

Client : SINCLAIR KNIGHT MERZ
Project : - Not provided -

Work Order : ES0501612
ALS Quote Reference : ----

Page Number : 13 of 18
Issue Date : 14 Mar 2005

ALS Environmental

Analytical Results

Client Sample ID :		MW04 S	MW04 D	MW12 S	MW13 S
Sample Matrix Type / Description :		WATER / WATER (2 Mar 2005) (0.00)	WATER / WATER (2 Mar 2005) (0.00)	WATER / WATER (2 Mar 2005) (0.00)	WATER / WATER (2 Mar 2005) (0.00)
Laboratory Sample ID :		ES0501612-006	ES0501612-007	ES0501612-008	ES0501612-009
Analyte	CAS number	LOR	Units		
EP075A: Phenolic Compounds					
2,6-Dichlorophenol	87-65-0	2	µg/L	<2	<2
4-Chloro-3-Methylphenol	59-50-7	2	µg/L	<2	<2
2,4,6-Trichlorophenol	88-06-2	2	µg/L	<2	<2
2,4,5-Trichlorophenol	95-95-4	2	µg/L	<2	<2
Pentachlorophenol	87-86-5	4	µg/L	<4	<4
EP075B: Polynuclear Aromatic Hydrocarbons					
Naphthalene	91-20-3	2	µg/L	<2	<2
2-Methylnaphthalene	91-57-6	2	µg/L	<2	<2
2-Chloronaphthalene	91-58-7	2	µg/L	<2	<2
Acenaphthylene	208-96-8	2	µg/L	<2	<2
Acenaphthene	83-32-9	2	µg/L	<2	<2
Fluorene	86-73-7	2	µg/L	<2	<2
Phenanthrene	85-01-8	2	µg/L	<2	<2
Anthracene	120-12-7	2	µg/L	<2	<2
Fluoranthene	206-44-0	2	µg/L	<2	<2
Pyrene	129-00-0	2	µg/L	<2	<2
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	<2
Benz(a)anthracene	56-55-3	2	µg/L	<2	<2
Chrysene	218-01-9	2	µg/L	<2	<2
Benzo(b) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<4	<4
7,12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	<2
Benzo(a)pyrene	50-32-8	2	µg/L	<2	<2
3-Methylcholanthrene	56-49-5	2	µg/L	<2	<2
Indeno(1,2,3-cd)pyrene	193-39-5	2	µg/L	<2	<2
Dibenz(a,h)anthracene	53-70-3	2	µg/L	<2	<2
Benzo(g,h,i)perylene	191-24-2	2	µg/L	<2	<2
EP075C: Phthalate Esters					
Dimethyl phthalate	131-11-3	2	µg/L	<2	<2
Diethyl phthalate	84-66-2	2	µg/L	<2	<2
Di-n-butyl phthalate	84-74-2	2	µg/L	<2	<2
Butyl benzyl phthalate	85-68-7	2	µg/L	<2	<2
bis(2-ethylhexyl) phthalate	117-81-7	20	µg/L	<20	<20
Di-n-octylphthalate	117-84-0	2	µg/L	<2	<2
EP075D: Nitrosamines					
N-Nitrosomethylamine	10595-95-6	2	µg/L	<2	<2
N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	<2



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Laboratory Sample ID :			ES0501612-006	ES0501612-007	ES0501612-008	ES0501612-009
Analyte	CAS number	Units				
EP075D: Nitrosamines						
N-Nitrosopyrrolidine	930-55-2	4 µg/L	<4	<4	<4	<4
N-Nitrosomorpholine	59-89-2	2 µg/L	<2	<2	<2	<2
N-Nitrosodi-n-propylamine	621-64-7	2 µg/L	<2	<2	<2	<2
N-Nitrosopiperidine	100-75-4	2 µg/L	<2	<2	<2	<2
N-Nitrosodibutylamine	924-16-3	2 µg/L	<2	<2	<2	<2
N-Nitrosodiphenyl & Diphenylamine	86-30-6	4 µg/L	<4	<4	<4	<4
Methapyrene	91-80-5	2 µg/L	<2	<2	<2	<2
EP075E: Nitroaromatics and Ketones						
2-Picoline	109-06-8	2 µg/L	<2	<2	<2	<2
Acetophenone	98-86-2	2 µg/L	<2	<2	<2	<2
Nitrobenzene	98-95-3	2 µg/L	<2	<2	<2	<2
Isophorone	78-59-1	2 µg/L	<2	<2	<2	<2
2,6-Dinitrotoluene	606-20-2	4 µg/L	<4	<4	<4	<4
2,4-Dinitrotoluene	121-14-2	4 µg/L	<4	<4	<4	<4
1-Naphthylamine	134-32-7	2 µg/L	<2	<2	<2	<2
4-Nitroquinoline-N-oxide	56-57-5	2 µg/L	<2	<2	<2	<2
5-Nitro-o-toluidine	99-55-8	2 µg/L	<2	<2	<2	<2
Azobenzene	103-33-3	2 µg/L	<2	<2	<2	<2
1,3,5-Trinitrobenzene	99-35-4	2 µg/L	<2	<2	<2	<2
Phenacetyl	62-44-2	2 µg/L	<2	<2	<2	<2
4-Aminobiphenyl	92-67-1	2 µg/L	<2	<2	<2	<2
Pentachloronitrobenzene	82-68-8	2 µg/L	<2	<2	<2	<2
Pronamide	23950-58-5	2 µg/L	<2	<2	<2	<2
Dimethylaminoazobenzene	60-11-7	2 µg/L	<2	<2	<2	<2
Chlorobenzilate	510-15-6	2 µg/L	<2	<2	<2	<2
EP075F: Haloethers						
Bis(2-chloroethyl) ether	111-44-4	2 µg/L	<2	<2	<2	<2
Bis(2-chloroethoxy) methane	111-91-1	2 µg/L	<2	<2	<2	<2
4-Chlorophenyl phenyl ether	7005-72-3	2 µg/L	<2	<2	<2	<2
4-Bromophenyl phenyl ether	101-55-3	2 µg/L	<2	<2	<2	<2
EP075G: Chlorinated Hydrocarbons						
1,4-Dichlorobenzene	106-46-7	2 µg/L	<2	<2	<2	<2
1,3-Dichlorobenzene	541-73-1	2 µg/L	<2	<2	<2	<2
1,2-Dichlorobenzene	95-50-1	2 µg/L	<2	<2	<2	<2
Hexachloroethane	67-72-1	2 µg/L	<2	<2	<2	<2
1,2,4-Trichlorobenzene	120-82-1	2 µg/L	<2	<2	<2	<2

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Laboratory Sample ID :		ES0501612-006	ES0501612-007	ES0501612-008	ES0501612-009
Analyte	CAS number	LOR	Units		
EP075G: Chlorinated Hydrocarbons					
Hexachloropropylene	1888-71-7	2	µg/L	<2	<2
Hexachlorobutadiene	87-68-3	2	µg/L	<2	<2
Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	<10
Pentachlorobenzene	608-93-5	2	µg/L	<2	<2
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	<4
EP075H: Anilines and Benzidines					
Aniline	62-53-3	2	µg/L	<2	<2
4-Chloroaniline	106-47-8	2	µg/L	<2	<2
2-Nitroaniline	88-74-4	4	µg/L	<4	<4
3-Nitroaniline	99-09-2	4	µg/L	<4	<4
Dibenzofuran	132-64-9	2	µg/L	<2	<2
4-Nitroaniline	100-01-6	2	µg/L	<2	<2
Carbazole	86-74-8	2	µg/L	<2	<2
3,3'-Dichlorobenzidine	91-94-1	2	µg/L	<2	<2
EP075I: Organochlorine Pesticides					
alpha-BHC	319-84-6	2	µg/L	<2	<2
beta-BHC	319-85-7	2	µg/L	<2	<2
gamma-BHC	58-89-9	2	µg/L	<2	<2
delta-BHC	319-86-8	2	µg/L	<2	<2
Heptachlor	76-44-8	2	µg/L	<2	<2
Aldrin	309-00-2	2	µg/L	<2	<2
Heptachlor epoxide	1024-57-3	2	µg/L	<2	<2
alpha-Endosulfan	959-98-8	2	µg/L	<2	<2
4,4'-DDE	72-55-9	2	µg/L	<2	<2
Dieldrin	60-57-1	2	µg/L	<2	<2
Endrin	72-20-8	2	µg/L	<2	<2
beta-Endosulfan	33213-65-9	2	µg/L	<2	<2
4,4'-DDD	72-54-8	2	µg/L	<2	<2
Endosulfan sulfate	1031-07-8	2	µg/L	<2	<2
4,4'-DDT	50-29-3	4	µg/L	<4	<4
EP075J: Organophosphorus Pesticides					
Dichlorvos	62-73-7	2	µg/L	<2	<2
Dimethoate	60-51-5	2	µg/L	<2	<2
Diazinon	333-41-5	2	µg/L	<2	<2
Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	<2
Malathion	121-75-5	2	µg/L	<2	<2



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Laboratory Sample ID :		ES0501612-006	ES0501612-007	ES0501612-008	ES0501612-009
Analyte	CAS number	Units			
EP075J: Organophosphorus Pesticides					
Fenthion	55-38-9	2 µg/L	<2	<2	<2
Chlorpyrifos	2921-88-2	2 µg/L	<2	<2	<2
Phosphorothion	23505-41-1	2 µg/L	<2	<2	<2
Chlorfenvinphos	470-90-6	2 µg/L	<2	<2	<2
Prothios	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
Diallyl	2303-16-4	2 µg/L	<2	<2	<2
2,3,4,6-Tetrachlorophenol	58-90-2	2 µg/L	<2	<2	<2
EP080/071: Total Petroleum Hydrocarbons					
C6 - C9 Fraction	20	µg/L	<20	<20	<20
C10 - C14 Fraction	50	µg/L	<50	160	<50
C15 - C28 Fraction	100	µg/L	400	200	100
C29 - C36 Fraction	50	µg/L	300	<50	<50
EP074S: VOC Surrogates					
1,2-Dichloroethane-D4	17060-07-0	0.1 %	105	103	102
Toluene-D8	2037-26-5	0.1 %	96.7	97.0	97.6
4-Bromofluorobenzene	460-00-4	0.1 %	90.6	92.6	91.6
EP075S: Acid Extractable Surrogates					
2-Fluorophenol	367-12-4	0.1 %	55.8	61.7	61.5
Phenol-d6	13127-88-3	0.1 %	34.4	39.0	35.6
2-Chlorophenol-D4	93951-73-6	0.1 %	83.1	89.5	82.3
2,4,6-Tribromophenol	118-79-6	0.1 %	94.6	101	92.4
EP075T: Base/Neutral Extractable Surrogates					
Nitrobenzene-D5	4165-60-0	0.1 %	94.1	103	96.7
1,2-Dichlorobenzene-D4	2199-69-1	0.1 %	69.9	75.1	69.6
2-Fluorobiphenyl	321-60-8	0.1 %	77.1	82.2	74.5
Anthracene-d10	1719-06-8	0.1 %	83.6	87.1	77.1
4-Terphenyl-d14	1718-51-0	0.1 %	82.4	82.2	74.9

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Analytical Results

Client Sample ID :		MW04 S	MW04 D	MW12 S	MW13 S			
Sample Matrix Type / Description :		WATER / WATER (2 Mar 2005) (0:00)	WATER / WATER (2 Mar 2005) (0:00)	WATER / WATER (2 Mar 2005) (0:00)	WATER / WATER (2 Mar 2005) (0:00)			
Sample Date / Time :								
Laboratory Sample ID :		ES0501612-006	ES0501612-007	ES0501612-008	ES0501612-009			
Analyte	CAS number	LOR	Units					
	EP080S: TPH(V)/BTEX Surrogates							
	1,2-Dichloroethane-D4	17060-07-0	0.1	%	105	102	103	102
	Toluene-D8	2037-26-5	0.1	%	96.7	96.9	97.0	97.6
	4-Bromofluorobenzene	460-00-4	0.1	%	90.6	92.6	92.8	91.6

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.

Matrix Type: WATER

Method name	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
EP075T: Base/Neutral Extractable Surrogates	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



QUALITY CONTROL REPORT

Client	: SINCLAIR KNIGHT MERZ	Laboratory	: ALS Environmental Sydney	Page	: 1 of 30
Contact	: MS LOUISIE MACDONALD	Contact	: Greg Vogel	Work order	: ES0501612
Address	: P O BOX 164 ST LEONARDS NSW AUSTRALIA 2065	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164	Amendment No.	:
Project	: - Not provided -	Quote number	: ---	Date received	: 3 Mar 2005
Order number	: - Not provided -	E-mail	: Greg.Vogel@alsenviro.com	Date issued	: 14 Mar 2005
C-O-C number	: - Not provided -	Telephone	: 61-2-87848555	No. of samples	:
Site	: - Not provided -	Facsimile	: 61-2-87848500	Received	: 9
E-mail	: lmacdonald@skm.com.au			Analysed	: 9
Telephone	: (02) 9928-2100				
Facsimile	: (02) 9928-2272				

This final report for the ALS work order reference ES0501612 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

Work order specific comments

LOR raised for Cr6+ due to Matrix interference

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.

Signatory	Department
Celine Concelcao	Inorganics - NATA 10911 (Sydney)
Greg Vogel	Inorganics - NATA 10911 (Sydney)
Rassem Ayoubi	Organics - NATA 10911 (Sydney)



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.

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: 48928)						
ES0501612-001	DUP 2	Calcium	1 mg/L	14	14	0.0
		Magnesium	1 mg/L	22	22	0.0
ES0501619-001	Anonymous	Calcium	1 mg/L	26	26	0.0
		Magnesium	1 mg/L	21	21	0.0
EG020F: Dissolved Metals by ICP-MS						
EG020F: Dissolved Metals by ICP-MS - (QC Lot: 48383)						
ES0500645-001	Anonymous	Arsenic	0.001 mg/L	0.004	0.003	0.0
		Cadmium	0.0001 mg/L	0.0001	<0.0001	0.0
		Copper	0.001 mg/L	0.001	0.001	0.0
		Lead	0.001 mg/L	<0.001	<0.001	0.0
		Nickel	0.001 mg/L	<0.001	<0.001	0.0
		Zinc	0.005 mg/L	0.016	0.017	0.0
ES0501610-001	Anonymous	Arsenic	0.001 mg/L	<0.001	0.001	0.0
		Cadmium	0.0001 mg/L	<0.0001	<0.0001	0.0
		Copper	0.001 mg/L	<0.001	<0.001	0.0
		Lead	0.001 mg/L	<0.001	<0.001	0.0
		Nickel	0.001 mg/L	0.008	0.009	0.0
		Zinc	0.005 mg/L	0.104	0.109	4.6
EG020F: Dissolved Metals by ICP-MS - (QC Lot: 48385)						
ES0501612-004	MW16 S	Arsenic	0.001 mg/L	<0.001	<0.001	0.0
		Cadmium	0.0001 mg/L	<0.0001	<0.0001	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	0.012	0.012	0.0
		Zinc	0.005 mg/L	0.076	0.071	7.1
EG035F: Dissolved Mercury by FIMS						
EG035F: Dissolved Mercury by FIMS - (QC Lot: 49642)						
ES0501610-007	Anonymous	Mercury	0.0001 mg/L	<0.0001	<0.0001	0.0
ES0501625-001	Anonymous	Mercury	0.0001 mg/L	<0.0001	<0.0001	0.0