

MESSAGE CONFIRMATION

09/12/2004 14:28

DATE	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	S.C.
09/12	00'31"	61249024899	TX	003	OK	0000

09/12/2004 14:27

NO. 747 0001

Sinclair Knight Merz
100 Christie Street
PO Box 164
St Leonards NSW
Australia 1590

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SKM

Facsimile

To	AMDEL	From	Louise MacDonald
Attention	Client Services - Cardiff	Project No	EN01810.34
Fax No	02 4902 4899	Date	9 December 2004
CC			
Pages	3 (including this page)		
Subject	4E2321		
	Analytical Schedule		

I have just received the sample receipt acknowledgment for the aforementioned batch. Please note that the following analysis was also requested, this was noted on the COC as specified TPH:

- HRAF for health based guidelines (Speciated TPH) ~ Method Code E1224.

This is required on all samples excluding the two on hold.

Should you have any questions, please do not hesitate to contact me.

Yours sincerely

Louise MacDonald

Louise MacDonald
Senior Environmental Scientist
Phone: 02 9928 2237
Fax: 02 9928 2272
E-mail: lmacdonald@skm.com.au

SINCLAIR KNIGHT MERZ ABN 37 001 024 095

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Appendix E Laboratory Test Certificates



ALS Environmental

CERTIFICATE OF ANALYSIS

Client	: SINCLAIR KNIGHT MERZ	Laboratory	: ALS Environmental Sydney	Page	: 1 of 18
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	: ES0501569
Project	: ENO1669	Quote number	: SY/221/04	Date received	: 2 Mar 2005
Order number	: - Not provided -			Date issued	: 11 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	: 7
Facsimile	: (02) 9928-2272	Facsimile	: 61-2-87848500	Analysed	: 7

This final report for the ALSE work order reference ES0501569 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:

- Analytical results for samples submitted
- Surrogate control limits

Work order specific comments

LOR raised for some samples for Cr due to matrix interference

ALSE - QUALITY, SERVICE and TECHNOLOGY provided GLOBALLY



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.

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



Client : SINCLAIR KNIGHT MERZ
Project : ENO1669

Work Order : ES0501569
ALS Quote Reference : SY/221/04

Page Number : 2 of 18
Issue Date : 11 Mar 2005

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 extractions/digestion dilution and/or insufficient sample amount for analysis. Surrogate Recovery Limits are static and based on USEPA SW846 or ALS-QW/EN38 (in the absence of specified USEPA limits).
Abbreviations: CAS number = Chemical Abstract Services number, LOR = Limit of Reporting. # Indicates failed Surrogate Recoveries.
When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes.

Analytical Results

Analytical Results									
Client Sample ID :				Sample Matrix Type / Description :		Sample Date / Time :			
Laboratory Sample ID :									
Analyte	CAS number	LOR	Units	MW06S WATER / WATER 1 Mar 2005 0:00 ES0501569-001	MW06D WATER / WATER 1 Mar 2005 0:00 ES0501569-002	MW20S WATER / WATER 1 Mar 2005 0:00 ES0501569-003	MW07D WATER / WATER 1 Mar 2005 0:00 ES0501569-004	MW18D WATER / WATER 1 Mar 2005 0:00 ES0501569-005	
EA065: Total Hardness as CaCO3									
Total Hardness as CaCO3									
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L	43	7	109	2	8	
Magnesium	7439-95-4	1	mg/L	8	20	8	15	41	
EG020F: Dissolved Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L	<0.001	0.001	0.013	0.003	0.004	
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.0015	<0.0001	0.0001	0.0002	
Chromium	7440-47-3	0.001	mg/L	<0.001	0.002	# <0.005	0.005	# <0.005	
Copper	7440-50-8	0.001	mg/L	0.001	0.006	0.001	0.002	0.001	
Lead	7439-92-1	0.001	mg/L	<0.001	0.007	0.005	<0.001	<0.001	
Nickel	7440-02-0	0.001	mg/L	0.001	0.012	0.002	0.002	0.012	
Zinc	7440-66-6	0.005	mg/L	0.029	0.072	0.020	0.030	0.100	
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
EG050F: Hexavalent Chromium - Filtered									
Hexavalent Chromium	18540-29-9	0.010	mg/L	<0.010	<0.010	<0.010	0.038	<0.010	
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.010	mg/L	2.55	0.067	0.219	0.181	0.549	
EK059G: NOx as N by Discrete Analyser									
Nitrite + Nitrate as N		0.010	mg/L	0.382	0.059	<0.010	0.032	0.021	
EK061: Total Kjeldahl Nitrogen (TKN)									
Total Kjeldahl Nitrogen as N		0.1	mg/L	5.5	0.1	6.5	1.2	2.5	
EK062: Total Nitrogen as N (TKN + NOx)									
Total Nitrogen as N		0.1	mg/L	5.9	0.2	6.5	1.3	2.6	
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon		1	mg/L	28	16	66	20	14	
EP026: Chemical Oxygen Demand (COD)									
Chemical Oxygen Demand		5	mg/L	126	26	260	68	19	
EP030: Biochemical Oxygen Demand (BOD)									
Biochemical Oxygen Demand		2	mg/L	2	<2	<2	3	<2	
EP074A: Monocyclic Aromatic Hydrocarbons									
Benzene	71-43-2	5	µg/L	<5	16	<5	6370	17	



Client : SINCLAIR KNIGHT MERZ
Project : ENO1669

Work Order : ES0501569
ALS Quote Reference : SY/221/04

Page Number : 3 of 18
Issue Date : 11 Mar 2005

ALS Environmental

Analytical Results

Analytical Results													
Client Sample ID :				MW06S		MW06D		MW20S		MW07D		MW18D	
Sample Matrix Type / Description : Sample Date / Time :				WATER / WATER 1 Mar 2005 0:00		WATER / WATER 1 Mar 2005 0:00		WATER / WATER 1 Mar 2005 0:00		WATER / WATER 1 Mar 2005 0:00		WATER / WATER 1 Mar 2005 0:00	
Laboratory Sample ID :				ES0501569-001		ES0501569-002		ES0501569-003		ES0501569-004		ES0501569-005	
Analyte	CAS number	LOR	Units										
EP074A: Monocyclic Aromatic Hydrocarbons													
Toluene	108-88-3	5	µg/L	<5	<5	<5	<5	<5	<5	50	<5	<5	
Ethylbenzene	100-41-4	5	µg/L	<5	<5	<5	<5	<5	<5	201	<5	<5	
meta- & para-Xylene	108-38-3 106-42-3	5	µg/L	<5	<5	<5	<5	<5	<5	66	<5	<5	
Styrene	100-42-5	5	µg/L	<5	<5	<5	<5	<5	<5	24	<5	<5	
ortho-Xylene	95-47-6	5	µg/L	<5	<5	<5	<5	<5	<5	157	<5	<5	
Isopropylbenzene	98-82-8	5	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	
n-Propylbenzene	103-65-1	5	µg/L	<5	<5	<5	<5	<5	<5	27	<5	<5	
1,3,5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	
sec-Butylbenzene	135-98-8	5	µg/L	<5	<5	<5	<5	<5	<5	90	<5	<5	
1,2,4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	
tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	
p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	
n-Butylbenzene	104-51-8	5	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	
EP074B: Oxygenated Compounds													
Vinyl Acetate	108-05-4	50	µg/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	
2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	
4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	
2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	
EP074C: Sulfonated Compounds													
Carbon disulfide	75-15-0	5	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	
EP074D: Fumigants													
2,2-Dichloropropane	594-20-7	5	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,2-Dichloropropane	78-87-5	5	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	
cis-1,3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	
trans-1,3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	
1,2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	
EP074E: Halogenated Aliphatic Compounds													
Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Chloromethane	74-87-3	50	µg/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Vinyl chloride	75-01-4	50	µg/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Bromomethane	74-83-9	50	µg/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Chloroethane	75-00-3	50	µg/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	
Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	
1,1-Dichloroethene	75-35-4	5	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Iodomethane	74-88-4	5	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	
trans-1,2-Dichloroethene	156-60-5	5	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	