

1R - 426-169

REPORTS

DATE:

8-24-12

Rice Environmental Consulting & Safety

P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

RECEIVED OCD

CERTIFIED MAIL
RETURN RECEIPT NO. 7007 2560 0003 0320 5402

2012 AUG 29 P 12: 48

August 24th, 2012

Mr. Edward Hansen

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

**RE: Corrective Action Plan (CAP) Report for Groundwater and
Termination Request
Rice Operating Company – BD SWD System
BD B-29 (1R426-169): UL/B&C sec. 29 T21S R37E**

Mr. Hansen:

RICE Operating Company (ROC) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site in the BD Salt Water Disposal (SWD) system. ROC is the service provider (agent) for the BD SWD System and has no ownership of any portion of the pipeline, well, or facility. The system is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

In response to NMOCD's July 23rd, 2012 request for a groundwater remediation report, ROC submitted a chloride mass calculation for the BD B-29 site on August 16th, 2012, which was approved on August 16th, 2012. The chloride mass calculation stated that ROC would remove 1,029 kgs from the BD O-23 vent and BD O-23-1 vent sites. Groundwater recovery for the BD B-29 site began on July 30th, 2012 at the recovery systems located at the BD O-23-1 vent and BD O-23 vent and was completed on August 17th, 2012. At the BD O-23 vent site, a total of 670 barrels of groundwater were removed from the aquifer. Given the chloride concentration of 7,500 mg/L at the site, the 670 barrels equates to 799 kg of chlorides removed. At the BD O-23-1 vent site, a total of 907 barrels of groundwater were removed from the aquifer. Given the chloride concentration at the site of 4,300 mg/L, the 907 barrels equates to 620 kg of chlorides removed. Together, the two sites removed a total of 1,419 kg from the aquifer (See Appendix A for laboratory analysis and B for chloride mass calculation record). Removed groundwater was utilized for pipeline and well maintenance.

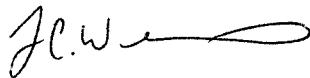
ROC submitted a Corrective Action Plan (CAP) Report and Vadose Zone Remediation on July 12th, 2012, approved by NMOCD on July 23rd, signifying that BD B-29 received soil closure.

ROC has completed the corrective actions as approved by NMOCD in the CAPs by installing and properly seating 20-mil reinforced poly liners across the site and by removing the necessary 1,029 kg of chlorides the site contributed to groundwater.

Upon NMOCD's approval of this report, all three monitor wells (MW-1, MW-2 and MW-3) will be plugged and abandoned with a 1-3 % bentonite/concrete slurry with a three foot concrete cap.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-9174 or me if you have any questions or wish to discuss the site.

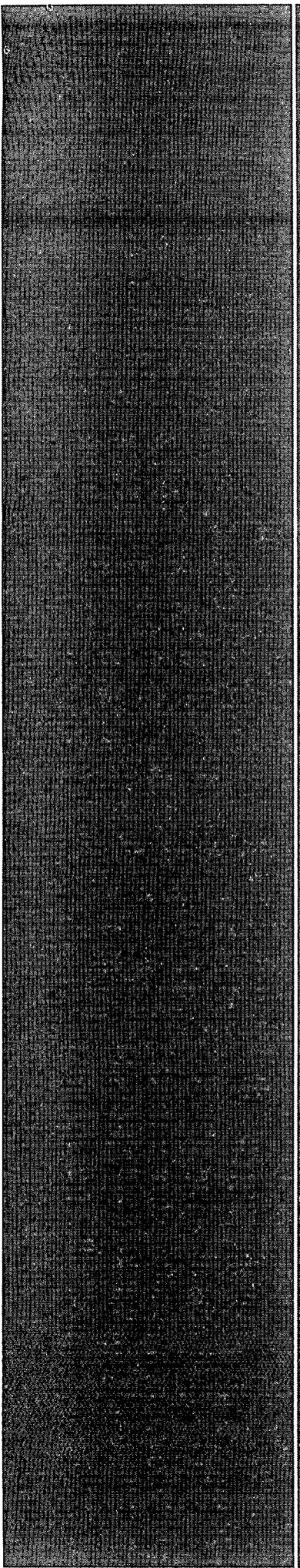
Sincerely,

A handwritten signature in black ink, appearing to read "L.W.", with a long, sweeping horizontal stroke extending to the right.

Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

Attachments:

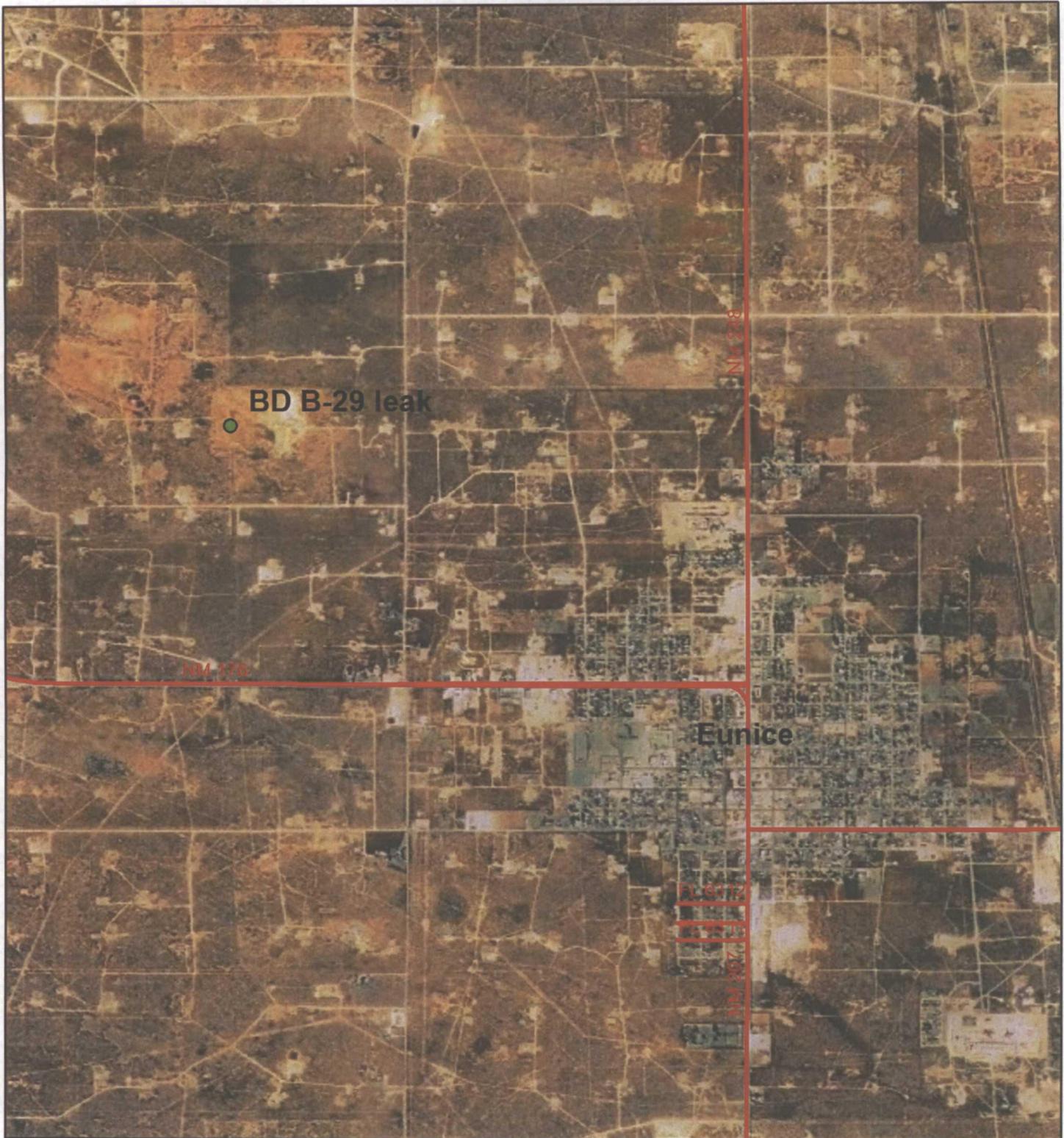
- Figure 1 – Site Location Map
- Appendix A – BD O-23 and O-23-1 vent MW Sampling Labs
- Appendix B – Record of Groundwater Withdrawal



Figures

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

Site Location

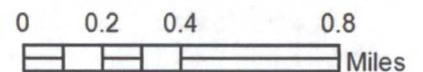


BD B-29

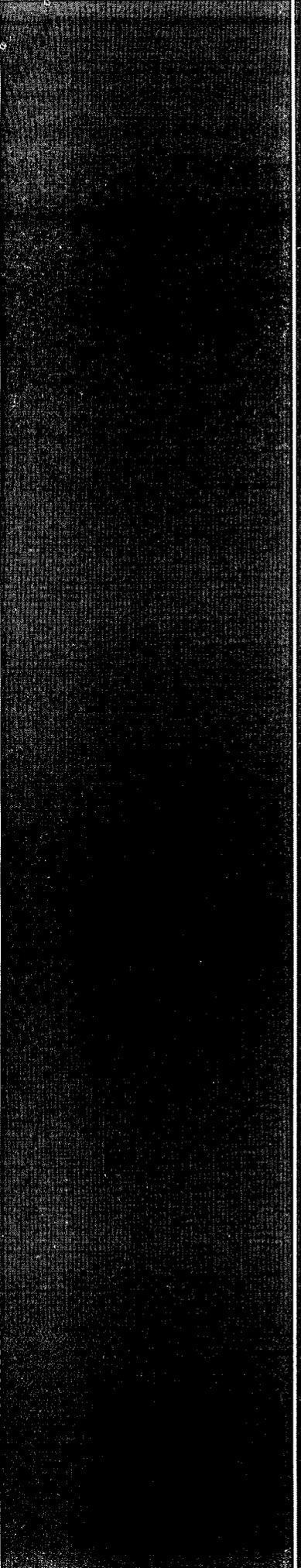
**LEGALS: UL/B&C SECTION 29
T-21-S R-37-E**

NMOCD CASE #: 1R426-169

Figure 1



Drawing date: 6/25/2012
Drafted by: Lara Weinheimer



Appendix A

BD O-23 and O-23-1 vent MW Sampling Labs

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

July 31, 2012

Hack Conder
Rice Operating Company
112 W. Taylor
Hobbs, NM 88240

RE: BD O-23-1 VENT

Enclosed are the results of analyses for samples received by the laboratory on 07/25/12 13:11.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene
Lab Director/Quality Manager

Analytical Results For:

 Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

 Received: 07/25/2012
 Reported: 07/31/2012
 Project Name: BD O-23-1 VENT
 Project Number: NOT GIVEN
 Project Location: T21S R37E SEC23 O-LEA CTY., NM

 Sampling Date: 07/20/2012
 Sampling Type: Water
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: MONITOR WELL 1R (H201716-01)

BTEX 8260B		mg/L		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	07/26/2012	ND	0.019	95.7	0.0200	1.61		
Toluene*	<0.001	0.001	07/26/2012	ND	0.019	94.8	0.0200	0.368		
Ethylbenzene*	<0.001	0.001	07/26/2012	ND	0.019	94.4	0.0200	0.265		
Total Xylenes*	<0.003	0.003	07/26/2012	ND	0.056	93.4	0.0600	0.161		

Surrogate: Dibromofluoromethane 105 % 59.8-161
 Surrogate: Toluene-d8 99.3 % 75.2-115
 Surrogate: 4-Bromofluorobenzene 88.5 % 53.7-120

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	4300	4.00	07/30/2012	ND	104	104	100	0.00		

Sulfate 375.4		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	465	10.0	07/31/2012	ND	18.8	94.0	20.0	11.3		

TDS 160.1		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	8100	5.00	07/26/2012	ND	232	96.7	240	3.57		

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received:	07/25/2012	Sampling Date:	07/20/2012
Reported:	07/31/2012	Sampling Type:	Water
Project Name:	BD O-23-1 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T21S R37E SEC23 O-LEA CTY., NM		

Sample ID: RECOVERY WELL 2R (H201716-02)

BTEX 8260B		mg/L		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	07/26/2012	ND	0.019	95.7	0.0200	1.61		
Toluene*	<0.001	0.001	07/26/2012	ND	0.019	94.8	0.0200	0.368		
Ethylbenzene*	<0.001	0.001	07/26/2012	ND	0.019	94.4	0.0200	0.265		
Total Xylenes*	<0.003	0.003	07/26/2012	ND	0.056	93.4	0.0600	0.161		

Surrogate: Dibromofluoromethane 104 % 59.8-161
 Surrogate: Toluene-d8 99.1 % 75.2-115
 Surrogate: 4-Bromofluorobenzene 88.8 % 53.7-120

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	5000	4.00	07/30/2012	ND	104	104	100	0.00		

Sulfate 375.4		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	472	10.0	07/31/2012	ND	18.8	94.0	20.0	11.3		

TDS 160.1		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	10000	5.00	07/26/2012	ND	232	96.7	240	3.57		

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*=Accredited Analyte

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 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received:	07/25/2012	Sampling Date:	07/20/2012
Reported:	07/31/2012	Sampling Type:	Water
Project Name:	BD O-23-1 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T21S R37E SEC23 O-LEA CTY., NM		

Sample ID: MONITOR WELL 2 (H201716-03)

BTEX 8260B		mg/L		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	07/26/2012	ND	0.019	95.7	0.0200	1.61		
Toluene*	<0.001	0.001	07/26/2012	ND	0.019	94.8	0.0200	0.368		
Ethylbenzene*	<0.001	0.001	07/26/2012	ND	0.019	94.4	0.0200	0.265		
Total Xylenes*	<0.003	0.003	07/26/2012	ND	0.056	93.4	0.0600	0.161		

Surrogate: Dibromofluoromethane 104 % 59.8-161

Surrogate: Toluene-d8 97.8 % 75.2-115

Surrogate: 4-Bromofluorobenzene 87.2 % 53.7-120

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	2150	4.00	07/30/2012	ND	104	104	100	0.00		

Sulfate 375.4		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	377	10.0	07/31/2012	ND	18.8	94.0	20.0	11.3		

TDS 160.1		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	4560	5.00	07/26/2012	ND	232	96.7	240	3.57		

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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July 31, 2012

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Hobbs, NM 88240

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Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

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This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene
Lab Director/Quality Manager

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 Rice Operating Company
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 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received:	07/25/2012	Sampling Date:	07/20/2012
Reported:	07/31/2012	Sampling Type:	Water
Project Name:	BD O-23 VENT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T21S R37E SEC23 O-LEA CTY., NM		

Sample ID: MONITOR WELL 1R (H201717-01)

BTEX 8260B		mg/L		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	07/26/2012	ND	0.019	95.7	0.0200	1.61		
Toluene*	<0.001	0.001	07/26/2012	ND	0.019	94.8	0.0200	0.368		
Ethylbenzene*	<0.001	0.001	07/26/2012	ND	0.019	94.4	0.0200	0.265		
Total Xylenes*	<0.003	0.003	07/26/2012	ND	0.056	93.4	0.0600	0.161		

Surrogate: Dibromofluoromethane 106 % 59.8-161
 Surrogate: Toluene-d8 99.5 % 75.2-115
 Surrogate: 4-Bromofluorobenzene 87.8 % 53.7-120

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	7500	4.00	07/30/2012	ND	100	100	100	3.92		

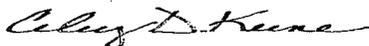
Sulfate 375.4		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	478	10.0	07/31/2012	ND	18.8	94.0	20.0	11.3		

TDS 160.1		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	12800	5.00	07/26/2012	ND	227	94.6	240	2.32		

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received:	07/25/2012	Sampling Date:	07/20/2012
Reported:	07/31/2012	Sampling Type:	Water
Project Name:	BD O-23 VENT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T21S R37E SEC23 O-LEA CTY., NM		

Sample ID: RECOVERY WELL 2R (H201717-02)

BTEX 8260B		mg/L		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	07/26/2012	ND	0.019	95.7	0.0200	1.61		
Toluene*	<0.001	0.001	07/26/2012	ND	0.019	94.8	0.0200	0.368		
Ethylbenzene*	<0.001	0.001	07/26/2012	ND	0.019	94.4	0.0200	0.265		
Total Xylenes*	<0.003	0.003	07/26/2012	ND	0.056	93.4	0.0600	0.161		

Surrogate: Dibromofluoromethane 108 % 59.8-161

Surrogate: Toluene-d8 100 % 75.2-115

Surrogate: 4-Bromofluorobenzene 86.9 % 53.7-120

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	10200	4.00	07/30/2012	ND	100	100	100	3.92		

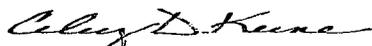
Sulfate 375.4		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	403	10.0	07/31/2012	ND	18.8	94.0	20.0	11.3		

TDS 160.1		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	18700	5.00	07/26/2012	ND	227	94.6	240	2.32		

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* = Accredited Analyte

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Caley D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Rice Operating Company
 Hack Conder
 112 W. Taylor
 Hobbs NM, 88240
 Fax To: (575) 397-1471

Received:	07/25/2012	Sampling Date:	07/20/2012
Reported:	07/31/2012	Sampling Type:	Water
Project Name:	BD O-23 VENT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T21S R37E SEC23 O-LEA CTY., NM		

Sample ID: MONITOR WELL 2 (H201717-03)

BTEX 8260B		mg/L		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	07/26/2012	ND	0.019	95.7	0.0200	1.61		
Toluene*	<0.001	0.001	07/26/2012	ND	0.019	94.8	0.0200	0.368		
Ethylbenzene*	<0.001	0.001	07/26/2012	ND	0.019	94.4	0.0200	0.265		
Total Xylenes*	<0.003	0.003	07/26/2012	ND	0.056	93.4	0.0600	0.161		

Surrogate: Dibromofluoromethane 106 % 59.8-161

Surrogate: Toluene-d8 98.8 % 75.2-115

Surrogate: 4-Bromofluorobenzene 85.4 % 53.7-120

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	4050	4.00	07/30/2012	ND	100	100	100	3.92		

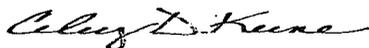
Sulfate 375.4		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	298	10.0	07/31/2012	ND	18.8	94.0	20.0	11.3		

TDS 160.1		mg/L		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	7710	5.00	07/26/2012	ND	227	94.6	240	2.32		

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

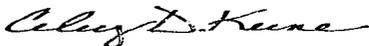
Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

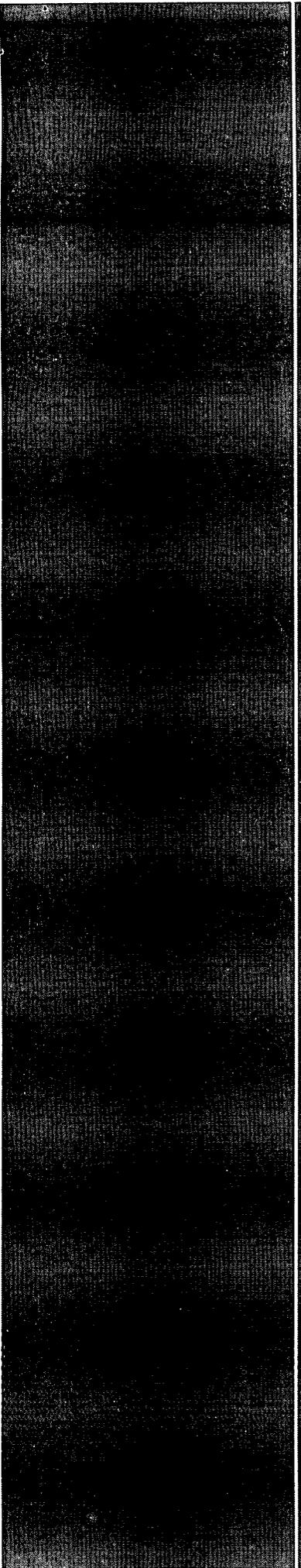
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Celest D. Keene, Lab Director/Quality Manager



Appendix B

Record of Groundwater Withdrawal

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

Record of Groundwater Withdrawal

Site Name: BD B-29 (1R426-169)

O-23 vent

O-23-1 vent

Date	Fluid Hauled (bbls)	Lab	Comments	Date	Fluid Hauled (bbls)	Lab	Comments
7/20/2012			7,500 MW-1R	7/20/2012			4,300 MW-1
7/30/2012	100		Started Pumping	7/30/2012	50		Started Pumping
8/1/2012	100			8/1/2012	128		
8/3/2012	85			8/3/2012	125		
8/6/2012	114			8/6/2012	130		
8/8/2012	71			8/8/2012	114		
8/10/2012	30			8/10/2012	100		
8/13/2012	70			8/13/2012	130		
8/17/2012	100			8/16/2012	130		
Total for August	670	bbls	Total kg of Chloride removed	Total for August	907	bbls	Total kg of Chloride removed
	28140	gallons			38094	gallons	
Total combined:	1419		kg of Chloride removed				
	1577		bbls removed				
	66234		gallons removed				