<2	
Chlorfenvinphos	470-90-6	2	µg/L	# <2	<2	<2	
Prothiofos	34643-46-4	2	µg/L	# <2	<2	<2	
Ethion	563-12-2	2	µg/L	# <2	<2	<2	
EP075K: Miscellaneous Compounds							
1,3,5-Trichlorobenzene	108-70-3	2	µg/L	# <2	<2	<2	
1,2,4,5-Tetrachlorobenzene	95-94-3	2	µg/L	# <2	<2	<2	
Methanesulfonate methyl	66-27-3	2	µg/L	# <2	<2	<2	
Methanesulfonate ethyl	62-50-0	2	µg/L	# <2	<2	<2	
cis-Isosafrole	17627-76-8	2	µg/L	# <2	<2	<2	
trans-Isosafrole	4043-71-4	2	µg/L	# <2	<2	<2	
Safrole	94-59-7	2	µg/L	# <2	<2	<2	
Diallylate	2303-16-4	2	µg/L	# <2	<2	<2	
2,3,4,6-Tetrachlorophenol	58-90-2	2	µg/L	# <2	<2	<2	
EP080071: Total Petroleum Hydrocarbons							
C6 - C9 Fraction	20	µg/L	<20	<20	<20	<20	
C10 - C14 Fraction	50	µg/L	# <50	<50	<50	<50	
C15 - C28 Fraction	100	µg/L	800	400	200	200	
C29 - C36 Fraction	50	µg/L	# <100	# <80	<50	<50	
EP074S: VOC Surrogates							
1,2-Dichloroethane-D4	17060-07-0	0.1	%	108	105	105	
Toluene-D8	2037-26-5	0.1	%	98.0	95.1	97.0	
4-Bromofluorobenzene	460-00-4	0.1	%	90.7	90.0	92.7	
EP075S: Acid Extractable Surrogates							
2-Fluorophenol	367-12-4	0.1	%	51.4	53.6	58.9	
Phenol-d6	13127-88-3	0.1	%	39.2	42.5	38.3	
2-Chlorophenol-D4	93951-73-6	0.1	%	80.3	88.6	74.7	

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Analytical Results

Analyte		Client Sample ID :		MW36S		MW35S		MW41D	
		Sample Matrix Type / Description :		WATER / WATER		WATER / WATER		WATER / WATER	
		Sample Date / Time :		4 Mar 2005 0:00		4 Mar 2005 0:00		4 Mar 2005 0:00	
		Laboratory Sample ID :		ES0501691-001		ES0501691-002		ES0501691-003	
		CAS number	LOR	Units					
EP075S: Acid Extractable Surrogates		118-79-6	0.1	%		100		87.9	
EP075T: Base/Neutral Extractable Surrogates									
Nitrobenzene-D5		4165-60-0	0.1	%		90.0		92.9	
1,2-Dichlorobenzene-D4		2199-69-1	0.1	%		67.4		56.5	
2-Fluorobiphenyl		321-60-8	0.1	%		69.6		57.7	
Anthracene-d10		1719-06-8	0.1	%		80.6		67.1	
4-Terphenyl-d14		1718-51-0	0.1	%		80.7		65.5	
EP080S: TPH(V)/BTX Surrogates									
1,2-Dichloroethane-D4		17060-07-0	0.1	%		105		105	
Toluene-D8		2037-26-5	0.1	%		95.1		97.0	
4-Bromofluorobenzene		460-00-4	0.1	%		90.0		92.7	



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ALS Environmental

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 procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported herein. Reference methods from which ALSE methods are based are provided in parenthesis.

Matrix Type: WATER

Method name		Surrogate Control Limits	
Analyte name		Lower Limit	Upper Limit
EP074: Volatile Organic Compounds			
EP074S: VOC Surrogates			
1,2-Dichloroethane-D4		80	120
Toluene-D8		88	110
4-Bromofluorobenzene		86	115
EP075: Semivolatile Organic Compounds			
EP075S: Acid Extractable Surrogates			
2-Fluorophenol		21	100
Phenol-d6		10	94
2-Chlorophenol-D4		23	134
2,4,6-Tribromophenol		10	123
Nitrobenzene-D5		35	114
1,2-Dichlorobenzene-D4		32	129
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

ALS Environmental



QUALITY CONTROL REPORT

Client : SINCLAIR KNIGHT MERZ		Laboratory : ALS Environmental Sydney	Page : 1 of 25
Contact : MS LOUISIE 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
Project : EN01669		Quote number : ---	Amendment No. :
Order number : - Not provided -			Date received : 7 Mar 2005
C-O-C number : - Not provided -			Date issued : 17 Mar 2005
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 final report for the ALS work order reference ES0501691 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:

- Laboratory Duplicates (DUP); Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Samples (LCS); Recovery and Acceptance Limits
- Matrix Spikes (MS); Recovery and Acceptance Limits

ALSE - QUALITY, SERVICE and TECHNOLOGY provided GLOBALLY

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



NATA Accredited Laboratory - 825

The Laboratory is accredited by the National Association of Testing Authorities, Australia. The test(s) reported herein have been performed in accordance with its scope of accreditation. This document shall not be reproduced except in full.

Signatory Department

Greg Vogel	Inorganics - NATA 10911 (Sydney)
Peter Dickenson	Inorganics - NATA 10911 (Sydney)
Rassem Ayoubi	Organics - NATA 10911 (Sydney)
Sarah Millington	Inorganics - NATA 10911 (Sydney)



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ALS Environmental

Quality Control Report - Laboratory Duplicates (DUP)

The quality control term Laboratory Duplicate refers to an intralaboratory split sample randomly selected from the sample batch. Laboratory duplicates provide information on method precision and sample heterogeneity.

- 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. The permitted ranges for the RPD of Laboratory Duplicates (relative percent deviation) are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: - Result < 10 times LOR, no limit - Result between 10 and 20 times LOR, 0% - 50% - Result > 20 times LOR, 0% - 20%

Matrix Type: WATER

Laboratory Duplicates (DUP) Report

Laboratory Sample ID	Client Sample ID	Analyte name	LOR	Original Result	Duplicate Result	RPD
ED093F: Dissolved Major Cations						
ED093F: Dissolved Major Cations - (QC Lot: 49963)						
ES0501681-006	Anonymous	Calcium	1 mg/L	25	25	0.0
		Magnesium	1 mg/L	22	22	0.0
		Sodium	1 mg/L	155	156	0.0
		Potassium	1 mg/L	8	8	0.0
ES0501690-009	Anonymous	Calcium	1 mg/L	7	7	0.0
		Magnesium	1 mg/L	6	6	0.0
		Sodium	1 mg/L	44	44	0.0
		Potassium	1 mg/L	4	5	0.0
EG020F: Dissolved Metals by ICP-MS						
EG020F: Dissolved Metals by ICP-MS - (QC Lot: 51549)						
ES0501691-001	MW36S	Arsenic	0.001 mg/L	0.002	0.001	0.0
		Cadmium	0.0001 mg/L	0.0001	<0.0001	0.0
		Chromium	0.001 mg/L	<0.001	<0.001	0.0
		Copper	0.001 mg/L	<0.001	<0.001	0.0
		Lead	0.001 mg/L	0.009	0.009	0.0
		Nickel	0.001 mg/L	0.012	0.012	0.0
		Zinc	0.005 mg/L	0.270	0.248	8.3
ES0501722-001	Anonymous	Arsenic	0.001 mg/L	0.001	0.002	0.0
		Cadmium	0.0001 mg/L	<0.0001	<0.0001	0.0
		Chromium	0.001 mg/L	<0.001	<0.001	0.0
		Copper	0.001 mg/L	0.002	0.002	0.0
		Lead	0.001 mg/L	0.001	0.001	0.0
		Nickel	0.001 mg/L	0.002	0.002	0.0
		Zinc	0.005 mg/L	<0.005	<0.005	0.0
EG035F: Dissolved Mercury by FIMS						
EG035F: Dissolved Mercury by FIMS - (QC Lot: 50660)						
ES0501691-001	MW36S	Mercury	0.0001 mg/L	<0.0001	<0.0001	0.0
ES0501737-002	Anonymous	Mercury	0.0001 mg/L	1.02	1.14	10.8