1R-426-169

REPORTS

2-24-12

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: 43

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,

Lara Weinheimer

Project Scientist

RECS

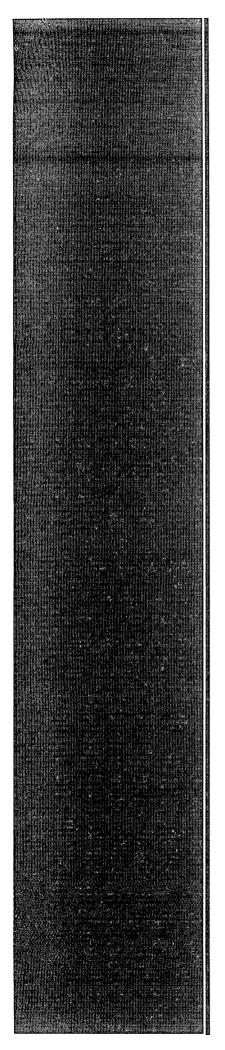
(575) 441-0431

Attachments:

Figure 1 – Site Location Map

Appendix A – BD O-23 and O-23-1 vent MW Sampling Labs

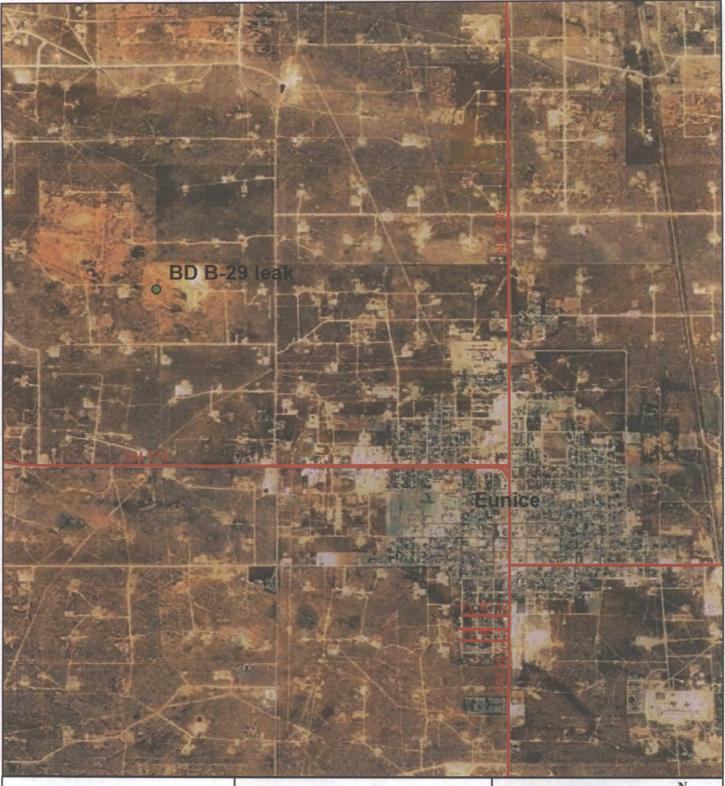
Appendix B – Record of Groundwater Withdrawal



Figures

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

Site Location

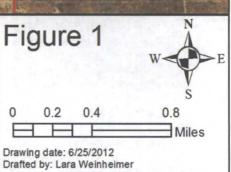


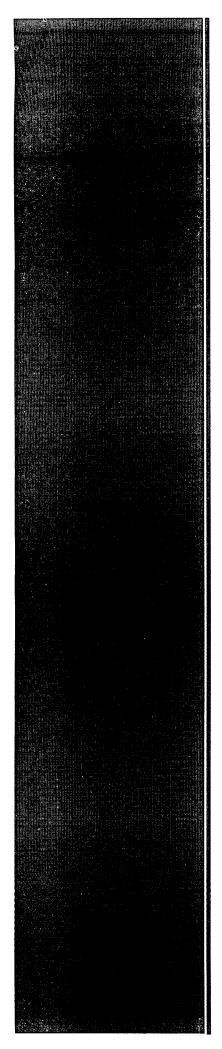


BD B-29

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

NMOCD CASE #: 1R426-169





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 accredited certif.html.

Cardinal Laboratories is accreditated 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.

Celey D. Keene

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



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

Fax To:

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 1R (H201716-01)

		'L	Analyze	a 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 9	% 59.8-16.	1						
Surrogate: Toluene-d8	99.3	% 75.2-11.	5						
Surrogate: 4-Bromofluorobenzene	88.5	% 53.7-12	0						
Chloride, SM4500CI-B	mg/	L	Analyze	d 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	
Chloride* Sulfate 375.4	4300 mg/		, ,	ND d By: HM	104	104	100	0.00	
			, ,		104 BS	104 % Recovery	100 True Value QC	0.00 RPD	Qualifier
Sulfate 375.4	mg/	'L	Analyze	d By: HM			·		Qualifier
Sulfate 375.4 Analyte	mg/ Result	Reporting Limit	Analyzed 07/31/2012	d By: HM Method Blank	BS	% .Recovery	True Value QC	RPD	Qualifier
Sulfate 375.4 Analyte Sulfate*	mg/ Result 465	Reporting Limit	Analyzed 07/31/2012	Method Blank	BS	% .Recovery	True Value QC	RPD	Qualifier Qualifier

*=Accredited Analyte Cardinal Laboratories

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such

Celeg & Keine



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	Analyze	d 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 9	% 59.8-16	1						
Surrogate: Toluene-d8	99.1	% 75.2-11	5						
Surrogate: 4-Bromofluorobenzene	88.8	% 53.7-12	0						
Chloride, SM4500CI-B	mg/	L	Analyze	d 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	Analyze	d 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	Analyze	d 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	

Cardinal Laboratories *=Accredited Analyte

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Celey D. Keine



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: MONITOR WELL 2 (H201716-03)

BTEX 8260B	mg/	L	Analyze	d 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 9	% 59.8-16	TI						
Surrogate: Toluene-d8	97.8	% 75.2-11	5						
Surrogate: 4-Bromofluorobenzene	87.2	% 53.7-12	0						
Chloride, SM4500CI-B	mg/	'L	Analyze	d 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/	<u>L</u>	Analyze	d 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	Analyze	d 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	

Cardinal Laboratories *=Accredited Analyte

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Celeg & Keene



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

Cardinal Laboratories *=Accredited Analyte

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Celey D. Keine

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#26



July 31, 2012

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD O-23 VENT

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

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Cardinal Laboratories is accreditated 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.

Celey D. Keine

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



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 1R (H201717-01)

BTEX 8260B	mg,	/L	Analyze	d 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	% 59.8-16	I						
Surrogate: Toluene-d8	99.5	% 75.2-11.	5						
Surrogate: 4-Bromofluorobenzene	87.8	% 53.7-12	0						
Chloride, SM4500CI-B	mg,	/L	Analyze	d 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 ·	Analyze	d 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	Analyze	d 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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Celey & Keene



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:

Sampling Type:

Water

Project Name:

07/31/2012 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 .	Analyze	d 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 9	% 59.8-16	1			•			
Surrogate: Toluene-d8	100	% 75.2-11	5						
Surrogate: 4-Bromofluorobenzene	86.9	% 53.7-12	0						
Chloride, SM4500CI-B	mg/	'L	Analyze	d 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	Analyze	d 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	Analyze	d 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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Celeg D. Keine



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/	<u>'L</u>	Analyze	d 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 9	% 59.8-16	1			1 1 2 10			
Surrogate: Toluene-d8	98.8	% 75.2-11	5 .						
Surrogate: 4-Bromofluorobenzene	85.4	% 53.7-12	0						
Chloride, SM4500CI-B	mg/	'L	. Analyze	d 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	Analyze	d 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	Analyze	d 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	

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Celey & Keene



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

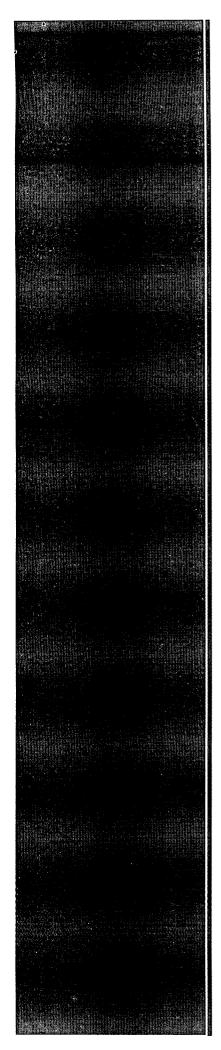
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keine

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Sampler)-	UPS - Bus - Other:	<u> </u>	No	ليا	No					<u>. L</u>	1 4	٧																							



Appendix B Record of Groundwater Withdrawal

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	8		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	799	Total for August	907	bbls	Total kg of Chloride	620
	28140	gallons	removed	I		38094	gallons	removed	
Total combined:	1419	kg of Chlo	oride removed						
	1577	bbls remo	oved						
	66234	gallons re	moved						