

AP - 42

**ANNUAL  
MONITORING REPORT**

**YEAR(S):  
2004**

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# **RICE** Operating Company

122 West Taylor • Hobbs, New Mexico 88240  
Phone: (505)393-9174 • Fax: (505) 397-1471

CERTIFIED MAIL

RETURN RECEIPT NO. 7002 2410 0000 4940 1718

January 17, 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 MONITOR WELL REPORT/SAMPLING SUMMARY  
JCT. M-16-1, EME SWD SYSTEM  
UNIT 'M', SEC. 16, T20S, R37E  
NMOCD CASE #1R0427-93**

Mr. Price:

Rice Operating Company (ROC) takes this opportunity to submit the 2004 Monitor Well Report for the EME Jct. M-16-1 site located in the Eunice Monument Eumont (EME) Salt Water Disposal (SWD) System. One monitoring well was installed on 1/9/2002 during delineation as part of the Junction Box Upgrade Program. This well is sampled quarterly pursuant to NMOCD guidelines. In 2004, ROC and Basin Environmental Service Technologies of Lovington sampled the well. In 2005, Arcadis G&M, Inc. (Arcadis) of Midland, Texas will sample the well and Environmental Lab of Texas of Odessa will continue to conduct analytical tests of the water samples.

Arcadis has been contracted by ROC to address groundwater concerns at this. NMOCD may expect the submission of an Investigation & Characterization Plan (ICP) this year.

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.

RICE OPERATING COMAPANY

*Kristin Farris Pope*

Kristin Farris Pope  
Project Scientist

enclosures:      Summary table & graph  
                         Analytical results  
                         Survey map

cc: LBG, CDH, Arcadis, file, Rob Roy Industries,

Chris Williams  
NMOCD, District I Office  
1625 N. French Drive  
Hobbs, NM 88240

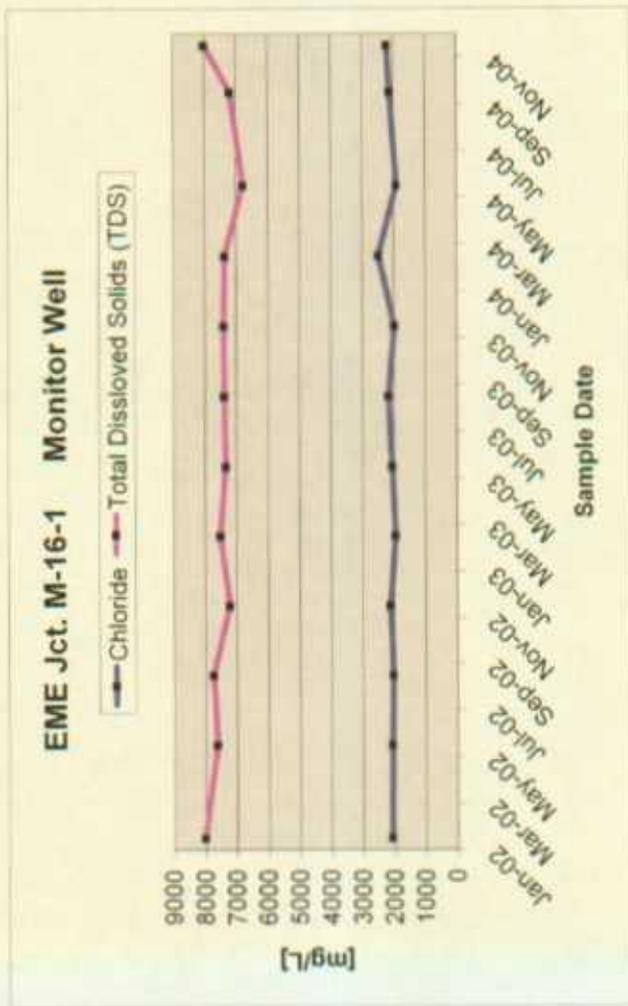
**EME Jct. M-16-1**

Unit M, Sec. 16, T20S, R37E

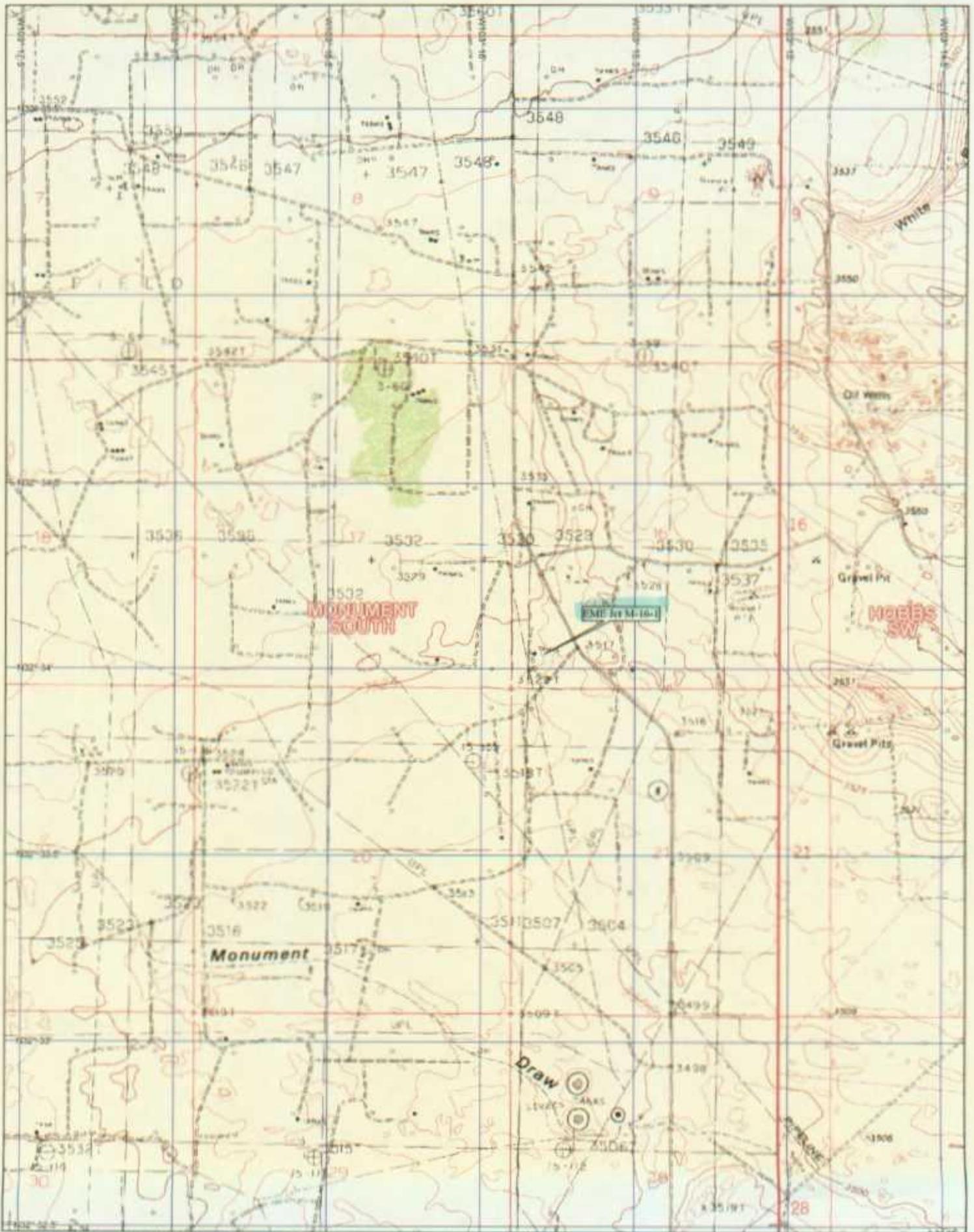
NMOCD Case #1R0427-93

All concentrations are in mg/L.

MW #	DEPTH TO WATER * (ft)	TOTAL DEPTH (ft)	WELL VOLUME (gal)	VOLUME PURGED (gal)	SAMPLE DATE	CT	TDS	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	COMMENTS
1	22.60	35.10	2,000	6.10	01/10/02	2079	8016	<0.002	<0.002	<0.002	<0.006	
1	23.78	25.81	0.325	1.00	05/13/02	2070	7620	<0.001	<0.001	<0.001	<0.001	
1	23.08	34.80	1.875	5.75	08/23/02	2040	7740	<0.001	<0.001	<0.001	<0.001	
1	23.53	34.69	1.786	5.50	11/12/02	2130	7230	<0.001	<0.001	<0.001	<0.001	
1	23.20	34.49	1.800	5.40	02/27/03	1960	7520	<0.001	<0.001	<0.001	<0.001	
1	23.10	34.50	1.824	5.40	05/22/03	2060	7350	<0.001	<0.001	<0.001	<0.001	
1	23.83	34.25	1.660	5.00	08/22/03	2170	7390	<0.001	<0.001	<0.001	<0.001	
1	24.07	34.34	1.640	4.90	11/20/03	1990	7400	<0.001	<0.001	<0.001	<0.001	
1	24.90	34.25	1.490	4.47	02/18/04	2479	7368	<0.002	<0.002	<0.002	<0.006	
1	22.75	34.25	1.840	5.50	05/26/04	1919	6784	<0.002	<0.002	<0.002	<0.006	
1	23.18	31.40	1.315	3.95	09/07/04	2130	7200	<0.001	<0.001	<0.001	<0.001	
1	22.45	31.40	1.430	4.30	11/24/04	2210	8020	<0.001	0.000766	0.00291	0.01019	lt. odor, clear



\* Depth to water measured from top of casing  
Casing is 2.958 ft





PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
 RICE OPERATING CO.  
 ATTN: KRISTIN FARRIS  
 122 W. TAYLOR  
 HOBBS, NM 88240  
 FAX TO: (505) 397-1471

Receiving Date: 02/18/04  
 Reporting Date: 02/20/04  
 Project Number: NOT GIVEN  
 Project Name: NOT GIVEN  
 Project Location: EME M-16-1

Sampling Date: 02/18/04  
 Sample Type: GROUNDWATER  
 Sample Condition: COOL & INTACT  
 Sample Received By: AH  
 Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		02/18/04	02/18/04	02/18/04	02/18/04
H8467-1	EME M-16-1 MW 1	<0.002	<0.002	<0.002	<0.006
Quality Control		0.094	0.096	0.099	0.304
True Value QC		0.100	0.100	0.100	0.300
% Recovery		94.1	96.0	99.0	101
Relative Percent Difference		1.9	5.1	2.5	0.4

METHOD: EPA SW-846 8260

Bryant J. Cooke  
 Chemist

2/20/04  
 Date

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 Project Number: NOT GIVEN  
 Project Name: NOT GIVEN  
 Project Location: EME M-16-1

Sampling Date: 02/18/04  
 Sample Type: GROUNDWATER  
 Sample Condition: COOL & INTACT  
 Sample Received By: AH  
 Analyzed By: AH

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (uS/cm)	T-Alkalinity (mgCaCO <sub>3</sub> /L)
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ANALYSIS DATE:	02/19/04	02/19/04	02/19/04	02/19/04	02/19/04	02/19/04	02/19/04
H8467-1 EME M-16-1 MW 1	1649	272	182	3.63	10767	374	
Quality Control	NR	59	42	5.17	1322	NR	
True Value QC	NR	50	50	5.00	1413	NR	
% Recovery	NR	118	85	103	93.6	NR	
Relative Percent Difference	NR	1.7	2.3	1.0	0.7	NR	

METHODS:	SM3500-Ca-D	3500-Mg E	8049	120.1	310.1
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Cl <sup>-</sup> (mg/L)	SO <sub>4</sub> (mg/L)	CO <sub>3</sub> (mg/L)	HCO <sub>3</sub> (mg/L)	pH (s.u.)	TDS (mg/L)
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ANALYSIS DATE:	02/19/04	02/19/04	02/19/04	02/19/04	02/19/04	02/20/04
H8467-1 EME M-16-1 MW 1	2479	1106	0	456	7.49	7368
Quality Control	1010	53.65	NR	1007	7.04	NR
True Value QC	1000	50.00	NR	1000	7.00	NR
% Recovery	101	107	NR	101	101	NR
Relative Percent Difference	2.0	1.5	NR	1.1	0.3	1.4

METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1
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Amy Hill  
 Chemist

2/20/04  
 Date

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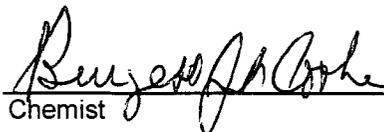
ANALYTICAL RESULTS FOR  
 RICE OPERATING  
 ATTN: KRISTIN FARRIS  
 122 W. TAYLOR  
 HOBBS, NM 88240  
 FAX TO: (505) 397-1471

Receiving Date: 05/26/04  
 Reporting Date: 05/28/04  
 Project Number: NOT GIVEN  
 Project Name: EME-M-16-1 MW  
 Project Location: NOT GIVEN

Sampling Date: 05/26/04  
 Sample Type: GROUNDWATER  
 Sample Condition: COOL & INTACT  
 Sample Received By: GR  
 Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		05/27/04	05/27/04	05/27/04	05/27/04
H8742-1	M-16-1 M.W.	<0.002	<0.002	<0.002	<0.006
Quality Control		0.098	0.099	0.088	0.256
True Value QC		0.100	0.100	0.100	0.300
% Recovery		97.9	98.9	87.7	85.4
Relative Percent Difference		7.4	5.0	1.8	3.6

METHOD: EPA SW-846 8260

  
 Chemist

5/28/04  
 Date

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# ARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

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ANALYTICAL RESULTS FOR  
RICE OPERATING  
ATTN: KRISTIN FARRIS  
122 W. TAYLOR  
HOBBS, NM 88240  
FAX TO: (505) 397-1471

Receiving Date: 05/26/04  
Reporting Date: 05/28/04  
Project Number: NOT GIVEN  
Project Name: EME M-16-1 MW  
Project Location: NOT GIVEN

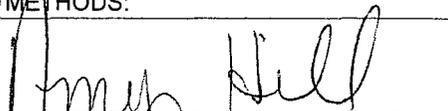
Sampling Date: 05/26/04  
Sample Type: GROUNDWATER  
Sample Condition: COOL & INTACT  
Sample Received By: GP  
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity ( $\mu$ S/cm)	T-Alkalinity (mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:		05/27/04	05/27/04	05/27/04	05/27/04	05/27/04	05/27/04
H8742-1	M-16-1 M.W.	1739	259	141	20.6	10332	364
Quality Control		NR	50	55	4.58	1322	NR
True Value QC		NR	50	50	5.00	1413	NR
% Recovery		NR	100	110	91.6	93.6	NR
Relative Percent Difference		NR	0	0	7.2	0.7	NR

METHODS:	SM3500-Ca-D	3500-Mg E	8049	120.1	310.1
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	Cl (mg/L)	SO <sub>4</sub> (mg/L)	CO <sub>3</sub> (mg/L)	HCO <sub>3</sub> (mg/L)	pH (s.u.)	TDS (mg/L)	
ANALYSIS DATE:		05/27/04	05/27/04	05/27/04	05/27/04	05/28/04	
H8742-1	M-16-1 M.W.	1919	1889	0	444	7.28	6784
Quality Control		1010	48.21	NR	1007	6.95	NR
True Value QC		1000	50.00	NR	1000	7.00	NR
% Recovery		101	96.4	NR	101	99.3	NR
Relative Percent Difference		2.0	6.2	NR	1.1	1.6	1.4

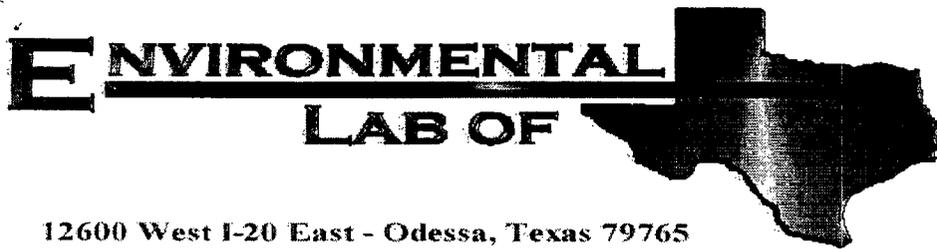
METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1
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\_\_\_\_\_  
Chemist

5/28/04  
\_\_\_\_\_  
Date

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12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

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

Project: Jct. M-16-1  
Project Number: None Given  
Location: EME

Lab Order Number: 4I10012

Report Date: 09/17/04

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
09/17/04 10:55

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	4110012-01	Water	09/07/04 15:20	09/09/04 19:20

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
09/17/04 10:55

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (4I10012-01) Water</b>									
Benzene	ND	0.00100	mg/L	1	EI41604	09/14/04	09/14/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		118 %	80-120	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.5 %	80-120	"	"	"	"	"	

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
09/17/04 10:55

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (4I10012-01) Water</b>									
Chloride	2130	5.00	mg/L	1	EI41612	09/12/04	09/12/04	EPA 325.3M	
Total Dissolved Solids	7200	10.0	"	2	EI41702	09/13/04	09/13/04	EPA 160.1	
Sulfate	2180	25.0	"	50	EI41701	09/10/04	09/10/04	EPA 375.4	

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
09/17/04 10:55

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (4110012-01) Water</b>									
Calcium	311	1.00	mg/L	100	E141506	09/15/04	09/15/04	EPA 6010B	
Magnesium	208	0.100	"	"	"	"	"	"	
Potassium	35.1	0.500	"	10	"	"	"	"	
Sodium	1790	10.0	"	1000	"	"	"	"	

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
09/17/04 10:55

**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
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**Batch EI41604 - EPA 5030C (GC)**

**Blank (EI41604-BLK1)**

Prepared & Analyzed: 09/14/04

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	20.0		ug/l	20.0		100	80-120			
Surrogate: 4-Bromofluorobenzene	17.4		"	20.0		87.0	80-120			

**LCS (EI41604-BS1)**

Prepared & Analyzed: 09/14/04

Benzene	95.7		ug/l	100		95.7	80-120			
Toluene	110		"	100		110	80-120			
Ethylbenzene	108		"	100		108	80-120			
Xylene (p/m)	228		"	200		114	80-120			
Xylene (o)	103		"	100		103	80-120			
Surrogate: a,a,a-Trifluorotoluene	21.5		"	20.0		108	80-120			
Surrogate: 4-Bromofluorobenzene	23.5		"	20.0		118	80-120			

**LCS Dup (EI41604-BSD1)**

Prepared & Analyzed: 09/14/04

Benzene	92.0		ug/l	100		92.0	80-120	3.94	20	
Toluene	104		"	100		104	80-120	5.61	20	
Ethylbenzene	103		"	100		103	80-120	4.74	20	
Xylene (p/m)	215		"	200		108	80-120	5.41	20	
Xylene (o)	99.5		"	100		99.5	80-120	3.46	20	
Surrogate: a,a,a-Trifluorotoluene	20.6		"	20.0		103	80-120			
Surrogate: 4-Bromofluorobenzene	21.2		"	20.0		106	80-120			

**Calibration Check (EI41604-CCV1)**

Prepared & Analyzed: 09/14/04

Benzene	82.8		ug/l	100		82.8	80-120			
Toluene	94.0		"	100		94.0	80-120			
Ethylbenzene	91.4		"	100		91.4	80-120			
Xylene (p/m)	196		"	200		98.0	80-120			
Xylene (o)	89.9		"	100		89.9	80-120			
Surrogate: a,a,a-Trifluorotoluene	18.1		"	20.0		90.5	80-120			
Surrogate: 4-Bromofluorobenzene	17.1		"	20.0		85.5	80-120			

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
09/17/04 10:55

**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
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**Batch EI41604 - EPA 5030C (GC)**

**Matrix Spike (EI41604-MS1)**

Source: 4110005-02

Prepared: 09/14/04

Analyzed: 09/16/04

Benzene	81.1		ug/l	100	ND	81.1	80-120			
Toluene	83.7		"	100	ND	83.7	80-120			
Ethylbenzene	81.6		"	100	ND	81.6	80-120			
Xylene (p/m)	174		"	200	ND	87.0	80-120			
Xylene (o)	80.6		"	100	ND	80.6	80-120			
Surrogate: <i>a,a,a</i> -Trifluorotoluene	17.0		"	20.0		85.0	80-120			
Surrogate: 4-Bromofluorobenzene	16.5		"	20.0		82.5	80-120			

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
09/17/04 10:55

**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
<b>Batch EI41612 - General Preparation (WetChem)</b>										
<b>Blank (EI41612-BLK1)</b> Prepared & Analyzed: 09/12/04										
Chloride	ND	5.00	mg/L							
<b>Matrix Spike (EI41612-MS1)</b> Source: 4I09007-03 Prepared & Analyzed: 09/12/04										
Chloride	1280	5.00	mg/L	500	780	100	90-110			
<b>Matrix Spike Dup (EI41612-MSD1)</b> Source: 4I09007-03 Prepared & Analyzed: 09/12/04										
Chloride	1280	5.00	mg/L	500	780	100	90-110	0.00	20	
<b>Reference (EI41612-SRM1)</b> Prepared & Analyzed: 09/12/04										
Chloride	4960		mg/L	5000		99.2	80-120			
<b>Batch EI41701 - General Preparation (WetChem)</b>										
<b>Blank (EI41701-BLK1)</b> Prepared & Analyzed: 09/10/04										
Sulfate	ND	0.500	mg/L							
<b>Calibration Check (EI41701-CCV1)</b> Prepared & Analyzed: 09/10/04										
Sulfate	48.6		mg/L	50.0		97.2	80-120			
<b>Duplicate (EI41701-DUP1)</b> Source: 4I10005-01 Prepared & Analyzed: 09/10/04										
Sulfate	128	1.00	mg/L		129			0.778	20	
<b>Batch EI41702 - Filtration Preparation</b>										
<b>Blank (EI41702-BLK1)</b> Prepared & Analyzed: 09/13/04										
Total Dissolved Solids	ND	5.00	mg/L							

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
09/17/04 10:55

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EI41702 - Filtration Preparation</b>									
<b>Duplicate (EI41702-DUP1)</b>		<b>Source: 4110005-02</b>			<b>Prepared &amp; Analyzed: 09/13/04</b>				
Total Dissolved Solids	797	5.00	mg/L		937		16.1	20	

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
09/17/04 10:55

**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
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**Batch EI41506 - General Preparation (Metals)**

**Blank (EI41506-BLK1)**

Prepared & Analyzed: 09/15/04

Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							

**Blank (EI41506-BLK2)**

Prepared & Analyzed: 09/15/04

Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							

**Calibration Check (EI41506-CCV1)**

Prepared & Analyzed: 09/15/04

Calcium	2.03		mg/L	2.00		102	85-115			
Magnesium	2.04		"	2.00		102	85-115			
Potassium	1.75		"	2.00		87.5	85-115			
Sodium	1.79		"	2.00		89.5	85-115			

**Calibration Check (EI41506-CCV2)**

Prepared & Analyzed: 09/15/04

Calcium	1.93		mg/L	2.00		96.5	85-115			
Magnesium	2.02		"	2.00		101	85-115			
Potassium	1.76		"	2.00		88.0	85-115			
Sodium	1.77		"	2.00		88.5	85-115			

**Duplicate (EI41506-DUP1)**

Source: 4I03009-01

Prepared & Analyzed: 09/15/04

Calcium	281	1.00	mg/L		280			0.357	20	
Magnesium	110	0.100	"		111			0.905	20	
Potassium	8.18	0.500	"		8.31			1.58	20	
Sodium	359	1.00	"		365			1.66	20	

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

Project: Jct. M-16-1  
 Project Number: None Given  
 Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
 09/17/04 10:55

**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
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**Batch EI41506 - General Preparation (Metals)**

Duplicate (EI41506-DUP2)	Source: 4I10015-01			Prepared & Analyzed: 09/15/04						
Calcium	20.2	0.100	mg/L		20.2			0.00	20	
Magnesium	28.4	0.0100	"		28.6			0.702	20	
Potassium	16.4	0.500	"		16.6			1.21	20	
Sodium	103	0.100	"		103			0.00	20	

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
09/17/04 10:55

### Notes and Definitions

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 K Tuttle

Date:

9-18-04

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 Biezugbe, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

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



**Jeanne McMurrey**

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**From:** "Kristin Farris" <enviro@leaco.net>  
**To:** "Jeanne McMurrey" <jeanne@elabtexas.com>  
**Sent:** Friday, September 10, 2004 9:33 AM  
**Subject:** MW samples

Please do not analyze the water samples that were collected on 9/7/2004 for HCO<sub>3</sub> since the hold time of 48 hrs. has expired.

Also, for the COC for the site F-35 SWD, the corresponding samples were mistakenly labeled as H-35 SWD.

Thank you.  
Kristin Farris Pope  
RICE Operating Company  
Hobbs, NM 88240  
(505) 393-9174

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This message has been scanned for viruses and dangerous content by MailScanner at [BasinBroadBand.com](http://BasinBroadBand.com), and is believed to be clean.

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

Client: Rice Operating Co.  
 Date/Time: 09-10-04 @ 0900  
 Order #: 4I10012  
 Initials: JMM

**Sample Receipt Checklist**

Temperature of container/cooler?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	4.0 C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Custody Seals intact on shipping container/cooler?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<del>Not present</del>
Custody Seals intact on sample bottles?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<del>Not present</del>
Chain of custody present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Container labels legible and intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Samples in proper container/bottle?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Samples properly preserved?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Sample bottles intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
All samples received within sufficient hold time?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	CO <sub>3</sub> /HCO <sub>3</sub> out of 48 hr. hold time
VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Not Applicable

Other observations:

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\_\_\_\_\_

\_\_\_\_\_

**Variance Documentation:**

Contact Person: - Kristin Farris Date/Time: 09-10-04 @ 0930 Contacted by: Jeanne  
 Regarding:

hold time - CO<sub>3</sub>/HCO<sub>3</sub>

\_\_\_\_\_

\_\_\_\_\_

Corrective Action Taken:

client doesn't want to run CO<sub>3</sub>/HCO<sub>3</sub>  
on 9/7/4 samples. See attached e-mail

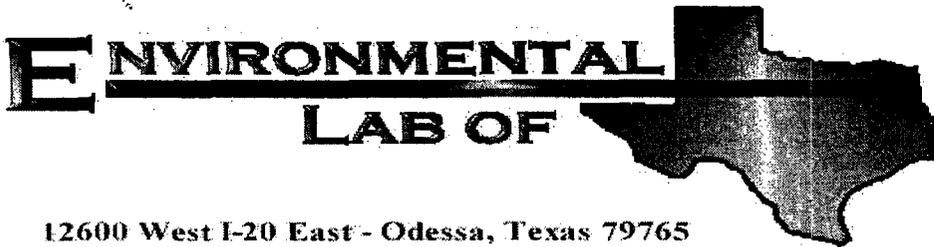
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12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

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

Project: Jct. M-16-1  
Project Number: None Given  
Location: EME

Lab Order Number: 4K30011

Report Date: 12/08/04

Rice Operating Co. 122 W. Taylor Hobbs NM, 88240	Project: Jct. M-16-1 Project Number: None Given Project Manager: Kristin Pope	Fax: (505) 397-1471  Reported: 12/08/04 17:22
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**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	4K30011-01	Water	11/24/04 17:24	11/30/04 10:35

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
12/08/04 17:22

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (4K30011-01) Water</b>									
Benzene	ND	0.00100	mg/L	1	EL40601	12/02/04	12/03/04	EPA 8021B	
Toluene	J [0.000766]	0.00100	"	"	"	"	"	"	J
Ethylbenzene	0.00291	0.00100	"	"	"	"	"	"	
Xylene (p/m)	0.00712	0.00100	"	"	"	"	"	"	
Xylene (o)	0.00307	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		114 %	80-120		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	80-120		"	"	"	"	

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
12/08/04 17:22

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (4K30011-01) Water</b>									
<b>Total Alkalinity</b>	<b>336</b>	2.00	mg/L	1	EL40313	12/03/04	12/03/04	EPA 310.2M	
<b>Total Dissolved Solids</b>	<b>8020</b>	5.00	"	"	EL40105	11/30/04	12/01/04	EPA 160.1	

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
12/08/04 17:22

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (4K30011-01) Water</b>									
Calcium	325	1.00	mg/L	100	EL40101	11/30/04	11/30/04	EPA 6010B	
Magnesium	255	0.100	"	"	"	"	"	"	
Potassium	26.8	5.00	"	"	"	"	"	"	
Sodium	1850	10.0	"	1000	"	"	"	"	

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471  
Reported:  
12/08/04 17:22

**Anions by EPA Method 300.0**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (4K30011-01) Water</b>									
Chloride	2210	20.0	mg/L	40	EL40811	12/02/04	12/02/04	EPA 300.0	
Sulfate	2460	20.0	"	"	EL40812	"	"	"	

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
12/08/04 17:22

**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
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**Batch EL40601 - EPA 5030C (GC)**

Blank (EL40601-BLK1) Prepared & Analyzed: 12/02/04										
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	0.0223		"	0.0200		112	80-120			
Surrogate: 4-Bromofluorobenzene	0.0183		"	0.0200		91.5	80-120			

LCS (EL40601-BS1) Prepared & Analyzed: 12/02/04										
Benzene	99.2		ug/l	100		99.2	80-120			
Toluene	107		"	100		107	80-120			
Ethylbenzene	107		"	100		107	80-120			
Xylene (p/m)	219		"	200		110	80-120			
Xylene (o)	116		"	100		116	80-120			
Surrogate: a,a,a-Trifluorotoluene	0.0196		mg/L	0.0200		98.0	80-120			
Surrogate: 4-Bromofluorobenzene	0.0199		"	0.0200		99.5	80-120			

LCS Dup (EL40601-BSD1) Prepared & Analyzed: 12/02/04										
Benzene	100		ug/l	100		100	80-120	0.803	20	
Toluene	110		"	100		110	80-120	2.76	20	
Ethylbenzene	111		"	100		111	80-120	3.67	20	
Xylene (p/m)	230		"	200		115	80-120	4.44	20	
Xylene (o)	119		"	100		119	80-120	2.55	20	
Surrogate: a,a,a-Trifluorotoluene	0.0199		mg/L	0.0200		99.5	80-120			
Surrogate: 4-Bromofluorobenzene	0.0202		"	0.0200		101	80-120			

Calibration Check (EL40601-CCV1) Prepared: 12/02/04 Analyzed: 12/03/04										
Benzene	98.7		ug/l	100		98.7	80-120			
Toluene	105		"	100		105	80-120			
Ethylbenzene	109		"	100		109	80-120			
Xylene (p/m)	221		"	200		110	80-120			
Xylene (o)	111		"	100		111	80-120			
Surrogate: a,a,a-Trifluorotoluene	0.0218		mg/L	0.0200		109	80-120			
Surrogate: 4-Bromofluorobenzene	0.0227		"	0.0200		114	80-120			

**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
<b>Batch EL40601 - EPA 5030C (GC)</b>										
<b>Matrix Spike (EL40601-MS1)</b>		<b>Source: 4K30004-03</b>			<b>Prepared: 12/02/04</b>		<b>Analyzed: 12/03/04</b>			
Benzene	107		ug/l	100	ND	107	80-120			
Toluene	108		"	100	ND	108	80-120			
Ethylbenzene	114		"	100	ND	114	80-120			
Xylene (p/m)	229		"	200	ND	114	80-120			
Xylene (o)	111		"	100	ND	111	80-120			
Surrogate: <i>a,a,a</i> -Trifluorotoluene	0.0206		mg/L	0.0200		103	80-120			
Surrogate: <i>4</i> -Bromofluorobenzene	0.0201		"	0.0200		100	80-120			

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
12/08/04 17:22

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EL40105 - General Preparation (WetChem)</b>									
<b>Blank (EL40105-BLK1)</b> Prepared: 11/30/04 Analyzed: 12/01/04									
Total Dissolved Solids	ND	5.00	mg/L						
<b>Duplicate (EL40105-DUP1)</b> Source: 4K24009-01 Prepared: 11/30/04 Analyzed: 12/01/04									
Total Dissolved Solids	1480	5.00	mg/L		1480		0.00	20	
<b>Batch EL40313 - General Preparation (WetChem)</b>									
<b>Blank (EL40313-BLK1)</b> Prepared & Analyzed: 12/03/04									
Total Alkalinity	ND	2.00	mg/L						
<b>Duplicate (EL40313-DUP1)</b> Source: 4K30004-01 Prepared & Analyzed: 12/03/04									
Total Alkalinity	207	2.00	mg/L		208		0.482	20	
<b>Reference (EL40313-SRM1)</b> Prepared & Analyzed: 12/03/04									
Carbonate Alkalinity	0.0501		mg/L	0.0500		100	80-120		

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

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Reported:  
 12/08/04 17:22

**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
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**Batch EL40101 - 6010B/No Digestion**

**Blank (EL40101-BLK1)**

Prepared & Analyzed: 11/30/04

Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							

**Calibration Check (EL40101-CCV1)**

Prepared & Analyzed: 11/30/04

Calcium	1.87		mg/L	2.00		93.5	85-115			
Magnesium	2.08		"	2.00		104	85-115			
Potassium	1.83		"	2.00		91.5	85-115			
Sodium	1.78		"	2.00		89.0	85-115			

**Duplicate (EL40101-DUP1)**

Source: 4K24009-01

Prepared & Analyzed: 11/30/04

Calcium	108	1.00	mg/L		122			12.2	20	
Magnesium	46.0	0.0100	"		51.6			11.5	20	
Potassium	11.1	0.500	"		13.2			17.3	20	
Sodium	222	1.00	"		235			5.69	20	

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
12/08/04 17:22

**Anions by EPA Method 300.0 - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EL40811 - General Preparation (WetChem)</b>										
<b>Blank (EL40811-BLK1)</b> Prepared & Analyzed: 12/02/04										
Chloride	0.00	0.500	mg/L							
<b>Blank (EL40811-BLK2)</b> Prepared & Analyzed: 12/02/04										
Chloride	0.00	0.500	mg/L							
<b>LCS (EL40811-BS1)</b> Prepared & Analyzed: 12/02/04										
Chloride	5.73	0.500	mg/L	5.00		115	80-120			
<b>LCS (EL40811-BS2)</b> Prepared & Analyzed: 12/02/04										
Chloride	5.81	0.500	mg/L	5.00		116	80-120			
<b>LCS Dup (EL40811-BSD1)</b> Prepared & Analyzed: 12/02/04										
Chloride	5.42	0.500	mg/L	5.00		108	80-120	5.56	20	
<b>LCS Dup (EL40811-BSD2)</b> Prepared & Analyzed: 12/02/04										
Chloride	5.51	0.500	mg/L	5.00		110	80-120	5.30	20	
<b>Calibration Check (EL40811-CCV1)</b> Prepared & Analyzed: 12/02/04										
Chloride	25.8		mg/L	25.0		103	80-120			
<b>Calibration Check (EL40811-CCV2)</b> Prepared & Analyzed: 12/02/04										
Chloride	26.1		mg/L	25.0		104	80-120			
<b>Duplicate (EL40811-DUP1)</b> Source: 4K30004-03 Prepared & Analyzed: 12/02/04										
Chloride	55.7	10.0	mg/L		55.2			0.902	20	
<b>Duplicate (EL40811-DUP2)</b> Source: 4K30006-01RE1 Prepared & Analyzed: 12/02/04										
Chloride	446	10.0	mg/L		445			0.224	20	

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471  
Reported:  
12/08/04 17:22

**Anions by EPA Method 300.0 - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EL40812 - General Preparation (WetChem)</b>										
<b>Blank (EL40812-BLK1)</b> Prepared & Analyzed: 12/02/04										
Sulfate	0.00	0.500	mg/L							
<b>Blank (EL40812-BLK2)</b> Prepared & Analyzed: 12/02/04										
Sulfate	0.00	0.500	mg/L							
<b>LCS (EL40812-BS1)</b> Prepared & Analyzed: 12/02/04										
Sulfate	5.28	0.500	mg/L	5.00		106	80-120			
<b>LCS (EL40812-BS2)</b> Prepared & Analyzed: 12/02/04										
Sulfate	5.53	0.500	mg/L	5.00		111	80-120			
<b>LCS Dup (EL40812-BSD1)</b> Prepared & Analyzed: 12/02/04										
Sulfate	5.22	0.500	mg/L	5.00		104	80-120	1.14	20	
<b>LCS Dup (EL40812-BSD2)</b> Prepared & Analyzed: 12/02/04										
Sulfate	5.34	0.500	mg/L	5.00		107	80-120	3.50	20	
<b>Calibration Check (EL40812-CCV1)</b> Prepared & Analyzed: 12/02/04										
Sulfate	10.1		mg/L	10.0		101	80-120			
<b>Calibration Check (EL40812-CCV2)</b> Prepared & Analyzed: 12/02/04										
Sulfate	10.3		mg/L	10.0		103	80-120			
<b>Duplicate (EL40812-DUP1)</b> Source: 4K30004-03 Prepared & Analyzed: 12/02/04										
Sulfate	101	10.0	mg/L		99.2			1.80	20	
<b>Duplicate (EL40812-DUP2)</b> Source: 4K30006-01RE1 Prepared & Analyzed: 12/02/04										
Sulfate	123	10.0	mg/L		123			0.00	20	

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

Project: Jct. M-16-1  
Project Number: None Given  
Project Manager: Kristin Pope

Fax: (505) 397-1471

Reported:  
12/08/04 17:22

### Notes and Definitions

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 K Tuttle Date: 12-09-04

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.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

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



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

Client: Rice Operating Co.

Date/Time: 11-30-04 @ 1200

Order #: 4K 30011

Initials: JMM

### Sample Receipt Checklist

Temperature of container/cooler?	<input checked="" type="checkbox"/> Yes	No	O.S	C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/> Yes	No		
Custody Seals intact on shipping container/cooler?	Yes	No	<input checked="" type="checkbox"/> Not present	
Custody Seals intact on sample bottles?	Yes	No	<input checked="" type="checkbox"/> Not present	
Chain of custody present?	<input checked="" type="checkbox"/> Yes	No		
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No		
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/> Yes	No		
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/> Yes	No		
Container labels legible and intact?	<input checked="" type="checkbox"/> Yes	No		
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/> Yes	No		
Samples in proper container/bottle?	<input checked="" type="checkbox"/> Yes	No		
Samples properly preserved?	<input checked="" type="checkbox"/> Yes	No		
Sample bottles intact?	<input checked="" type="checkbox"/> Yes	No		
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No		
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No		
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/> Yes	No		
All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	No		
VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	No	Not Applicable	

Other observations:

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### Variance Documentation:

Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_  
Regarding: \_\_\_\_\_

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Corrective Action Taken:

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