AP-65

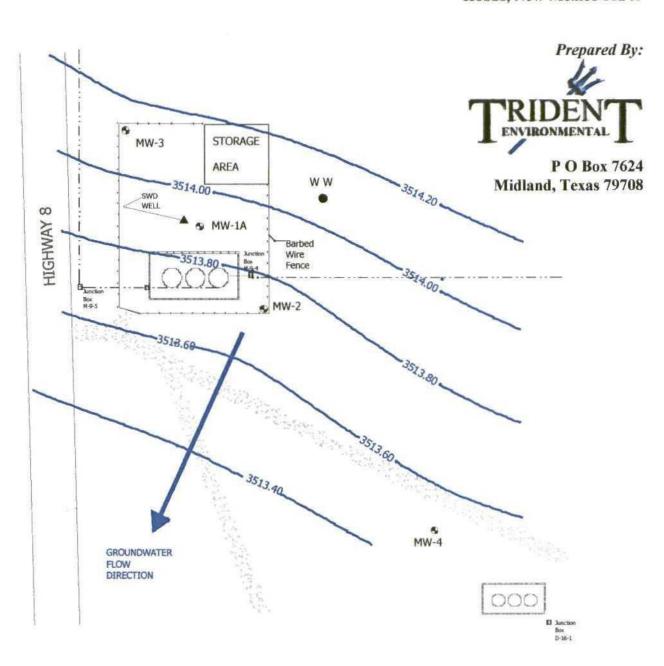
# ANNUAL MONITORING REPORT

YEAR(S):

#### 2004 Annual Groundwater Monitoring Report EME M-9 SWD Site T20S, R37E, Section 9, Unit Letter M Lea County, New Mexico

MARCH 23, 2005

Prepared For:
RICE Operating Company
122 West Taylor
Hobbs, New Mexico 88240





CERTIFIED MAIL
RETURN RECIEPT NO. 7099 3400 0017 1737 2497

March 23, 2005

Mr. Wayne Price New Mexico Energy, Minerals, & Natural Resources Dept. Oil Conservation Division, Environmental Bureau 1220 S. St. Francis Drive Santa Fe, New Mexico 87505

RE: 2004 ANNUAL MONITORING WELL REPORT

**EME M-9 SWD SITE** 

T20S-R37E-Section 9, Unit Letter M

NMOCD CASE # 1R0331

Mr. Price:

Trident Environmental takes this opportunity to submit the 2004 Annual Monitoring Well Report for the <u>EME M-9 SWD site</u> located in the Eunice Monument Eumont (EME) Salt Water Disposal (SWD) System. The four monitoring wells and one water well are sampled quarterly pursuant to NMOCD guidelines. Trident Environmental will continue the sampling of these wells in 2005 and Environmental Lab of Texas of Odessa will continue to conduct laboratory analysis of the water samples.

Trident Environmental will submit an Investigation and Characterization Plan by March 31, 2005.

ROC is the service provider (operator) for the EME Salt Water Disposal System and has no ownership of any portion of pipeline, well, or facility. The EME SWD System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis.

Thank you for your consideration concerning this annual summary of groundwater monitoring information. If you have any questions, do not hesitate to contact me at (423) 638-3106 or Kristin Farris Pope at (505) 393-9174.

Sincerely,

Gilbert J. Van Deventer, REM, PG, NMCS

Trident Environmental - Project Manager

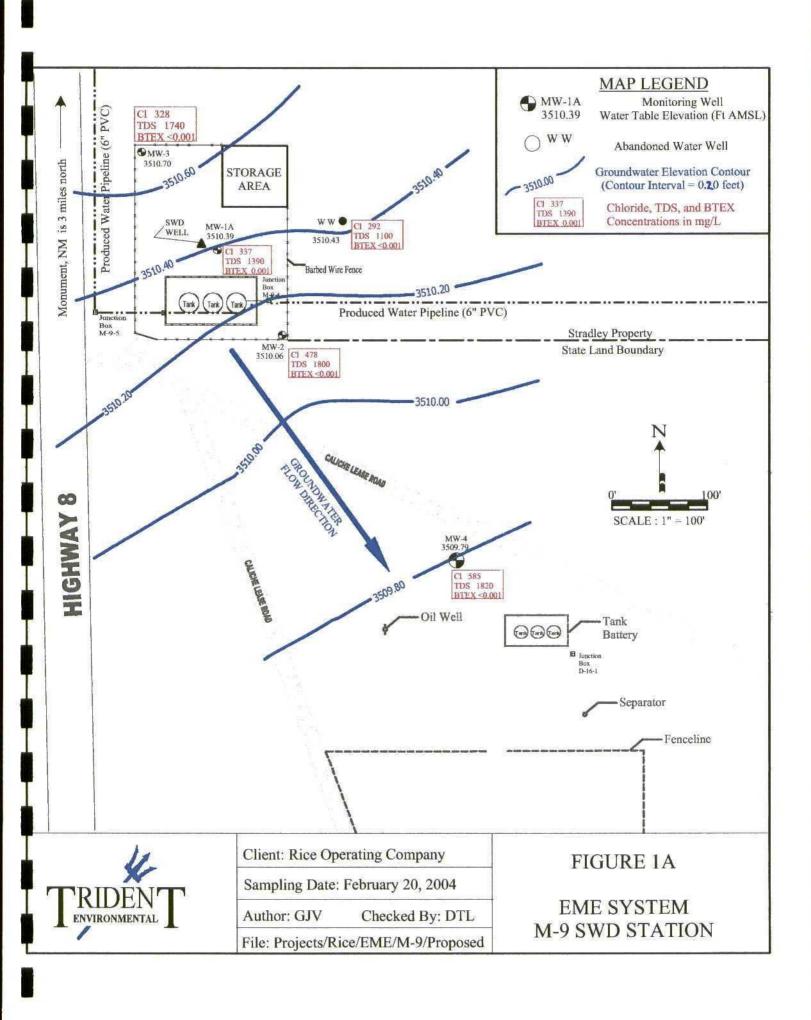
enclosures:

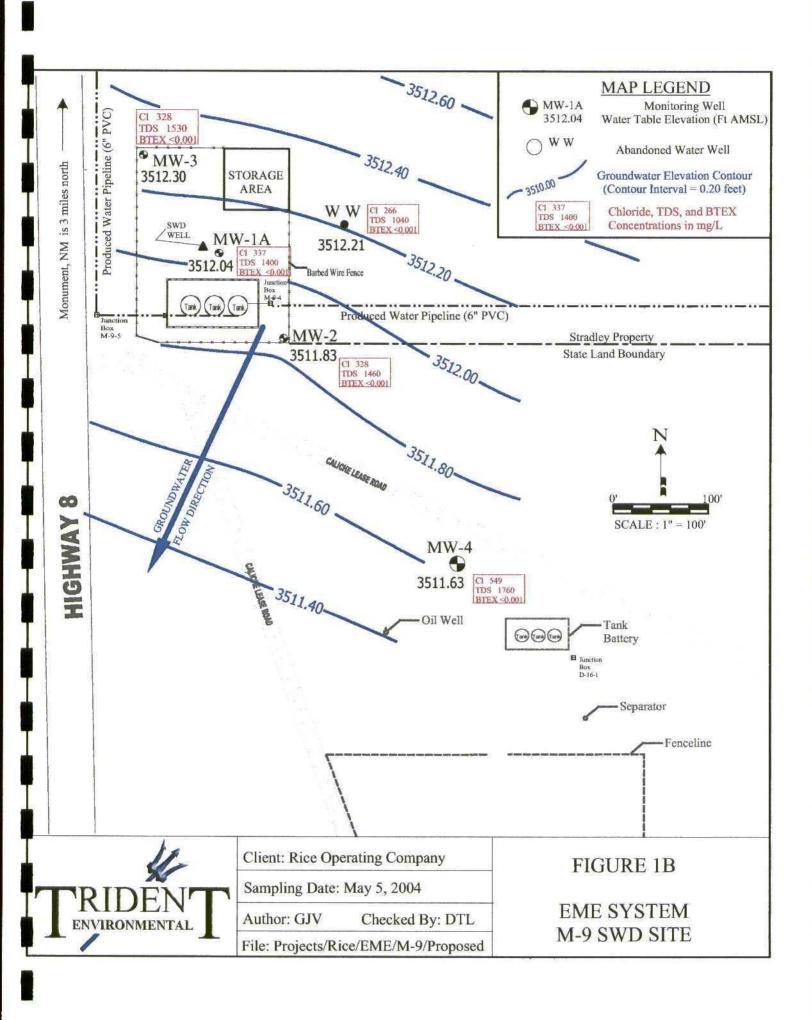
Summary table & graph, analytical results, map

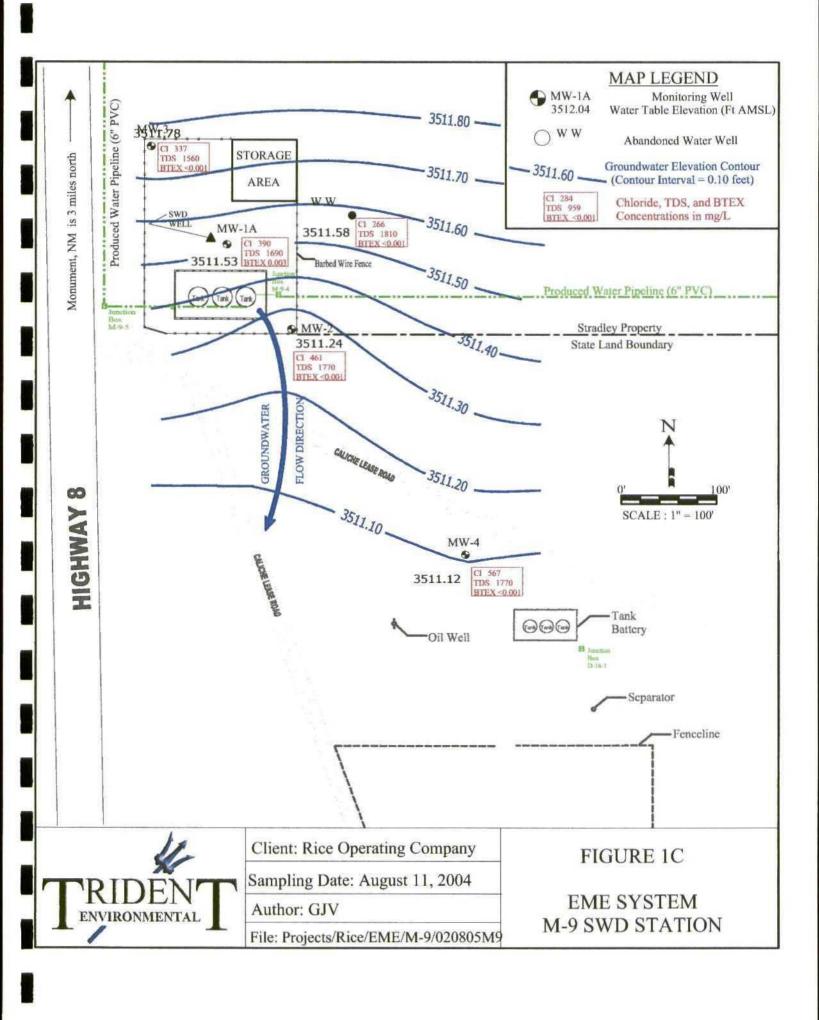
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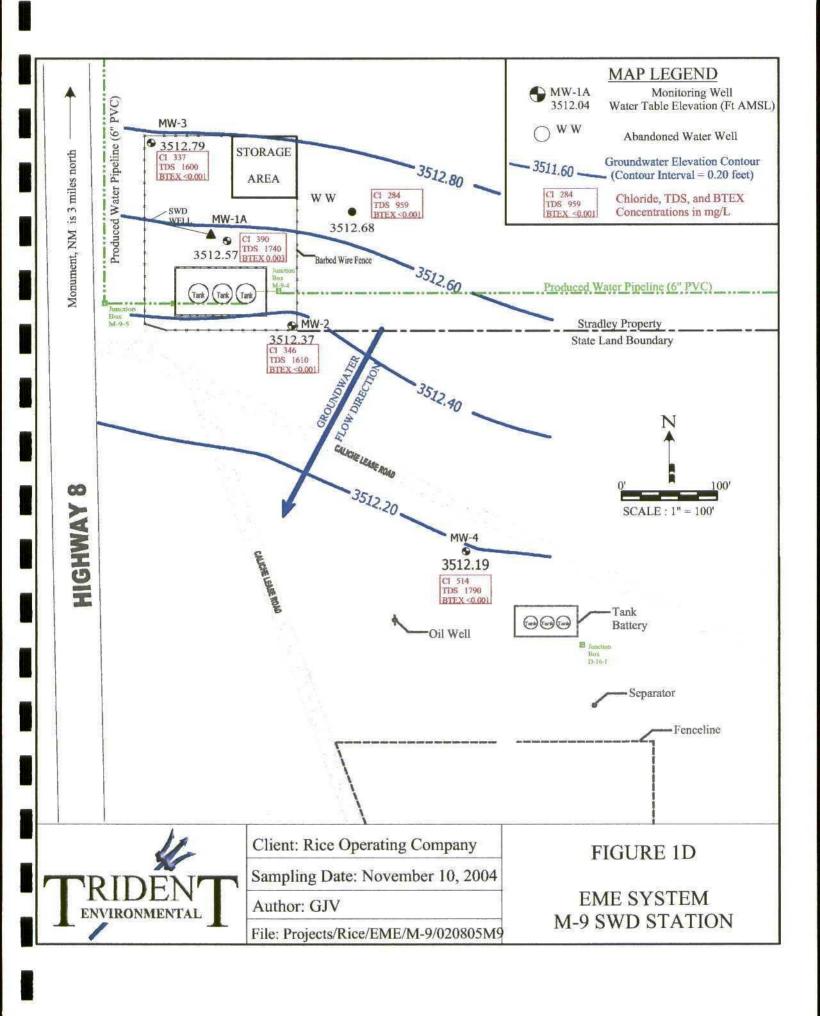
Chris Williams - NMOCD, District I Office (Hobbs)

**MAPS** 









**TABLES AND GRAPHS** 

Table 1 **Summary of Groundwater Sampling Results** EME M-9 SWD Site

				LEAT.	1E M-9 S	V D Site			
Monitoring Well	Sample Date	Chloride (mg/L)	TDS (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylene (mg/L)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet AMSL)
	04/08/02	348	1512	< 0.002	< 0.002	< 0.002	< 0.006		
MW-I	05/13/02	354	1540	< 0.002	< 0.002	< 0.002	< 0.000	21.02	
101 10 -1	08/20/02	376	1517	< 0.001	< 0.001	< 0.001	< 0.001	22.45	
	10/28/02	372	1470	< 0.002	< 0.002	< 0.002	< 0.000	19.10	3510.70
	02/28/03	372	1500	0.002	0.002	0.002	0.003	18.48	3511.32
	05/16/03	390	1470	0.001	< 0.002	< 0.001	0.003	19.00	3510.80
	08/22/03	372	1470	0.002	< 0.001	< 0.001	< 0.001	19.38	3510.42
MW-1A	10/30/03	346	1530	< 0.001	< 0.001	< 0.001	< 0.001	19.57	3510.23
]	02/20/04	337	1390	0.001	< 0.001	< 0.001	< 0.001	19.41	3510.39
	05/05/04	337	1400	0.001	< 0.001	< 0.001	< 0.001	17.76	3512.04
	08/11/04	390	1690	0.003	< 0.001	< 0.001	< 0.001	18.27	3511.53
	11/10/04	390	1740	0.003	< 0.001	< 0.001	< 0.001	17.23	3512.57
	08/22/03	603	2060	< 0.001	< 0.001	< 0.001	< 0.001	21.45	3510.05
	10/30/03	709	2300	< 0.001	< 0.001	< 0.001	< 0.001	21.61	3509.89
	02/20/04	478	1800	< 0.001	< 0.001	< 0.001	< 0.001	21.44	3510.06
MW-2	05/05/04	328	1460	< 0.001	< 0.001	< 0.001	< 0.001	19.67	3511.83
	08/11/04	461	1770	< 0.001	< 0.001	< 0.001	< 0.001	20.26	3511.24
	11/10/04	346	1610	< 0.001	< 0.001	< 0.001	< 0.001	19.13	3512.37
	08/22/03	319	1590	< 0.001	< 0.001	< 0.001	< 0.001	21.68	3510.72
	10/30/03	328	1740	< 0.001	< 0.001	< 0.001	< 0.001	21.86	3510.54
MW-3	02/20/04	337	1550	< 0.001	< 0.001	< 0.001	< 0.001	21.70	3510.70
MW-3	05/05/04	328	1530	< 0.001	< 0.001	< 0.001	< 0.001	20.10	3512.30
	08/11/04	337	1560	< 0.001	< 0.001	< 0.001	< 0.001	20.62	3511.78
L	11/10/04	337	1600	< 0.001	< 0.001	< 0.001	< 0.001	19.61	3512.79
	02/20/04	585	1820	< 0.001	< 0.001	< 0.001	< 0.001	22.61	3509.79
MW-4	05/05/04	549	1760	< 0.001	< 0.001	< 0.001	< 0.001	20.77	3511.63
101 00 -4	08/11/04	567	1770	< 0.001	< 0.001	< 0.001	< 0.001	21.28	3511.12
	11/10/04	514	1790	< 0.001	< 0.001	< 0.001	< 0.001	20.21	3512.19
	08/22/03							21.09	3509.41
	10/30/03	284	1150	< 0.001	< 0.001	< 0.001	0.002	20.25	3510.25
ww	02/20/04	292	1100	< 0.001	< 0.001	< 0.001	0.002	20.07	3510.43
** **	05/14/04	266	1040	< 0.001	< 0.001	< 0.001	< 0.001	18.29	3512.21
	08/11/04	266	1810	< 0.001	< 0.001	< 0.001	< 0.001	18.92	3511.58
	11/10/04	284	959	< 0.001	< 0.001	< 0.001	< 0.001	17.82	3512.68
WQCC Stand	ards	250	1000	0.01	0.75	0.75	0.62		

WQCC Standards | 250 | 1000 | 0.01 | 0.75 | 0.75 | 0.62

Total Dissolved Soilds (TDS), chloride, and BTEX concentrations listed in milligrams per liter (mg/L)

Analyses performed by Cardinal Labs, Hobbs, NM (1995-1998) and Environmental Lab of Texas, Odessa, TX (1999-2003).

Values in boldface type indicate concentrations exceed New Mexico Water Quality Commission (WQCC) standards. AMSL - Above Mean Sea Level; BTOC - Below Top of Casing

Groundwater flow direction is to the southeast with a gradient of approx. 0.003 ft/ft.

Elevations and state plane coordinates surveyed by Basin Surveys, Hobbs, NM.

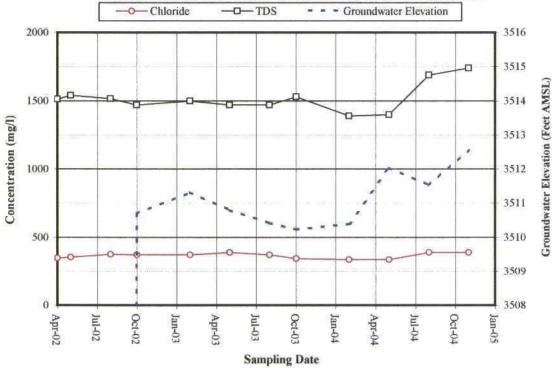


Figure 3
Chloride, TDS, and Groundwater Elevation Values Versus Time (MW-2)

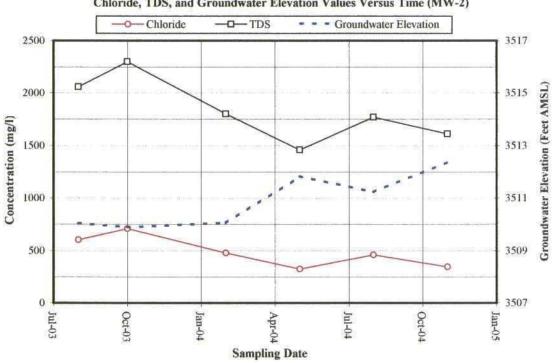


Figure 4
Chloride, TDS, and Groundwater Elevation Values Versus Time (MW-3)

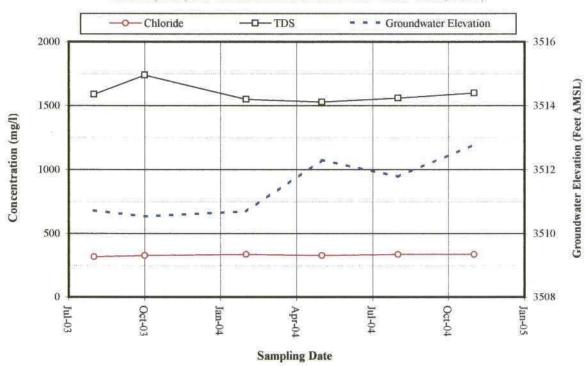
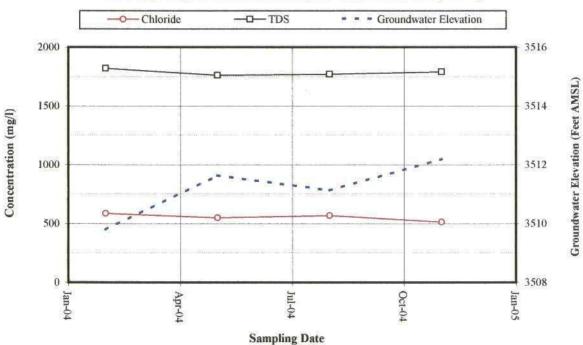


Figure 5
Chloride, TDS, and Groundwater Elevation Values Versus Time (MW-4)



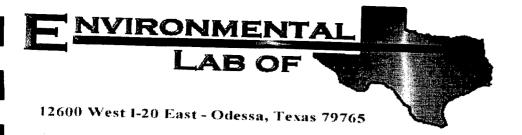
Chloride, TDS, and Groundwater Elevation Values Versus Time (WW) -O-Chloride ——TDS = = Groundwater Elevation 2000 3516 Groundwater Elevation (Feet AMSL) 1500 3514 Concentration (mg/l) 1000 3512 500 3510 0 3508 Oct-03 Apr-04 Jul-03 Jan-04 Jul-04 Oct-04 Jan-05 Sampling Date

Figure 6

#### LABORATORY REPORTS

#### **AND**

**CHAIN OF CUSTODY DOCUMENTATION** 



# Analytical Report

#### Prepared for:

Gilbert Vandeventer
Trident Environmental
P.O. Box 7624
Midland, TX 79708

Project: Rice Operating Company
Project Number: V-117
Location: EME M-9 SWD

Lab Order Number: 4B20014

Report Date: 02/26/04

Project: Rice Operating Company

Project Number: V-117

Project Manager: Gilbert Vandeventer

Fax: 682-0727

Reported: 02/26/04 11:27

#### ANALYTICAL REPORT FOR SAMPLES

Sample 1D	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	4B20014-01	Water	02/20/04 13:40	02/20/04 17:55
MW-2	4B20014-02	Water	02/20/04 14:40	02/20/04 17:55
MW-3	4B20014-03	Water	02/20/04 14:10	02/20/04 17:55
MW-4	4B20014-04	Water	02/20/04 13:00	02/20/04 17:55
WW	4B20014-05	Water	02/20/04 12:30	02/20/04 17:55

Project: Rice Operating Company

Project Number: V-117

Project Manager: Gilbert Vandeventer

Fax: 682-0727

Reported: 02/26/04 11:27

#### Organics by GC Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-1 (4B20014-01)		<del></del>				<del></del>			
Benzene	J [0.000778]	0.00100	mg/L	1	EB42507	02/24/04	02/24/04	EPA 8021B	
Toluene	ND	0.00100	u	ч	"	11	"	**	
Ethylbenzene	ND	0.00100	"	11	11	**	u	H	
Xylene (p/m)	ND	0.00100	n	11	**	tt.	"	II .	
Xylene (o)	ND	0.00100	IT	n	**	"	"	#	
Surrogate: a,a,a-Trifluorotoluene		114%	80-1	20		"			
Surrogate: 4-Bromofluorobenzene		104 %	80-1	20	"	"	"	"	
MW-2 (4B20014-02)									
Benzene	ND	0.00100	mg/L	1	EB42507	02/24/04	02/24/04	EPA 8021B	
Toluene	ND	0.00100	"	11	U	"	II .	"	
Ethylbenzene	ND	0.00100	tt.	H	11	**	"	**	
Xylene (p/m)	ND	0.00100	n	11	11	**	"	п	
Xylene (o)	ND	0.00100	"	n	"	Ħ	"	н	
Surrogate: a,a,a-Trifluorotoluene		114%	80-1	20	,,	, , , , , , , , , , , , , , , , , , ,	"	"	
Surrogate: 4-Bromofluorobenzene		93.0 %	80-1	20	"	"	"	"	
MW-3 (4B20014-03)									
Benzene	ND	0.00100	mg/L	1	EB42507	02/24/04	02/24/04	EPA 8021B	
Toluene	ND	0.00100	H	*1	ii.	Ħ	"	"	
Ethylbenzene	ND	0.00100	н	n	n	•	"	n	
Xylene (p/m)	ND	0.00100	n	11	11	n	ч	11	
Xylene (o)	ND	0.00100	"	11	11	"	н	et .	
Surrogate: a,a,a-Trifluorotoluene		120 %	80-1	20	"	"		"	
Surrogate: 4-Bromofluorobenzene		93.0 %	80-1	20	11	**	"	и	
MW-4 (4B20014-04)									
Benzene	ND	0.00100	mg/L	1	EB42507	02/24/04	02/24/04	EPA 8021B	
Toluene	ND	0.00100	11	#1	"	pt	н	п	
Ethylbenzene	ND	0.00100	"	Ħ	"	**	II.		
Xylene (p/m)	ND	0.00100	"	H	"	"	11	**	
Xylene (o)	ND	0.00100	"	11	н	11	tt	e	
Surrogate: a,a,a-Trifluorotoluene		116%	80-1		"	,,		. "	
Surrogate: 4-Bromofluorobenzene		80.5 %	80-1	20	"	"	"	"	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Quality Assurance Review

Project: Rice Operating Company

Project Number: V-117

Project Manager: Gilbert Vandeventer

Fax: 682-0727

Reported: 02/26/04 11:27

#### Organics by GC Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
WW (4B20014-05)					<del></del>				
Benzene	ND	0.00100	mg/L	ı	EB42507	02/24/04	02/24/04	EPA 8021B	
Toluene	ND	0.00100	tt	11	n	W	**	**	
Ethylbenzene	ND	0.00100	n	11	n	**	11		
Xylene (p/m)	ND	0.00100	н	11	Ħ	n	**	ıı	
Xylene (o)	ND	0.00100	**	"	"	0	"	11	
Surrogate: a,a,a-Trifluorotoluene		116%	80-	120	"	"			
Surrogate: 4-Bromofluorobenzene		95.5 %	80-	120	"	11	n	"	

Environmental Lab of Texas

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Quality Assurance Review

Project: Rice Operating Company

Project Number: V-117

Project Manager: Gilbert Vandeventer

Fax: 682-0727
Reported:

02/26/04 13:04

General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	No
MW-1 (4B20014-01)		<del></del>							
Carbonate Alkalinity	ND	0.100	mg/L	1	EB42104	02/20/04	02/20/04	EPA 310.2M	
Bicarbonate Alkalinity	277	2.00	"	"	**	"	11	II.	
Hydroxide Alkalinity	ND	0.100	"	11	"	n	**	n	
Chloride	337	5.00	"	"	EB42102	02/21/04	02/21/04	EPA 325.3	
Nitrate as N	ND	0.100	0	11	EB42309	02/21/04	02/23/04	EPA 353.3	
Total Dissolved Solids	1390	5.00	11	**	EB42404	02/24/04	02/24/04	EPA 160.1	
Sulfate	468	6.25	n	12.5	EB42103	02/21/04	02/21/04	EPA 375.4	
MW-2 (4B20014-02)									
Carbonate Alkalinity	ND	0.100	mg/L	1	EB42104	02/20/04	02/20/04	EPA 310.2M	
Bicarbonate Alkalinity	338	2.00	н	"	"	11	tı	*1	
Hydroxide Alkalinity	ND	0.100	Ħ	и	H	18	"	н	
Chloride	478	5.00	"	**	EB42102	02/21/04	02/21/04	EPA 325.3	
Nitrate as N	ND	0.100	H	"	EB42309	02/21/04	02/23/04	EPA 353.3	
Total Dissolved Solids	1800	5.00	"	11	EB42404	02/24/04	02/24/04	EPA 160.1	
Sulfate	514	6.25	"	12.5	EB42103	02/21/04	02/21/04	EPA 375.4	
MW-3 (4B20014-03)									
Carbonate Alkalinity	ND	0.100	mg/L	1	EB42104	02/20/04	02/20/04	EPA 310.2M	
Bicarbonate Alkalinity	242	2.00	н	11	*1	IT	"	н	
Hydroxide Alkalinity	ND	0.100	*1	"	19	11	H	"	
Chloride	337	5.00	u	u	EB42102	02/21/04	02/21/04	EPA 325.3	
Nitrate as N	ND	0.100	"	"	EB42309	02/21/04	02/23/04	EPA 353.3	
Total Dissolved Solids	1550	5.00	*1	"	EB42404	02/24/04	02/24/04	EPA 160.1	
Sulfate	591	6.25	**	12.5	EB42103	02/21/04	02/21/04	EPA 375.4	
MW-4 (4B20014-04)									
Carbonate Alkalinity	ND	0.100	mg/L	1	EB42104	02/20/04	02/20/04	EPA 310.2M	
Bicarbonate Alkalinity	256	2.00	n	**	n	"	11	II.	
Hydroxide Alkalinity	ND	0.100	"	н	11	"	*1	et.	
Chloride	585	5.00	**	11	EB42102	02/21/04	02/21/04	EPA 325.3	
Nitrate as N	ND	0.100	11	n	EB42309	02/21/04	02/23/04	EPA 353.3	
Total Dissolved Solids	1820	5.00	17	11	EB42404	02/24/04	02/24/04	EPA 160.1	
Sulfate	505	6.25	**	12.5	EB42103	02/21/04	02/21/04	EPA 375.4	

Environmental Lab of Texas

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Quality Assurance Review

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Project: Rice Operating Company

Project Number: V-117

Project Manager: Gilbert Vandeventer

Fax: 682-0727

Reported: 02/26/04 11:27

#### General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
WW (4B20014-05)									
Carbonate Alkalinity	4.00	0.100	mg/L	1	EB42104	02/20/04	02/20/04	EPA 310.2M	
Bicarbonate Alkalinity	264	2.00	11	*	tt	"	"	H	
Hydroxide Alkalinity	ND	0.100	11	**	"	H	"	H.	
Chloride	292	5.00	n	U	EB42102	02/21/04	02/21/04	EPA 325.3	
Nitrate as N	ND	0.100	u	**	EB42309	02/21/04	02/23/04	EPA 353.3	
Total Dissolved Solids	1100	5.00	11	"	EB42404	02/24/04	02/24/04	EPA 160.1	
Sulfate	668	6.25	н	12.5	EB42103	02/21/04	02/21/04	EPA 375.4	

Environmental Lab of Texas

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Quality Assurance Review

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Project: Rice Operating Company

Project Number: V-117

Project Manager: Gilbert Vandeventer

Fax: 682-0727 Reported:

02/26/04 11:27

#### Total Metals by EPA / Standard Methods **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-1 (4B20014-01)			<del></del>	<del></del>					
Calcium	137	1.00	mg/L	100	EB42311	02/23/04	02/23/04	EPA 6010B	
Magnesium	51.7	0.0100	u u	10	Ħ	11	02/23/04	"	
Potassium	26.3	0.500	H	**	#	#	"	"	
Sodium	390	1.00	u	100	н	Ħ	02/23/04	18	
MW-2 (4B20014-02)									
Calcium	178	1.00	mg/L	100	EB42311	02/23/04	02/23/04	EPA 6010B	
Magnesium	65.9	0.0100	0	10	#	H	02/23/04	H	
Potassium	39.0	0.500	II .	11	H	n	lr .	11	
Sədium	538	1.00	U	100	19	n	02/23/04	IF	
MW-3 (4B20014-03)									
Calcium	169	1.00	mg/L	100	EB42311	02/23/04	02/23/04	EPA 6010B	
Magnesium	57.9	0.0100	11	10	**	n	02/23/04	n	
Potassium	26.6	0.500	**	**	n	11	11	11	
Sodium	451	1.00	11	100	**	n	02/23/04	w	
MW-4 (4B20014-04)									
Calcium	182	1.00	mg/L	100	EB42311	02/23/04	02/23/04	EPA 6010B	
Magnesium	70.2	0.0100		10	"	"	02/23/04	n	
Potassium	31.7	0.500	**	11	"	**	11	11	
Sodium	611	1.00	11	100	**	11	02/23/04	n	
WW (4B20014-05)									
Calcium	135	1.00	mg/L	100	EB42311	02/23/04	02/23/04	EPA 6010B	
Magnesium	48.9	0.0100	11	10	"	n	02/23/04	"	
Potassium	27.2	0.500	19	11	n	11	It	**	
Sodium	427	1.00	11	100	н	11	02/23/04	H .	

Environmental Lab of Texas

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Quality Assurance Review

Page 6 of 12

Project: Rice Operating Company

Project Number: V-117

Project Manager: Gilbert Vandeventer

Fax: 682-0727

Reported: 02/26/04 11:27

#### Organics by GC - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB42507 - EPA 5030C (GC)										
Blank (EB42507-BLK1)				Prepared	& Analyze	ed: 02/24/	04			
Benzene	ND	0.00100	mg/L		<del></del>					
Coluene	ND	0.00100	11							
Ethylbenzene	ND	0.00100	н							
(ylene (p/m)	ND	0.00100	n							
(ylene (o)	ND	0.00100	4							
Surrogate: a,a,a-Trifluorotoluene	23.3		ug/l	20.0		116	80-120			
Surrogate: 4-Bromofluorobenzene	23.9		"	20.0		120	80-120			
LCS (EB42507-BS1)				Prepared a	& Analyze	ed: 02/24/0	04			
Benzene	87.3		ug/l	100		87.3	80-120			
Toluene	90.1		n	100		90.1	80-120			
Ethylbenzene	94.1		"	100		94.1	80-120			
Kylene (p/m)	203		n	200		102	80-120			
Kylene (o)	97.8		tŧ	100		97.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	19.8		<del></del>	20.0		99.0	80-120			
Surrogate: 4-Bromofluorobenzene	22.9		"	20.0		114	80-120			
Calibration Check (EB42507-CCV1)				Prepared:	02/24/04	Analyzed	: 02/25/04			
Benzene	92.7		ug/l	100		92.7	80-120			
Toluene	94.7		"	100		94.7	80-120			
Ethylbenzene	94.2		"	100		94.2	80-120			
Kylene (p/m)	194		ŧi	200		97.0	80-120			
Kylene (o)	98.5		B	100		98.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	19.1		<i>n</i>	20.0		95.5	80-120			
Surrogate: 4-Bromofluorobenzene	20.1		"	20.0		100	80-120			
Duplicate (EB42507-DUP1)	So	urce: 4B2000	7-09	Prepared:	02/24/04	Analyzed	: 02/25/04			
Benzene	ND	0.00100	mg/L		ND				20	
Foluene Folia Foli	ND	0.00100	II.		ND				20	
Ethylbenzene	ND	0.00100	и		ND				20	
Xylene (p/m)	ND	0.00100	**		ND				20	
Xylene (o)	ND	0.00100	"		ND				20	
Surrogate: a,a,a-Trifluorotoluene	16.9	<del> </del>	ug/l	20.0		84.5	80-120			
Surrogate: 4-Bromofluorobenzene	19.7		"	20.0		98.5	80-120			

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Quality Assurance Review

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Project: Rice Operating Company

Project Number: V-117

Project Manager: Gilbert Vandeventer

Fax: 682-0727

Reported: 02/26/04 11:27

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB42102 - General Preparation	n (WetChen	1)								
Blank (EB42102-BLK1)				Prepared	& Analyze	ed: 02/21/	04			
Chloride	ND	5.00	mg/L							
Blank (EB42102-BLK2)				Prepared	& Analyze	ed: 02/21/	04			
Chloride	ND	5.00	mg/L		****					
Calibration Check (EB42102-CCV1)				Prepared	& Analyze	ed: 02/21/	04			
Chloride	4960		mg/L	5000		99.2	80-120			
Calibration Check (EB42102-CCV2)				Prepared	& Analyze	ed: 02/21/	04			
Chloride	4960		mg/L	5000		99.2	80-120			
Matrix Spike (EB42102-MS1)	So	urce: 4B1801	5-01	Prepared	& Analyze	ed: 02/21/	04			
Chloride	134	5.00	mg/L	100	35.4	98.6	80-120			
Matrix Spike (EB42102-MS2)	So	urce: 4B2001	4-01	Prepared	& Analyze	ed: 02/21/	04			
Chloride	833	5.00	mg/L	500	337	99.2	80-120			
Matrix Spike Dup (EB42102-MSD1)	So	urce: 4B1801	15-01	Prepared	& Analyze	ed: 02/21/0	04			
Chloride	133	5.00	mg/L	100	35.4	97.6	80-120	0.749	20	
Matrix Spike Dup (EB42102-MSD2)	So	urce: 4B2001	14-01	Prepared	& Analyze	ed: 02/21/0	04			
Chloride	842	5.00	mg/L	500	337	101	80-120	1.07	20	
Batch EB42103 - General Preparation	n (WetChen	1)								
Blank (EB42103-BLK1)				Prepared	& Analyze	ed: 02/21/0	04			
Sulfate	ND	0.500	mg/L							

Environmental Lab of Texas

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Quality Assurance Review

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Project: Rice Operating Company Project Number: V-117

Project Manager: Gilbert Vandeventer

Fax: 682-0727

Reported: 02/26/04 11:27

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB42103 - General Preparation	n (WetChem	1)				<del></del>	<del></del>			<del></del>
Blank (EB42103-BLK2)				Prepared	& Analyze	ed: 02/21/	04			
Sulfate	ND	0.500	mg/L							
Calibration Check (EB42103-CCV1)				Prepared	& Analyze	ed: 02/21/	04			
Sulfate	49.2		mg/L	50.0		98.4	80-120			
Calibration Check (EB42103-CCV2)				Prepared	& Analyze	ed: 02/21/0	04			
Sulfate	48.5		mg/L	50.0		97.0	80-120			
Duplicate (EB42103-DUP1)	Sou	urce: 4B1801	5-01	Prepared	& Analyze	ed: 02/21/0	04			
Sulfate	195	0.500	mg/L		195			0.00	20	
Duplicate (EB42103-DUP2)	So	urce: 4B2001	4-01	Prepared	& Analyze	ed: 02/21/0	04			
Sulfate	476	0.500	mg/L		468			1.69	20	
Batch EB42104 - General Preparation	n (WetChen	1)								
Blank (EB42104-BLK1)				Prepared	& Analyze	d: 02/20/0	04			
Carbonate Alkalinity	ND	0.100	mg/L			***************************************				
Bicarbonate Alkalinity	ND	2.00	н							
Hydroxide Alkalinity	ND	0.100	"							
Calibration Check (EB42104-CCV1)				Prepared a	& Analyze	ed: 02/20/0	04			
Carbonate Alkalinity	0.0496		mg/L	0.0500	· · · · · · · · · · · · · · · · · · ·	99.2	80-120			
Duplicate (EB42104-DUP1)	So	urce: 4B2000	1-01	Prepared a	& Analyze	ed: 02/20/0	04			
Carbonate Alkalinity	6.00	0.100	mg/L		6.00			0.00	20	
Bicarbonate Alkalinity	284	2.00	н		280			1.42	20	
Hydroxide Alkalinity	0.00	0.100	H		0.00				20	

Environmental Lab of Texas

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Quality Assurance Review

Project: Rice Operating Company

Project Number: V-117

Project Manager: Gilbert Vandeventer

Fax: 682-0727

Reported: 02/26/04 11:27

#### General Chemistry Parameters by EPA / Standard Methods - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB42309 - General Preparatio	n (WetChen	1)								
Blank (EB42309-BLK1)				Prepared:	02/21/04	Analyzed	l: 02/23/04			
Nitrate as N	ND	0.100	mg/L							
Calibration Check (EB42309-CCV1)				Prepared:	02/21/04	Analyzed	l: 02/23/04			
Nitrate as N	1.80		mg/L	2.00		90.0	80-120			
Duplicate (EB42309-DUP1)	So	urce: 4B1801	5-01	Prepared:	02/21/04	Analyzed	l: 02/23/04			
Nitrate as N	1.90	0.100	mg/L		1.80			5.41	20	
Batch EB42404 - General Preparatio	n (WetChen	1)								
Blank (EB42404-BLK1)				Prepared of	& Analyze	ed: 02/24/0	04	<del></del>		
Total Dissolved Solids	ND	5.00	mg/L							
D II ( (ED 48 40 4 DE 179 4)	So	urce: 4B2000	1.01	Prepared a	& Analyz	ed: 02/24/0	04			
Duplicate (EB42404-DUP1)	30	ui cc. 7D2000	1-01	i i opai ca .	~ 1 111 ai y 2.	· · · · · · · · · · · · · · · · · · ·				

Environmental Lab of Texas

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Quality Assurance Review

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Project: Rice Operating Company

Project Number: V-117

Project Manager: Gilbert Vandeventer

Fax: 682-0727

Reported: 02/26/04 11:27

#### Total Metals by EPA / Standard Methods - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB42311 - General Preparation	n (Metals)									
Blank (EB42311-BLK1)				Prepared of	& Analyze	ed: 02/23/0	04			
Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	19	•						
Potassium	ND	0.0500	11							
Sodium	ND	0.0100	"							
Calibration Check (EB42311-CCV1)				Prepared a	& Analyze	ed: 02/23/0	04			
Calcium	2.10		mg/L	2.00		105	85-115			
Magnesium	2.00		"	2.00		100	85-115			
Potassium	1.74		**	2.00		87.0	85-115			
Sodium	1.89		"	2.00		94.5	85-115			
Duplicate (EB42311-DUP1)	Sou	urce: 4B2000	1-01	Prepared a	& Analyze	:d: 02/23/0	<b>)4</b>			
Calcium	23.3	0.100	mg/L		23,5			0.855	20	
Magnesium	4.58	0.00100	#		4.60			0.436	20	
Potassium	16.3	0.500	11		15.8			3.12	20	
Sodium	451	1.00	16		450			0.222	20	

Environmental Lab of Texas

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Quality Assurance Review

Project: Rice Operating Company

Project Number: V-117

Project Manager: Gilbert Vandeventer

Fax: 682-0727

Reported: 02/26/04 11:27

#### **Notes and Definitions**

Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Environmental Lab of Texas

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Quality Assurance Review

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TRIDENT ENVIRONMENTAL

Trident Environmental P.O. Box 7624 Midland, Texas 79708 (915) 682-0808 (915) 682-0727 (Fax)

4820014

V-117-0104-1

# Chain of Custody

Date 02 - 20 - 0-1 Page

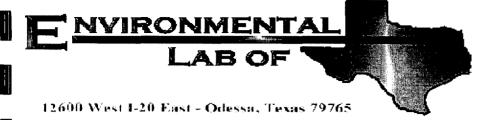
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(Time) (Date) (Date)	122 W. Taylor, Hobbs NM 88240		ure)	(Signature)	(Signature)
		(Date)	(Time)		

SAQH 7(1) . email pat ripul

(2) HOME WHE glass

# Environmental Lab of Texas Variance / Corrective Action Report – Sample Log-In

Client: Trident Env.	
Date/Time: 02-20-04@ 1800	
Order#: 4 B 20014	
Initials:	
Sample Receipt	t Checklist
Temperature of container/cooler?	Yes No -1.5 C
Shipping container/cooler in good condition?	Yes No
Custody Seals intact on shipping container/cooler?	Yes No Not present
Custody Seals intact on sample bottles?	Yes No Not present
Chain of custody present?	Yes No
Sample Instructions complete on Chain of Custody?	Yes No
Chain of Custody signed when relinquished and received?	Yes No
Chain of custody agrees with sample label(s)	Yes No
Container labels legible and intact?	(Yes) No
Sample Matrix and properties same as on chain of custody?	Yes No
Samples in proper container/bottle?	Yes No
Samples properly preserved?	Yes No
Sample bottles intact?	(Yes ) No
Preservations documented on Chain of Custody?	Yes No
Containers documented on Chain of Custody?	Yes No
Sufficient sample amount for indicated test?	Yes No
All samples received within sufficient hold time?	(FES) No
VOC samples have zero headspace?	(Yes) No Not Applicable
Other observations:	
Contact Person: Date/Time: Regarding:	mentation: Contacted by:
Corrective Action Taken:	
	~
•	



### **Analytical Report**

#### **Prepared for:**

Kristin Farris
Rice Operating Co.
122 W. Taylor
Hobbs, NM 88240

Project: EME System M-9 SWD Site
Project Number: None Given

Location: T20S, R37E, Sec 9, Unit Letter M

Lab Order Number: 4E07002

Report Date: 05/13/04

Rice Operating Co.

Project: EME System M-9 SWD Site

Fax: (505) 397-1471

122 W. Taylor Hobbs NM, 88240 Project Number: None Given Project Manager: Kristin Farris

**Reported:** 05/13/04 15:11

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	4E07002-01	Water	05/05/04 15:00	05/07/04 08:05
MW-2	4E07002-02	Water	05/05/04 13:07	05/07/04 08:05
MW-3	4E07002-03	Water	05/05/04 12:15	05/07/04 08:05
MW-4	4E07002-04	Water	05/05/04 12:40	05/07/04 08:05
ww	4E07002-05	Water	05/05/04 14:20	05/07/04 08:05

Rice Operating Co. 122 W. Taylor

Project: EME System M-9 SWD Site

Fax: (505) 397-1471

Reported: 05/13/04 15:11

Project Number: None Given Hobbs NM, 88240 Project Manager: Kristin Farris

#### Organics by GC **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (4E07002-01) Water				Dilution	Daten	. repared	Anatyzou	Wictiou	140103
Benzene	J [0.000356]	0.00100	mg/L	1	EE41103	05/07/04	05/07/04	EPA 8021B	
Toluene	ND	0.00100	mg/L	"	EE41103	11	03/07/04	"	
Ethylbenzene	ND ND	0.00100	**	n	11	n	"	R	
Xylene (p/m)	ND	0.00100	**	"	"	и	,,	**	
Xylene (o)	ND	0.00100	**	11	"	н	"	**	
Surrogate: a,a,a-Trifluorotoluene	ND	119 %	80-12	20	<i>"</i>	,,	,,		
Surrogate: 4-Bromofluorobenzene		113 %	80-12		"	"	"	"	
MW-2 (4E07002-02) Water									
Benzene	ND	0.00100	mg/L	1	EE41103	05/07/04	05/07/04	EPA 8021B	
Toluene	ND	0.00100	11	11	n	"	11	"	
Ethylbenzene	ND	0.00100	"	**	**	**	**	**	
Xylene (p/m)	ND	0.00100	н	#	"	"	**	**	
Xylene (o)	ND	0.00100	"	и	"	**	н	11	
Surrogate: a,a,a-Trifluorotoluene		118 %	80-12	20	n	"	n	"	
Surrogate: 4-Bromofluorobenzene		115 %	80-12	20	"	"	"	n	
MW-3 (4E07002-03) Water									
Benzene	ND	0.00100	mg/L	1	EE41103	05/07/04	05/07/04	EPA 8021B	
Toluene	ND	0.00100	"	"	11	11	"	u	
Ethylbenzene	ND	0.00100	11	n	п	н	11	"	
Xylene (p/m)	ND	0.00100	Ħ	11	"	n .	П	"	
Xylene (o)	ND	0.00100	**	н	"	"	n	11	
Surrogate: a.a,a-Trifluorotoluene		120 %	80-1.	20	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	80-1.	20	"	"	"	"	

Environmental Lab of Texas

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Roland K Julis

Quality Assurance Review

Rice Operating Co.

Project: EME System M-9 SWD Site

Fax: (505) 397-1471

122 W. Taylor Hobbs NM, 88240 Project Number: None Given
Project Manager: Kristin Farris

**Reported:** 05/13/04 15:11

Organics by GC

#### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (4E07002-04) Water			•						
Benzene	ND	0.00100	mg/L	1	EE41103	05/07/04	05/07/04	EPA 8021B	
Toluene	ND	0.00100	п	"	"	"	н	#	
Ethylbenzene	ND	0.00100	#	11	n	n	н	35	
Xylene (p/m)	ND	0.00100	Ħ	11	**	n	11	11	
Xylene (o)	ND	0.00100	11	"	"	n	н	"	
Surrogate: a,a,a-Trifluorotoluene		106 %	80-1.	20	"	"	"	n	
Surrogate: 4-Bromofluorobenzene		97.5 %	80-1.	20	"	"	"	"	
WW (4E07002-05) Water									
Benzene	ND	0.00100	mg/L	1	EE41103	05/07/04	05/07/04	EPA 8021B	
Toluene	ND	0.00100	**	"	н	н	**	"	
Ethylbenzene	ND	0.00100	**	"	ш	и	**		
Xylene (p/m)	ND	0.00100	11	"	н	H	n		
Xylene (o)	ND	0.00100	**	"	н	n	11	"	
Surrogate: a,a,a-Trifluorotoluene	•	118 %	80-1.	20	"	n	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	80-1.	20	"	"	"	n	

Environmental Lab of Texas

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Roland K Julis

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Rice Operating Co.

Project: EME System M-9 SWD Site

Fax: (505) 397-1471

122 W. Taylor Hobbs NM, 88240

Project Number: None Given Project Manager: Kristin Farris

Reported: 05/13/04 15:11

#### General Chemistry Parameters by EPA / Standard Methods **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (4E07002-01) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EE40710	05/07/04	05/07/04	EPA 310.2M	
Bicarbonate Alkalinity	288	2.00	н	11	u	"	**	п	
Hydroxide Alkalinity	ND	0.100	"	**	n	"	It	и	
Chloride	337	5.00	"	**	EE40709	05/07/04	05/07/04	EPA 325.3M	
Total Dissolved Solids	1400	5.00	"	**	EE41102	05/07/04	05/11/04	EPA 160.1	
Sulfate	440	5.00	**	10	EE41114	05/11/04	05/11/04	EPA 375.4	
MW-2 (4E07002-02) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EE40710	05/07/04	05/07/04	EPA 310.2M	
Bicarbonate Alkalinity	378	2.00	н	**	"	**	и	п	
Hydroxide Alkalinity	ND	0.100		**	n	H	n	"	
Chloride	328	5.00	**	11	EE40709	05/07/04	05/07/04	EPA 325.3M	
Total Dissolved Solids	1460	5.00	"	"	EE41102	05/07/04	05/11/04	EPA 160.1	
Sulfate	438	5.00	"	10	EE41114	05/11/04	05/11/04	EPA 375.4	
MW-3 (4E07002-03) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EE40710	05/07/04	05/07/04	EPA 310.2M	
Bicarbonate Alkalinity	254	2.00	"	11	**	"	"	11	
Hydroxide Alkalinity	ND	0.100	•	"	**	11	п	n .	
Chloride	328	5.00	"	**	EE40709	05/07/04	05/07/04	EPA 325,3M	
Total Dissolved Solids	1530	5.00	"	**	EE41102	05/07/04	05/11/04	EPA 160.1	
Sulfate	542	5.00	"	10	EE41114	05/11/04	05/11/04	EPA 375.4	
MW-4 (4E07002-04) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EE40710	05/07/04	05/07/04	EPA 310.2M	
Bicarbonate Alkalinity	272	2.00	**	**	н	**	n	и	
Hydroxide Alkalinity	ND	0.100	**	Ħ	и	u	n	n	
Chloride	549	5.00	**	н	EE40709	05/07/04	05/07/04	EPA 325.3M	
Total Dissolved Solids	1760	5.00	n	н	EE41102	05/07/04	05/11/04	EPA 160.1	
Sulfate	470	5.00	"	10	EE41114	05/11/04	05/11/04	EPA 375.4	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory.. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

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Quality Assurance Review

Page 4 of 12

Rice Operating Co. 122 W. Taylor Hobbs NM, 88240 Project: EME System M-9 SWD Site

Project Number: None Given Project Manager: Kristin Farris

Fax: (505) 397-1471

**Reported:** 05/13/04 15:11

## General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
WW (4E07002-05) Water									
Carbonate Alkalinity	ND	0.100	mg/L	I	EE40710	05/07/04	05/07/04	EPA 310.2M	
Bicarbonate Alkalinity	291	2.00	n	"	n	10	"	Ħ	
Hydroxide Alkalinity	ND	0.100	**	н	"	"	*	n	
Chloride	266	5.00	11	"	EE40709	05/07/04	05/07/04	EPA 325.3M	
Total Dissolved Solids	1040	5.00	11	**	EE41102	05/07/04	05/11/04	EPA 160.1	
Sulfate	<b>26</b> 1	2.50	"	5	EE41114	05/11/04	05/11/04	EPA 375.4	

Environmental Lab of Texas

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Quality Assurance Review

Page 5 of 12

Rice Operating Co.

Project: EME System M-9 SWD Site

Fax: (505) 397-1471

122 W. Taylor

Project Number: None Given

Reported: 05/13/04 15:11

Hobbs NM, 88240

Project Manager: Kristin Farris

#### Total Metals by EPA / Standard Methods

#### **Environmental Lab of Texas**

		Reporting	***						
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (4E07002-01) Water									
Calcium	56.6	0.100	mg/L	10	EE41104	05/10/04	05/11/04	EPA 6010B	
Magnesium	68.6	0.0100	"	*	"	ıı .	11	11	
Potassium	14.8	0.500	"	"	"	"	"	"	
Sodium	397	1.00	**	100	**	"	**	n.	
MW-2 (4E07002-02) Water									
Calcium	44.0	0.100	mg/L	10	EE41104	05/10/04	05/11/04	EPA 6010B	
Magnesium	73.3	0.0100	"	"	"	**	"	"	
Potassium	15.2	0.500	"	"	"	15	"	**	
Sodium	354	1.00	"	100	**	**	"	n	
MW-3 (4E07002-03) Water									
Calcium	129	1.00	mg/L	100	EE41104	05/10/04	05/11/04	EPA 6010B	
Magnesium	50.8	0.0100	н	10	"	tt.	н	51	
Potassium	8.74	0.500	"	"	"	и	11	"	
Sodium	287	1.00	"	100	"	н	**	"	
MW-4 (4E07002-04) Water									
Calcium	126	1.00	mg/L	100	EE41104	05/10/04	05/11/04	EPA 6010B	
Magnesium	64.8	0.0100	**	10	**	**	п	91	
Potassium	11.1	0.500	"	"	"	"	#	"	
Sodium	380	1.00	"	100	"	и	**	"	
WW (4E07002-05) Water									
Calcium	50.5	0.100	mg/L	10	EE41104	05/10/04	05/11/04	EPA 6010B	
Magnesium	48.9	0.0100	"	n	н	"	**	tr.	
Potassium	12.1	0.500	"	n	н		"	u	
Sodium	298	1.00	n	100	n	"	tt	n .	

Environmental Lab of Texas

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Quality Assurance Review

Page 6 of 12

122 W. Taylor Hobbs NM, 88240 Project: EME System M-9 SWD Site

Project Number: None Given Project Manager: Kristin Farris Fax: (505) 397-1471

Reported: 05/13/04 15:11

# Organics by GC - Quality Control **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EE41103 - EPA 5030C (GC)										
Blank (EE41103-BLK1)				Prepared &	Analyzed:	05/07/04				
Benzene	ND	0.00100	mg/L		<del></del>	·				
Toluene	ND	0.00100	tt							
Ethylbenzene	ND	0.00100	н							
Xylene (p/m)	ND	0.00100	11							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	23.2		ug/l	20.0		116	80-120			
Surrogate: 4-Bromofluorobenzene	19.7		"	20.0		98.5	80-120			
LCS (EE41103-BS1)				Prepared &	: Analyzed:	05/07/04				
Benzene	91,9		ug/l	100		91.9	80-120			
Toluene	101		**	100		101	80-120			
Ethylbenzene	102			100		102	80-120			
Xylene (p/m)	210		**	200		105	80-120			
Xylene (o)	106		Ħ	100		106	80-120			
Surrogate: a,a,a-Trifluorotoluene	20.6		n	20.0		103	80-120			
Surrogate: 4-Bromofluorobenzene	23.5		n	20.0		118	80-120			
Calibration Check (EE41103-CCV1)				Prepared &	Analyzed:	05/07/04				
Benzene	85.5		ug/l	100		85.5	80-120			
Toluene	95.5		"	100		95.5	80-120			
Ethylbenzene	91.2		tt	100		91.2	80-120			
Xylene (p/m)	194		H	200		97.0	80-120			
Xylene (o)	96.5		и	100		96.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	17.3		"	20.0		86.5	80-120			<del></del>
Surrogate: 4-Bromofluorobenzene	23.7		n	20.0		118	80-120			
Duplicate (EE41103-DUP1)	Sou	rce: 4E07001-	01	Prepared &	Analyzed:	05/07/04				
Benzene	ND	0.00100	mg/L		ND				20	
Toluene	ND	0.00100	**		ND				. 20	
Ethylbenzene	ND	0.00100	**		ND				20	
Xylene (p/m)	ND	0.00100	**		ND				20	
Xylene (o)	ND	0.00100	Ħ		ND				20	
Surrogate: a,a,a-Trifluorotoluene	23.5		ug/l	20.0		118	80-120			
Surrogate: 4-Bromofluorobenzene	21.4		"	20.0		107	80-120			

Environmental Lab of Texas

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Roland K Julis Quality Assurance Review

Page 7 of 12

Project: EME System M-9 SWD Site

Fax: (505) 397-1471

122 W. Taylor

Project Number: None Given

Reported:

Hobbs NM, 88240

Project Manager: Kristin Farris

05/13/04 15:11

# Organics by GC - Quality Control **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

### Batch EE41103 - EPA 5030C (GC)

Matrix Spike (EE41103-MS1)	Source: 41	Prepared &	Analyzed:	05/07/04				
Benzene	86.2	ug/l	100	ND	86.2	80-120	, <u>, , , , , , , , , , , , , , , , , , </u>	
Toluene	96.9	n	100	ND	96.9	80-120		
Ethylbenzene	92.9	"	100	ND	92.9	80-120		
Xylene (p/m)	196	"	200	ND	98.0	80-120		
Xylene (o)	96.7	"	100	ND	96.7	80-120		
Surrogate: a,a,a-Trifluorotoluene	20.8	"	20.0		104	80-120	\ \	
Surrogate: 4-Bromofluorobenzene	23.3	"	20.0		116	80-120		

Environmental Lab of Texas

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Quality Assurance Review

Page 8 of 12

Project: EME System M-9 SWD Site

Fax: (505) 397-1471

122 W. Taylor

Project Number: None Given

Reported:

Hobbs NM, 88240

Project Manager: Kristin Farris

05/13/04 15:11

# General Chemistry Parameters by EPA / Standard Methods - Quality Control **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EE40709 - General Preparation (	WetChem)									
Blank (EE40709-BLK1)				Prepared &	Analyzed:	05/07/04				
Chloride	ND	5.00	mg/L							
Matrix Spike (EE40709-MS1)	Source	ce: 4E06007-	02	Prepared &	Analyzed:	05/07/04				
Chloride	514	5.00	mg/L	250	270	97.6	80-120			
Matrix Spike Dup (EE40709-MSD1)	Sourc	ce: 4E06007-	-02	Prepared &	Analyzed:	05/07/04				
Chloride	514	5.00	mg/L	250	270	97.6	80-120	0.00	20	
Reference (EE40709-SRM1)				Prepared &	Analyzed:	05/07/04				
Chloride	4780		mg/L	5000		95.6	80-120			
Batch EE40710 - General Preparation ( Blank (EE40710-BLK1)	WetChem)			Prepared &	Analyzed:	05/07/04				
Carbonate Alkalinity	ND	0.100	mg/L							
Bicarbonate Alkalinity	ND	2.00	**							
Hydroxide Alkalinity	ND	0.100	"							
Calibration Check (EE40710-CCV1)				Prepared &	Analyzed:	05/07/04				
Carbonate Alkalinity	0.0454		mg/L	0.0500		90.8	80-120			
Duplicate (EE40710-DUP1)	Source	ce: 4E06007-	-02	Prepared &	Analyzed:	05/07/04				
Carbonate Alkalinity	0.00	0.100	mg/L		0.00				20	
Bicarbonate Alkalinity	174	2.00	н		173			0.576	20	
Hydroxide Alkalinity	0.00	0.100			0.00				20	

Environmental Lab of Texas

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Quality Assurance Review

Project: EME System M-9 SWD Site

Fax: (505) 397-1471

122 W. Taylor Hobbs NM, 88240

Project Number: None Given Project Manager: Kristin Farris

Reported: 05/13/04 15:11

# General Chemistry Parameters by EPA / Standard Methods - Quality Control **Environmental Lab of Texas**

Analysis	D	Reporting	T Toolson	Spike	Source	WDEO	%REC	DDD	RPD	N7
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EE41102 - General Preparation (	WetChem)					<u> </u>				
Blank (EE41102-BLK1)				Prepared: (	)5/0 <b>7</b> /04 A	nalyzed: 05	711/04			
Total Dissolved Solids	ND	5.00	mg/L							
Duplicate (EE41102-DUP1)	Sou	rce: 4E07001-	.01	Prepared: 0	)5/07/04 A	nalyzed: 05	/11/04			
Total Dissolved Solids	1450	5.00	mg/L		1440			0.692	20	
Batch EE41114 - General Preparation (	WetChem)									
Blank (EE41114-BLK1)				Prepared &	: Analyzed:	05/11/04				
Sulfate	ND	0.500	mg/L							
Calibration Check (EE41114-CCV1)				Prepared &	: Analyzed:	: 05/11/04				
Sulfate	50.9		mg/L	50,0		102	80-120			
Duplicate (EE41114-DUP1)	Sou	rce: 4E06007-	-02	Prepared &	: Analyzed:	: 05/11/04				
Sulfate	270	2,50	mg/L		274			1.47	20	

Environmental Lab of Texas

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Quality Assurance Review

Project: EME System M-9 SWD Site

Spike

Source

Fax: (505) 397-1471

122 W. Taylor

Project Number: None Given

Reported:

Hobbs NM, 88240

Project Manager: Kristin Farris

Reporting

05/13/04 15:11

RPD

%REC

## Total Metals by EPA / Standard Methods - Quality Control **Environmental Lab of Texas**

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EE41104 - General Preparation (N	Metals)									
Blank (EE41104-BLK1)				Prepared: (	05/10/04 A	nalyzed: 05	5/11/04			
Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	н							
Potassium	ND	0.0500	n							
Sodium	ND	0.0100	"							
Calibration Check (EE41104-CCV1)				Prepared: (	05/10/04 A	nalyzed: 05	5/11/04			
Calcium	1.98		mg/L	2.00		99.0	85-115			
Magnesium	2.12		11	2.00		106	85-115			
Potassium	1.83		11	2.00		91.5	85-115			
Sodium	1.72		"	2.00		86.0	85-115			
Duplicate (EE41104-DUP1)	Sour	ce: 4E07001-	01	Prepared: (	05/10/04 A	nalyzed: 05	5/11/04			
Calcium	24.4	0.100	mg/L		24.5			0.409	20	
Magnesium	4.18	0.00100	n		4.18			0.00	20	
Potassium	18.7	0.500	n		18.4			1.62	20	
Sodium	557	1.00	н		557			0.00	20	

Environmental Lab of Texas

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Quality Assurance Review

Page 11 of 12

Fax: (505) 397-1471 Rice Operating Co. Project: EME System M-9 SWD Site 122 W. Taylor Project Number: None Given Reported: Project Manager: Kristin Farris Hobbs NM, 88240 05/13/04 15:11

### **Notes and Definitions**

Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). DET Analyte DETECTED ND Analyte NOT DETECTED at or above the reporting limit NR Not Reported dry Sample results reported on a dry weight basis

Environmental Lab of Texas

RPD

Relative Percent Difference

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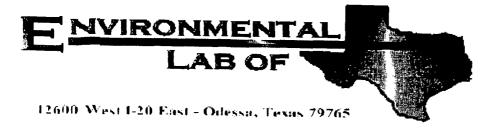
# Environmental Lab of Texas 12600 west I-20 East Phone: 432-563-1800 Odessa, Texas 79765 Fax: 432-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name:   122 West Taylor											RUSH TAT (Pre-Schedi		>	7	7	7							****
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# Environmental Lab of Texas Variance / Corrective Action Report – Sample Log-In

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rder #: 4E67002			6 m g
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Sample Necelp	t Checkli	st	- Harrison - Branch -
mperature of container/cooler?	(Tes	No	2.5 C
hipping container/cooler in good condition?	<b>€</b>	No	
stody Seals intact on shipping container/cooler?	Yes	No	Not present
ustody Seals intact on sample bottles?	Yes	No	Mot present
nain of custody present?	Cres	No	
ample Instructions complete on Chain of Custody?	¥83	No	
nain of Custody signed when relinquished and received?	(Fes)	No	
hain of custody agrees with sample label(s)	(CED)	No	
ontainer labels legible and intact?	(Tes)	No	
ample Matrix and properties same as on chain of custody?	(Yes)	No	
amples in proper container/bottle?	(Yes)	No	
amples properly preserved?	YES	No	
ample bottles intact?	Yes	No	
eservations documented on Chain of Custody?	Yes	No	
ntainers documented on Chain of Custody?	Yes	No	
ifficient sample amount for indicated test?	Yes	No	
I samples received within sufficient hold time?  OC samples have zero headspace?	(Yes)	No No	Not Applicable
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# Analytical Report

## **Prepared for:**

Kristin Farris Rice Operating Co. 122 W. Taylor Hobbs, NM 88240

Project: EME System M-9 SWD Site
Project Number: None Given
Location: T20S, R37E, Sec. 9, Unit Letter M

Lab Order Number: 4H13002

Report Date: 08/19/04

Project: EME System M-9 SWD Site

Project Number: None Given
Project Manager: Kristin Farris

Fax: (505) 397-1471

**Reported:** 08/19/04 14:49

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	4H13002-01	Water	08/11/04 13:10	08/12/04 16:45
MW-2	4H13002-02	Water	08/11/04 12:42	08/12/04 16:45
MW-3	4H13002-03	Water	08/11/04 12:25	08/12/04 16:45
MW-4	4H13002-04	Water	08/11/04 13:47	08/12/04 16:45
ww	4H13002-05	Water	08/11/04 11:45	08/12/04 16:45

Project: EME System M-9 SWD Site

Fax: (505) 397-1471 Reported: 08/19/04 14:49

122 W. Taylor Hobbs NM, 88240

Project Number: None Given Project Manager: Kristin Farris

# Organics by GC **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Not
MW-1 (4H13002-01) Water				Dilution	Battii	riepaieu	Analyzed	Method	Notes
Benzene	0.00266	0.00100	/T					EDA GOALD	
Toluene	J [0.000475]	0.00100 0.00100	mg/L	1	EH41804 "	08/17/04	08/17/04	EPA 8021B	
Ethylbenzene	J [0.000473]	0.00100	H.	"	"			u .	
Xylene (p/m)	J [0.000265]	0.00100		"			,	11	•
Xylene (p/m) Xylene (o)	J [0.000317]	0.00100	"	"			"	**	
Surrogate: a,a,a-Trifluorotoluene	7 [0.000317]	93.5 %	80-1.	20		,,		u u	
Surrogate: 4-Bromofluorobenzene		88.5 %	80-1.		"	"	,,	"	
MW-2 (4H13002-02) Water									
Benzene	ND	0.00100	mg/L	1	EH41804	08/17/04	08/17/04	EPA 8021B	
Toluene	ND	0.00100	•	11	"	11	**	н	
Ethylbenzene	ND	0.00100	"	**	"	11	n	н	
Xylene (p/m)	ND	0.00100	11	**	•	v	n	и	
Xylene (o)	ND	0.00100	Ħ	*	"	"	n	H	
Surrogate: a,a,a-Trifluorotoluene		104 %	80-1.	20	,,		"	"	
Surrogate: 4-Bromofluorobenzene		87.0 %	80-1.	20	"	"	"	"	
MW-3 (4H13002-03) Water			_						
Benzene	ND	0.00100	mg/L	1	EH41804	08/17/04	08/17/04	EPA 8021B	
Toluene	ND	0.00100	**	н	n	n	**	H	
Ethylbenzene	ND	0.00100	**	n	"	n	"	"	
Xylene (p/m)	ND	0.00100		"	"	n	**	**	
Xylene (o)	ND	0.00100	"	"	n	n	n	w	
Surrogate: a,a,a-Trifluorotoluene		111%	80-1.	20	,,	n	"	13	
Surrogate: 4-Bromofluorobenzene		82.0 %	80-1	20	"	"	"	n	
MW-4 (4H13002-04) Water									
Benzene	ND	0.00100	mg/L	1	EH41804	08/17/04	08/17/04	EPA 8021B	
Toluene	ND	0.00100	н	**	n	"	"	H	
Ethylbenzene	ND	0.00100	"	"	n	u	H	n	
Xylene (p/m)	ND	0.00100	n	,,	"	n	"	11	
Xylene (o)	ND	0.00100		"	n	u	"	"	
Surrogate: a,a,a-Trifluorotoluene		111%	80-1.	20	"	"	,,	"	
Surrogate: 4-Bromofluorobenzene		92.0 %	80-1.	20	"	"	n	"	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety,  $with \ written \ approval \ of \ Environmental \ Lab \ of \ Texas.$ 

Page 2 of 12

Project: EME System M-9 SWD Site

Project Number: None Given Project Manager: Kristin Farris

Fax: (505) 397-1471

**Reported:** 08/19/04 14:49

# Organics by GC Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
WW (4H13002-05) Water									
Benzene	ND	0.00100	mg/L	1	EH41804	08/17/04	08/17/04	EPA 8021B	
Toluene	ND	0.00100	**	*	н	н	п	n	
Ethylbenzene	ND	0.00100	11	**	"	н	и	n	
Xylene (p/m)	ND	0.00100	11	**	n	u	**	n	
Xylene (o)	ND	0.00100	**	"	n	11	"	#	
Surrogate: a,a,a-Trifluorotoluene		97.0 %	80-12	20	ıı	и	"	"	
Surrogate: 4-Bromofluorobenzene		82.5 %	80-12	20	н	**	,,	"	

Project: EME System M-9 SWD Site

Project Number: None Given Project Manager: Kristin Farris

Fax: (505) 397-1471

**Reported:** 08/19/04 14:49

# General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

		, JIII							
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-1 (4H13002-01) Water									
Carbonate Alkalinity	ND	0.100	mg/L	l	EH41610	08/13/04	08/13/04	EPA 310.2M	
Bicarbonate Alkalinity	377	2.00	n .	н			n	11	
Hydroxide Alkalinity	ND	0.100	1+	n	"	"	н	n	
Chloride	390	5.00	n	*	EH41702	08/16/04	08/16/04	EPA 325.3M	
Total Dissolved Solids	1690	5.00	ii .	H	EH41801	08/17/04	08/18/04	EPA 160.1	
Sulfate	519	0.500	11	tt	EH41701	08/16/04	08/16/04	EPA 375.4	
MW-2 (4H13002-02) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EH41610	08/13/04	08/13/04	EPA 310.2M	
Bicarbonate Alkalinity	384	2.00	11	и	11	н	n	P	
Hydroxide Alkalinity	ND	0.100	**	11	#	11	"	n	
Chloride	461	5.00	"	"	EH41702	08/16/04	08/16/04	EPA 325.3M	
Total Dissolved Solids	1770	5.00		"	EH41801	08/17/04	08/18/04	EPA 160.1	
Sulfate	372	0.500	n	**	EH41701	08/16/04	08/16/04	EPA 375.4	
MW-3 (4H13002-03) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EH41610	08/13/04	08/13/04	EPA 310,2M	
Bicarbonate Alkalinity	260	2.00	H	"	**	**	"	v.	
Hydroxide Alkalinity	ND	0.100	**	"	"	11	"	н	
Chloride	337	5.00	11	u	EH41702	08/16/04	08/16/04	EPA 325.3M	
Total Dissolved Solids	1560	5.00	"	Ħ	EH41801	08/17/04	08/18/04	EPA 160.1	
Sulfate	557	0.500	. 11	н	EH41701	08/16/04	08/16/04	EPA 375.4	
MW-4 (4H13002-04) Water						•			
Carbonate Alkalinity	ND	0.100	mg/L	1	EH41610	08/13/04	08/13/04	EPA 310.2M	
Bicarbonate Alkalinity	290	2.00	"	u	**	u	н	II .	
Hydroxide Alkalinity	ND	0.100	**	ø	и	11	11	"	
Chloride	567	5.00	**	tf.	EH41702	08/16/04	08/16/04	EPA 325.3M	
Total Dissolved Solids	1770	5.00	"	**	EH41801	08/17/04	08/18/04	EPA 160.1	
Sulfate	433	0.500	11	**	EH41701	08/16/04	08/16/04	EPA 375,4	

Project: EME System M-9 SWD Site

Project Number: None Given
Project Manager: Kristin Farris

Fax: (505) 397-1471

**Reported:** 08/19/04 14:49

# General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
WW (4H13002-05) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EH41610	08/13/04	08/13/04	EPA 310.2M	
Bicarbonate Alkalinity	298	2.00	н	"	19	н	**	55	
Hydroxide Alkalinity	ND	0.100	n	н		н	H	**	
Chloride	266	5.00	31	11	EH41702	08/16/04	08/16/04	EPA 325.3M	
Total Dissolved Solids	1810	5.00	11	и	EH41801	08/17/04	08/18/04	EPA 160.1	
Sulfate	313	0.500	"		EH41701	08/16/04	08/16/04	EPA 375.4	

Project: EME System M-9 SWD Site

Project Number: None Given Project Manager: Kristin Farris

Fax: (505) 397-1471

**Reported:** 08/19/04 14:49

# Total Metals by EPA / Standard Methods Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note	
MW-1 (4H13002-01) Water										
Calcium	54.8	0.100	mg/L	10	EH41719	08/17/04	08/17/04	EPA 6010B		
Magnesium	69.8	0.0100	"	n	n	11	n	и		
Potassium	16.1	0.500	n	n	**	n	**	11		
Sodium	448	1.00	н	100	n	n	n	11		
MW-2 (4H13002-02) Water										
Calcium	61.7	0.100	mg/L	10	EH41719	08/17/04	08/17/04	EPA 6010B		
Magnesium	76.6	0.0100	"	**	u	"	15	w		
Potassium	19.2	0.500	17	I+	n	n	**	"		
Sodium	546	1.00	ч	100	11	"	11	tt.		
MW-3 (4H13002-03) Water										
Calcium	115	1.00	mg/L	100	EH41719	08/17/04	08/17/04	EPA 6010B		
Magnesium	63.8	0.0100	n	10	н	"	"	"		
Potassium	9.06	0.500	"	*	•	n	"	н		
Sodium	375	1.00	u	100	**	н	n	u u		
MW-4 (4H13002-04) Water										
Calcium	93.4	0.100	mg/L	10	EH41719	08/17/04	08/17/04	EPA 6010B		
Magnesium	78.1	0.0100	'n	**	n	Ħ		**		
Potassium	13.1	0.500	"	"	11	n	**	н		
Sodium	483	1.00	"	100	,,	n	•	"		
WW (4H13002-05) Water										
Calcium	57.2	0.100	mg/L	10	EH41719	08/17/04	08/17/04	EPA 6010B		
Magnesium	54.9	0.0100	"	**	11	"	D	15		
Potassium	9.84	0.500	n	n	n	10		"		
Sodium	292	1.00	**	100	"	"	"	14		

Project: EME System M-9 SWD Site

Project Number: None Given
Project Manager: Kristin Farris

Fax: (505) 397-1471

**Reported:** 08/19/04 14:49

# Organics by GC - Quality Control Environmental Lab of Texas

		Reporting		Spike	Source		%REC		RPD	<del></del>
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EH41804 - EPA 5030C (GC)										
Blank (EH41804-BLK1)		_	_	Prepared &	Analyzed:	08/14/04		————		
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100								
Ethylbenzene	ND	0.00100								
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	22.7		ug/l	20.0		114	80-120			
Surrogate: 4-Bromofluorobenzene	20.2		"	20.0		101	80-120			
LCS (EH41804-BS1)				Prepared &	Analyzed:	08/14/04				
Benzene	89.5		ug/l	100	<u> </u>	89.5	80-120			
Toluene	102		**	100		102	80-120			
Ethylbenzene	98.1		*	100		98.1	80-120			
Xylene (p/m)	205			200		102	80-120			
Xylene (o)	101		••	100		101	80-120			
Surrogate: a,a,a-Trifluorotoluene	22.5		"	20.0		112	80-120			
Surrogate: 4-Bromofluorobenzene	22.5		n	20.0		112	80-120			
Calibration Check (EH41804-CCV1)				Prepared &	Analyzed:	08/14/04				
Benzene	83.5		ug/l	100		83.5	80-120			
Toluene	91.4		"	100		91.4	80-120			
Ethylbenzene	90.5		**	100		90,5	80-120			
Xylene (p/m)	195		"	200		97.5	80-120			
Xylene (o)	91.8		"	100		91.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	18.5		n	20.0		92.5	80-120			
Surrogate: 4-Bromofluorobenzene	20.6		"	20.0		103	80-120			
Matrix Spike (EH41804-MS1)	Sou	rce: 4H13013-	02	Prepared &	Analyzed:	08/14/04				
Benzene	82.2		ug/l	100	ND	82.2	80-120			
Toluene	93.1		n	100	ND	93.1	80-120			
Ethylbenzene	89.4		"	100	ND	89.4	80-120			
Xylene (p/m)	188		"	200	ND	94.0	80-120			
Xylene (o)	94.5		,,	100	ND	94.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	18.5		"	20.0		92.5	80-120			
Surrogate: 4-Bromofluorobenzene	19.9		"	20.0		99.5	80-120			

Xylene (p/m)

Surrogate: a,a,a-Trifluorotoluene

Surrogate: 4-Bromofluorobenzene

Xylene (o)

Project: EME System M-9 SWD Site

200

100

20.0

20.0

ND

ND

94.5

99.5

100

80-120

80-120

80-120

80-120

0.531

5.55

20

20

Project Number: None Given Project Manager: Kristin Farris Fax: (505) 397-1471

Reported: 08/19/04 14:49

# Organics by GC - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH41804 - EPA 5030C (GC)										
Matrix Spike Dup (EH41804-MSD1)	Sour	ce: 4H13013-	02	Prepared & Analyzed: 08/14/04						
Benzene	81.3		ug/l	100	ND	81.3	80-120	1.10	20	
Toluene	95.0		n	100	ND	95.0	80-120	2.02	20	
Ethylbenzene	90.3		**	100	ND	90.3	80-120	1.00	20	

189

89.4

19.9

20.0

Project: EME System M-9 SWD Site

Project Number: None Given Project Manager: Kristin Farris

Fax: (505) 397-1471

Reported: 08/19/04 14:49

# General Chemistry Parameters by EPA / Standard Methods - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH41610 - General Preparation (	WetChem)									
Blank (EH41610-BLK1)				Prepared &	Analyzed:	08/13/04				
Carbonate Alkalinity	ND	0.100	mg/L							
Bicarbonate Alkalinity	ND	2.00	н							
Hydroxide Alkalinity	ND	0.100	"							
Duplicate (EH41610-DUP1)	Sou	rce: 4H12015-	-01	Prepared &	: Analyzed:	08/13/04				
Carbonate Alkalinity	0.00	0.100	mg/L		0.00				20	
Bicarbonate Alkalinity	232	2.00	n		232			0.00	20	
Hydroxide Alkalinity	0.00	0.100	"		0.00				20	
Reference (EH41610-SRM1)				Prepared &	: Analyzed:	08/13/04				
Carbonate Alkalinity	0.0530		mg/L	0.0500		106	80-120			
Batch EH41701 - General Preparation (	WetChem)									
Blank (EH41701-BLK1)				Prepared &	Analyzed:	08/16/04	<u>.</u>			
Sulfate	ND	0.500	mg/L					,		
Calibration Check (EH41701-CCV1)				Prepared &	: Analyzed:	08/16/04				
Sulfate	51.0		mg/L	50.0		102	80-120			
Duplicate (EH41701-DUP1)	Sou	rce: 4H12014	-01	Prepared &	: Analyzed:	08/16/04				
Sulfate	358	0.500	mg/L		322			10.6	20	
Batch EH41702 - General Preparation (	WetChem)									
Blank (EH41702-BLK1)				Prepared &	: Analyzed:	08/16/04				
Diana (Dirito Delis)										

Project: EME System M-9 SWD Site

Project Number: None Given
Project Manager: Kristin Farris

Fax: (505) 397-1471

**Reported:** 08/19/04 14:49

# General Chemistry Parameters by EPA / Standard Methods - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH41702 - General Preparation (We	Chem)									
Matrix Spike (EH41702-MS1)	Sou	rce: 4H12012	-21	Prepared &	k Analyzed:	08/16/04				
Chloride	160	5.00	mg/L	100	65.6	94.4	80-120			
Matrix Spike Dup (EH41702-MSD1)	Sou	rce: 4H12012	-21	Prepared &	k Analyzed:	08/16/04				
Chloride	160	5.00	mg/L	100	65.6	94.4	80-120	0.00	20	
Reference (EH41702-SRM1)				Prepared &	k Analyzed:	08/16/04				
Chloride	4960		mg/L	5000		99.2	80-120			
Batch EH41801 - Filtration Preparation										
Blank (EH41801-BLK1)				Prepared:	08/1 <b>7</b> /04 A	nalyzed: 08	3/18/04			
Total Dissolved Solids	ND	5.00	mg/L							
Duplicate (EH41801-DUP1)	Sou	rce: 4H17009	-01	Prepared:	08/17/04 A	nalyzed: 08	3/18/04			
Total Dissolved Solids	3900	5.00	mg/L		3910			0.256	20	

Project: EME System M-9 SWD Site

Project Number: None Given Project Manager: Kristin Farris Fax: (505) 397-1471

**Reported:** 08/19/04 14:49

# Total Metals by EPA / Standard Methods - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EH41719 - 6010B/No Digestion										
Blank (EH41719-BLK1)				Prepared &	Analyzed:	08/17/04				
Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							
Calibration Check (EH41719-CCV1)				Prepared &	Analyzed:	08/17/04				
Calcium	2.02		mg/L	2.00		101	85-115			
Magnesium	2.12		**	2.00		106	85-115			
Potassium	1.79		"	2.00		89.5	85-115			
Sodium	1.89		"	2.00		94.5	85-115			
Duplicate (EH41719-DUP1)	Sou	rce: 4H13013-	04	Prepared &	: Analyzed:	08/17/04				
Calcium	36.1	0.100	mg/L		35.2			2.52	20	
Magnesium	11.3	0.010.0	*		10.9			3.60	20	
Potassium	34.3	0.500	"		33.2			3.26	20	
Sodium	405	1.00	"		415			2.44	20	

Rice Operating Co.Project:EME System M-9 SWD SiteFax: (505) 397-1471122 W. TaylorProject Number:None GivenReported:Hobbs NM, 88240Project Manager:Kristin Farris08/19/04 14:49

### Notes and Definitions

Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). J Analyte DETECTED DET ND Analyte NOT DETECTED at or above the reporting limit NR dry Sample results reported on a dry weight basis RPD Relative Percent Difference LCS Laboratory Control Spike MS Matrix Spike Dup Duplicate

	Kaland	K loud
Report Approved By:	Locanic	100

Date: 8/19/04

Raland K. Tuttle, QA Officer Celey D. Keene, Lab Director, Org. Tech Director Jeanne Mc Murrey, Inorg. Tech Director James L. Hawkins, Chemist/Geologist Sara Molina, Chemist Sandra Biezugbe, Lab Tech.

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If you have received this material in error, please notify us immediately at 432-563-1800.

# **Environmental Lab of Texas**

12600 West I-20 East Odessa, Texas 79765

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Phone: 432-563-1800 Fax: 432-563-1713

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		Project Location: T20S, R37E, Sec 9, Unit Letter M				$\vdash$						-	_				<u> </u>			
EME System M-9 SWD Site		ette				$\vdash$			Total Dissolved Solids		7	$\overline{}$	$\dashv$	$\overline{}$						>
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Project Manager: Kristin Farris	Company Name Rice Operating Company	Company Address: 122 West Taylor	City/State/Zip: Hobbs, New Mexico 88240	Telephone No: 505-393-9174	Campler Signature:	j														ns:
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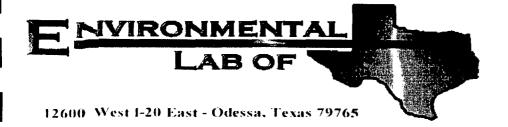
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# Analytical Report

## **Prepared for:**

Kristin Farris
Rice Operating Co.
122 W. Taylor
Hobbs, NM 88240

Project: EME System M-9 SWD Site
Project Number: V117M9
Location: T20S, R37E, Sec 9, Unit Letter M

Lab Order Number: 4K11007

Report Date: 11/22/04

Project: EME System M-9 SWD Site

Project Number: V117M9
Project Manager: Kristin Farris

Fax: (505) 397-1471

Reported: 11/22/04 17:11

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	4K11007-01	Water	11/10/04 15:00	11/11/04 11:00
MW-2	4K11007-02	Water	11/10/04 13:57	11/11/04 11:00
MW-3	4K11007-03	Water	11/10/04 13:32	11/11/04 11:00
MW-4	4K11007-04	Water	11/10/04 14:28	11/11/04 11:00
Water Well	4K11007-05	Water	11/10/04 12:45	11/11/04 11:00

Project: EME System M-9 SWD Site

Fax: (505) 397-1471

122 W. Taylor Hobbs NM, 88240 Project Number: V117M9
Project Manager: Kristin Farris

Reported: 11/22/04 17:11

# Organics by GC Environmental Lab of Texas

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (4K11007-01) Water		············							
Benzene	0.00292	0.00100	mg/L	1	EK41502	11/12/04	11/12/04	EPA 8021B	
Toluene	J [0.000 <b>32</b> 6]	0.00100	n	**	n	u		tr .	j
Ethylbenzen <b>e</b>	J [0.000971]	0.00100	n	11	"	n	u	"	j
Xylene (p/m)	0.00170	0.00100	n	**	9	h	**	**	
Xylene (o)	0.00191	0.00100	"	**	#	tt	**	"	
Surrogate: a,a,a-Trifluorotoluene		150 %	80-1	20	"	"	"	ır.	S-04
Surrogate: 4-Bromofluorobenzene		106 %	80-1	20	"	"	"	"	
MW-2 (4K11007-02) Water				•					
Benzene	ND	0.00100	mg/L	1	EK41502	11/12/04	11/12/04	EPA 8021B	
Toluene	ND	0.00100	**	n	н	11	n	н	
Ethylbenzene	ND	0.00100	"	**	н	ij	"	п	
Xylene (p/m)	ND	0.00100	11	"	H	и	"	п	
Xylene (o)	ND	0.00100	**	11	ч	11	"	11	
Surrogate: a,a,a-Trifluorotoluene		116%	80-1	20	"	"	n	"	
Surrogate: 4-Bromofluorobenzene		105 %	80-1	20	11	"	n	n	
MW-3 (4K11007-03) Water									
Benzene	ND	0.00100	mg/L	1	EK41502	11/12/04	11/12/04	EPA 8021B	
Toluene	ND	0.00100	11	н	"	11	n	11	
Ethylbenzene	ND	0.00100	**	н	н	"	"	n	
Xylene (p/m)	ND	0.00100	**	n		"	"	u	
Xylene (o)	ND	0.00100	"	**	н	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		108 %	80-1	20	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	80-1	20	n	н	n	n	
MW-4 (4K11007-04) Water									
Benzene	ND	0.00100	mg/L	1	EK41502	11/12/04	11/12/04	EPA 8021B	
Toluene	ND	0.00100	"	n	"	"	H	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100		"	"	"	"	••	
Xylene (o)	ND	0.00100	и	н		"	11	,	
Surrogate: a,a,a-Trifluorotoluene		112 %	80-1	120	"	,,	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	80-1	20	"	"	n	"	

Project: EME System M-9 SWD Site

Fax: (505) 397-1471

122 W. Taylor Hobbs NM, 88240 Project Number: V117M9
Project Manager: Kristin Farris

Reported: 11/22/04 17:11

# Organics by GC

### **Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Water Well (4K11007-05) Water			<del></del>		<u> </u>	<u> </u>			
Benzene	ND	0.00100	mg/L	1	EK41502	11/12/04	11/12/04	EPA 8021B	
Toluene	ND	0.00100	H	**	**	н		**	
Ethylbenzene	ND	0.00100	"				н	**	
Xylene (p/m)	ND	0.00100	*	**	11	"	**	•	
Xylene (o)	ND	0.00100	n	"	**	11	n	u	
Surrogate: a,a,a-Trifluorotoluene		117 %	80-12	20	"	"	"	n	
Surrogate: 4-Bromofluorobenzene		108 %	80-12	20	,,	"	,,	"	

 ${\bf Rice\ Operating\ Co}.$ 

Project: EME System M-9 SWD Site

Fax: (505) 397-1471

122 W. Taylor Hobbs NM, 88240 Project Number: V117M9
Project Manager: Kristin Farris

Reported: 11/22/04 17:11

# General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (4K11007-01) Water				Dilution	Datell	ricpareu	Analyzed	Memod	note
Carbonate Alkalinity	ND	0.100	mg/L	1	EK41814	11/11/04	11/11/04	EPA 310.2M	
Bicarbonate Alkalinity	392	2.00		п	"	"	"	u	
Hydroxide Alkalinity	ND	0.100	"	n	**	rt	п	n	
Chloride	390	5.00	**	11	EK41809	11/17/04	11/17/04	EPA 325.3M	
Total Dissolved Solids	1740	5.00	H	"	EK41206	11/11/04	11/11/04	EPA 160.1	
Sulfate	598	6.25	и	12.5	EK41904	11/11/04	11/11/04	EPA 375.4	
MW-2 (4K11007-02) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EK41814	11/11/04	11/11/04	EPA 310.2M	
Bicarbonate Alkalinity	370	2.00	**	n	11	и	н	н	
Hydroxide Alkalinity	ND	0.100	"	**	н	11	11	**	
Chloride	346	5.00	**	**	EK41809	11/17/04	11/17/04	EPA 325.3M	
Total Dissolved Solids	1610	5.00	"	"	EK41206	11/11/04	11/11/04	EPA 160.1	
Sulfate	590	6.25	11	12.5	EK41904	11/11/04	11/11/04	EPA 375.4	
MW-3 (4K11007-03) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EK41814	11/11/04	11/11/04	EPA 310.2M	
Bicarbonate Alkalinity	252	2.00	11	"		"	ч	**	
Hydroxide Alkalinity	ND	0.100	"	"	•	**	II.	H	
Chloride	337	5.00	19	•	EK41809	11/17/04	11/17/04	EPA 325.3M	
Total Dissolved Solids	1600	5.00	"	**	EK41206	11/11/04	11/11/04	EPA 160.1	
Sulfate	664	6.25	"	12.5	EK41904	11/11/04	11/11/04	EPA 375.4	
MW-4 (4K11007-04) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EK41814	11/11/04	11/11/04	EPA 310.2M	
Bicarbonate Alkalinity	278	2.00	**	**	11	"	"	u	
Hydroxide Alkalinity	ND	0.100	"	"	"	11	n	**	
Chloride	514	5.00	**	"	EK41809	11/17/04	11/17/04	EPA 325.3M	
Total Dissolved Solids	1790	5.00	**	n	EK41206	11/11/04	11/11/04	EPA 160.1	
Sulfate	580	6.25	"	12.5	EK41904	11/11/04	11/11/04	EPA 375.4	

Project: EME System M-9 SWD Site

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122 W. Taylor Hobbs NM, 88240 Project Number: V117M9
Project Manager: Kristin Farris

Reported: 11/22/04 17:11

# General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Water Well (4K11007-05) Water									
Carbonate Alkalinity	ND	0.100	mg/L	1	EK41814	11/11/04	11/11/04	EPA 310.2M	
Bicarbonate Alkalinity	270	2.00	11	"	"	н	n	0	
Hydroxide Alkalinity	ND	0.100	н	•	н	11	. "	11	
Chloride	284	5.00	"	**	EK41809	11/17/04	11/17/04	EPA 325.3M	
Total Dissolved Solids	959	5.00	**	"	EK41206	11/11/04	11/11/04	EPA 160.1	
Sulfate	418	6.25	#	12.5	EK41904	11/11/04	11/11/04	EPA 375.4	

Project: EME System M-9 SWD Site

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122 W. Taylor Hobbs NM, 88240 Project Number: V117M9
Project Manager: Kristin Farris

Reported: 11/22/04 17:11

# Total Metals by EPA / Standard Methods Environmental Lab of Texas

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (4K11007-01) Water									
Calcium	80.1	0.100	mg/L	10	EK42201	11/15/04	11/19/04	EPA 6010B	
Magnesium	67.8	0.0100	"	"	"	11	"	**	
Potassium	10.2	0.500	"	"	"	n	•	tt:	
Sodium	278	1.00	"	100	n	"	tr.	P	
MW-2 (4K11007-02) Water									
Calcium	88.7	0.100	mg/L	10	EK42201	11/15/04	11/19/04	EPA 6010B	
Magnesium	59.0	0.100	"	100	11	"	**	п	
Potassium	11.0	0.500	11	10	ti		"	n	
Sodium	244	1.00	"	100	11	**	и	11	
MW-3 (4K11007-03) Water									
Calcium	92.6	0.100	mg/L	10	EK42201	11/15/04	11/19/04	EPA 6010B	
Magnesium .	53.6	0.100	"	100	"	11	11	n	
Potassium	6.91	0.500	"	10	"	,11	"	H	
Sodium	238	1.00	"	100	"		"	11	
MW-4 (4K11007-04) Water									
Calcium	87.9	0.100	mg/L	10	EK42201	11/15/04	11/19/04	EPA 6010B	
Magnesium	65.9	0.100	"	100	u	п	11	н	
Potassium	10.6	0.500	**	10	*	n	"	н	
Sodium	305	1.00	"	100	н	**	**	И	
Water Well (4K11007-05) Water									
Calcium	53.9	0.100	mg/L	10	EK42201	11/15/04	11/19/04	EPA 6010B	
Magnesium	37.1	0.0100	"	"	11	11	n		
Potassium	6.18	0.500		"	11	11	н	n .	
Sodium	214	1.00	"	100	**	"	n	* w	

122 W. Taylor Hobbs NM, 88240 Project: EME System M-9 SWD Site

Project Number: V117M9
Project Manager: Kristin Farris

Fax: (505) 397-1471

Reported: 11/22/04 17:11

# Organics by GC - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
	Weath	Lulli	Onits	Peagl	Result	/onec	Lunus	ארט	Limit	Notes
Batch EK41502 - EPA 5030C (GC)										
Blank (EK41502-BLK1)				Prepared &	Analyzed:	11/12/04				
Benzene	ND	0.00100	mg/L					***********	<del></del>	
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	**							
Xylene (p/m)	ND	0.00100	19							
Xylene (o)	ND	0.00100	11							
Surrogate: a,a,a-Trifluorotoluene	17.8		ug/l	20.0		89.0	80-120			
Surrogate: 4-Bromofluorobenzene	19.9		n	20.0		99.5	80-120			
LCS (EK41502-BS1)				Prepared &	Analyzed:	11/12/04				
Benzene	106		ug/l	100		106	80-120			
Toluene	107		**	100		107	80-120			
Ethylbenzene	113		"	100		113	80-120			
Xylene (p/m)	237		"	200		118	80-120			
Xylene (o)	107		"	100		107	80-120			
Surrogate: a,a,a-Trifluorotoluene	20.3		"	20.0		102	80-120	· · · · · · · · · · · · · · · · · · ·		<del>-</del>
Surrogate: 4-Bromofluorobenzene	23.4		"	20.0		117	80-120			
LCS Dup (EK41502-BSD1)				Prepared &	Analyzed:	11/12/04				
Benzene	105		ug/l	100	i	105	80-120	0.948	20	
Toluene	106		n	100		106	80-120	0.939	20	
Ethylbenzene	113		"	100		113	80-120	0.00	20	
Xylene (p/m)	223		"	200		112	80-120	5.22	20	
Xylene (o)	106		*	100		106	80-120	0.939	20	
Surrogate: a,a,a-Trifluorotoluene	19.3		,,	20.0		96.5	80-120			
Surrogate: 4-Bromofluorobenzene	22.2		"	20.0		111	80-120			
Calibration Check (EK41502-CCV1)				Prepared &	Analyzed:	11/12/04				
Benzene	102		ug/l	100		102	80-120			
Toluene	101		n	100		101	80-120			
Ethylbenzene	109		#	100		109	80-120			
Xylene (p/m)	213		50	200		106	80-120			
Xylene (o)	112		**	100		112	80-120			
Surrogate: a,a,a-Trifluorotoluene	17.8		,,	20.0		89.0	80-120			
Surrogate: 4-Bromofluorobenzene	21.7		n	20.0		108	80-120			

Project: EME System M-9 SWD Site

Fax: (505) 397-1471

122 W. Taylor Hobbs NM, 88240 Project Number: V117M9
Project Manager: Kristin Farris

Reported: 11/22/04 17:11

# Organics by GC - Quality Control Environmental Lab of Texas

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

### Batch EK41502 - EPA 5030C (GC)

Matrix Spike (EK41502-MS1)	Source: 41	K11005-01	Prepared &			
Benzene	116	ug/l	100	ND	116	80-120
Toluene	115	n	100	ND	115	80-120
Ethylbenzene	107	"	100	ND	107	80-120
Xylene (p/m)	227	и	200	ND	114	80-120
Xylene (o)	115	**	100	ND	115	80-120
Surrogate: a,a,a-Trifluorotoluene	21.2	n	20.0		106	80-120
Surrogate: 4-Bromofluorobenzene	21.9	"	20.0		110	80-120

Project: EME System M-9 SWD Site

Fax: (505) 397-1471

122 W. Taylor

Project Number: V117M9

Reported: 11/22/04 17:11

Hobbs NM, 88240

Project Manager: Kristin Farris

# General Chemistry Parameters by EPA / Standard Methods - Quality Control **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EK41206 - Filtration Preparation										
Blank (EK41206-BLK1)				Prepared &	Analyzed:	11/11/04				
Total Dissolved Solids	ND	5.00	mg/L							
Duplicate (EK41206-DUP1)	Source: 4K11004-01			Prepared &	Analyzed:	11/11/04				
Total Dissolved Solids	2000	5.00	mg/L		1910			4.60	20	
Batch EK41809 - General Preparation (We	tChem)									
Blank (EK41809-BLK1)		Prepared &	Analyzed:	11/17/04						
Chloride	ND	5.00	mg/L							
Matrix Spike (EK41809-MS1)	Sour	ce: 4K11004	-01	Prepared &	Analyzed:	11/17/04				
Chloride	1220	5.00	mg/L	500	727	98.6	80-120		,	
Matrix Spike Dup (EK41809-MSD1)	Sour	ce: 4K11004	-01	Prepared & Analyzed: 11/17/04						
Chloride	1230	5.00	mg/L	500	727	101	80-120	0.816	20	
Reference (EK41809-SRM1)				Prepared &	k Analyzed:	11/17/04				
Chloride	4960		mg/L	5000		99.2	80-120			
Batch EK41814 - General Preparation (We	tChem)									
Blank (EK41814-BLK1)				Prepared & Analyzed: 11/11/04						
Carbonate Alkalinity	ND	0,100	mg/L							
Bicarbonate Alkalinity	ND	2.00	"							
Hydroxide Alkalinity	ND	0.100	**							

Project: EME System M-9 SWD Site

Fax: (505) 397-1471

122 W. Taylor Hobbs NM, 88240

Project Number: V117M9 Project Manager: Kristin Farris Reported:

11/22/04 17:11

# General Chemistry Parameters by EPA / Standard Methods - Quality Control **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Note
Batch EK41814 - General Preparatio	on (WetChem)					·				
Duplicate (EK41814-DUP1)	Sour	ce: 4K11004-	-01	Prepared &	: Analyzed:	11/11/04				
Carbonate Alkalinity	0.00	0.100	mg/L		0.00				20	
Bicarbonate Alkalinity	161	2.00	n		160			0.623	20	
Hydroxide Alkalinity	0.00	0.100	**		0.00				20	
Reference (EK41814-SRM1)				Prepared &	: Analyzed:	11/11/04				
Carbonate Alkalinity	0.0500		mg/L	0.0500		100	80-1-20			

Blank (EK41904-BLK1)				Prepared & Ana	lyzed: 11/11/04			
Sulfate	ND	0.500	mg/L					
Calibration Check (EK41904-CCV1)				Prepared & Ana	lyzed: 11/11/04			
Sulfate	49.3		mg/L	50.0	98.6	80-120		
Duplicate (EK41904-DUP1)	Sour	ce: 4K11004-	01	Prepared & Ana				
Sulfate	241	2.50	mg/L	2	38		1.25	20

Project: EME System M-9 SWD Site

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122 W. Taylor Hobbs NM, 88240 Project Number: V117M9
Project Manager: Kristin Farris

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# Total Metals by EPA / Standard Methods - Quality Control Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK42201 - 6010B/No Digestion						<u></u>				
Blank (EK42 201-BLK1)				Prepared:	11/15/04 A	nalyzed: 11	/19/04	<del></del>		
Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	11							
Sodium	ND	0.0100	"							
Blank (EK42201-BLK2)				Prepared:	11/15/04 A	nalyzed: 11	/19/04			
Calcium	ND	0.0100	mg/L							·
Magnesium	ND	0.00100	n							
Potassium	ND	0.0500								
Sodium	ND	0.0100	n							
Calibration Check (EK42201-CCV1)				Prepared:	11/15/04 A	nalyzed: 11	/19/04			
Calcium	2.15		mg/L	2.00		108	85-115			
Magnesium	2.10		11	2.00		105	85-115			
Potassium	2.08		*	2.00		104	85-115			
Sodium	1.88		. 14	2.00		94.0	85-115			
Calibration Check (EK42201-CCV2)				Prepared:	11/15/04 A	nalyzed: 11	/22/04			
Calcium	1.83		mg/L	2.00		91.5	85-115			
Magnesium	1.96		**	2.00		98.0	85-115			
Potassium	1.78		n	2,00		89.0	85-115			
Sodium	1.72		"	2.00		86.0	85-115			
Duplicate (EK42201-DUP1)	Sou	rce: 4K11013-	01RE1	Prepared:	11/15/04 A	nalyzed: 11	/19/04			
Calcium	34.6	0.100	mg/L		ND				20	
Magnesium	25.6	0.0100			ND				20	
Potassium	4.08	0.500	н		ND				20	

77.4

1.00

Sodium

ND

20

Project: EME System M-9 SWD Site

Fax: (505) 397-1471

122 W. Taylor Hobbs NM, 88240 Project Number: V117M9
Project Manager: Kristin Farris

Reported: 11/22/04 17:11

# Total Metals by EPA / Standard Methods - Quality Control Environmental Lab of Texas

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

### Batch EK42201 - 6010B/No Digestion

Duplicate (EK42201-DUP2)	Source	e: 4K11004-	01	Prepared: 11/15/04 Analyzed: 11/19/04		
Calcium	180	1.00	mg/L	179	0.557	20
Magnesium	48.9	0.0100	"	47.2	3.54	20
Potassium	11.7	0.500	"	9.88	16.9	20
Sodium	283	1.00	11	268	5.44	20

Rice Operating Co.Project:EME System M-9 SWD SiteFax: (505) 397-1471122 W. TaylorProject Number:V117M9Reported:Hobbs NM, 88240Project Manager:Kristin Farris11/22/04 17:11

### Notes and Definitions

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:

Raland Kethals

Date:

11/22/2004

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director James L. Hawkins, Chemist/Geologist Sandra Sanchez, Lab Tech.

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If you have received this material in error, please notify us immediately at 432-563-1800.

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

# Environmental Lab of Texas 12600 West 1-20 East Phone: 432-563-1800 odessa, Texas 79765 Fax: 432-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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# Environmental Lab of Texas Variance / Corrective Action Report – Sample Log-In

Client: Rice Operating Co.				
Date/Time: 11-11-04@ 1200				
Order #: 4K 11 007				
Initials: Jmm				
Sample Receipt	Checkli	ist		
Temperature of container/cooler?	(Yes)	No	-2.S C	
Shipping container/cooler in good condition?	Yes	No		
Custody Seals intact on shipping container/cooler?	Yes	No	Not present	
Custody Seals intact on sample bottles?	Yes	No	Not present	
Chain of custody present?	Yes			
Sample Instructions complete on Chain of Custody?	Yes			
Chain of Custody signed when relinquished and received?	(Yes)	No		
Chain of custody agrees with sample label(s)	Yes	No		
Container labels legible and intact?	7 एड	No		
Sample Matrix and properties same as on chain of custody?	1785	No		
Samples in proper container/bottle?	(es)	No		
Samples properly preserved?	(Ces)	No		İ
Sample bottles intact?	(es)	No		
Preservations documented on Chain of Custody?	(Ces)	No		
Containers documented on Chain of Custody?	(Yes)	No		I !
Sufficient sample amount for indicated test?  All samples received within sufficient hold time?	7 es	No !		 
VOC samples have zero headspace?	(Yes)	No No	Not Applicable	i I
Other observations:				
Variance Docum Contact Person: Date/Time: Regarding:			Contacted by: _	
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Corrective Action Taken:	(			anggan ngagan gagan kanada sa da Pina na Pana a Pina a
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