

AP - 98

ANNUAL MONITORING REPORT

YEAR(S):
2010

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

March 14, 2011

Edward J. Hansen
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: 2010 Annual Ground Water Monitoring Report
Hobbs Jct. E-4, Sec 04, T19S, R38E, Unit "E"
NMOCD Case #: AP-98

Mr. Hansen,

R.T. Hicks Consultants, Ltd. is pleased to submit this 2010 Annual Ground Water Monitoring Report for the Jct. E-4 site located in the Hobbs Salt Water Disposal System (SWD). This report contains:


1. A table presenting all laboratory results and depth to ground water for each well at the site.
2. Graphs showing the concentration of chloride and TDS in ground water over time.
3. A plate presenting the location of the monitoring wells and the most recent ground water sampling results.
4. The laboratory analysis from the most recent ground water sampling event.

Ground water monitoring will continue in 2011.

ROC is the service provider (agent) for the Hobbs Salt Water Disposal System and has no ownership of any portion of pipeline, well or facility. A consortium of oil producers who own the Hobbs Salt Water Disposal System (System Parties) provide all operating capital on a percentage ownership/usage basis. Major projects require System Parties' authorization for expenditures (AFE); approval and work begins as funds are received.

Thank you for your consideration. If you have any questions, please contact us at 505-266-5004, or Hack Conder at Rice Operating Company, 575-393-9174.

Sincerely,
R.T. Hicks Consultants



Katie Lee
Project Scientist

Copy: Hack Conder, Rice Operating Company

RECEIVED
2011 MAR 16 11:21

ROC Hobbs Jct. E-4 NMOCD Case #: AP-98

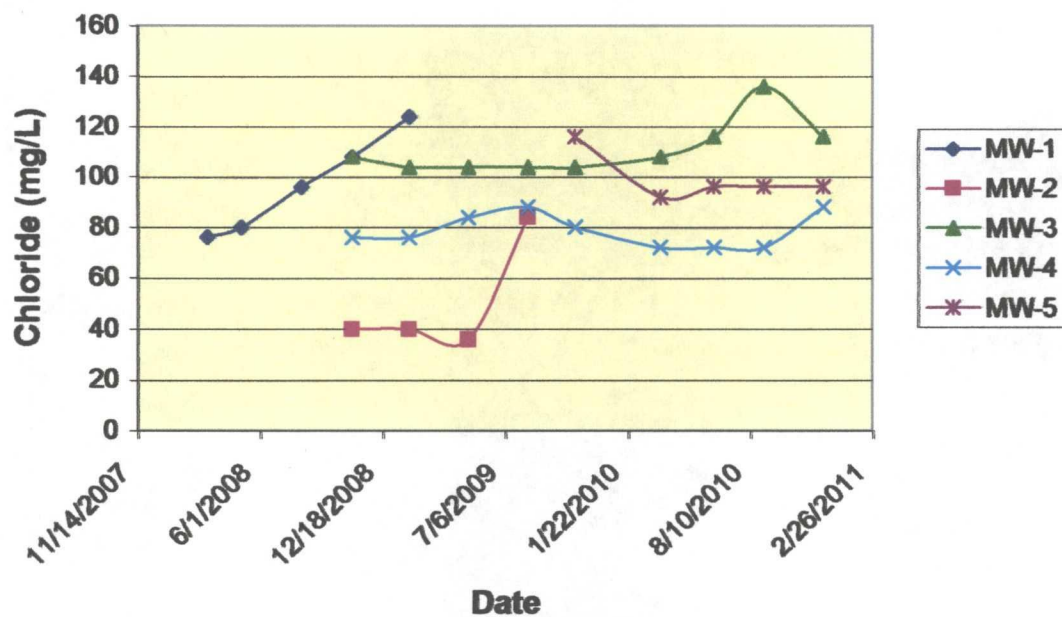
MW	Depth to Water (ft)	Sample Date	CI	TDS	Benzene	Toluene	Ethyl Benzene (mg/L)	Total Xylenes	Sulfate
1	36.33	3/7/2008	76	710	2.9	2.75	0.82	2.47	23.5
1	36.65	5/2/2008	80	740	2.19	2.5	0.497	1.87	<10
1	37.24	8/8/2008	96	813	0.796	1.46	0.432	1.05	31
1	37.49	10/29/2008	108	862	0.241	0.607	0.21	0.389	32.7
1	38.56	1/30/2009	124	878	0.551	0.653	0.235	0.476	42
1	39.24	5/7/2009	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1	39.56	8/12/2009	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1	39.9	10/28/2009	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1	40.06	3/16/2010	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1	40.02	6/11/2010	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1	38.99	9/1/2010	XXX	XXX	XXX	XXX	XXX	XXX	XXX
1	39.89	12/7/2010	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2	37.51	10/29/2008	40	594	0.022	0.007	0.105	0.204	13
2	37.89	1/30/2009	40	647	0.091	0.004	0.176	0.331	<10
2	38.36	5/7/2009	36	688	0.167	0.011	0.281	0.648	<10
2	39.09	8/12/2009	84	788	0.101	0.031	0.186	0.372	248
2	39.51	10/28/2009	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2	39.99	3/16/2010	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2	40.24	6/11/2010	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2	39.02	9/1/2010	XXX	XXX	XXX	XXX	XXX	XXX	XXX
2	39.65	12/7/2010	XXX	XXX	XXX	XXX	XXX	XXX	XXX

XXX: Not Sampled due to Floating Product or with NMOCD Permission

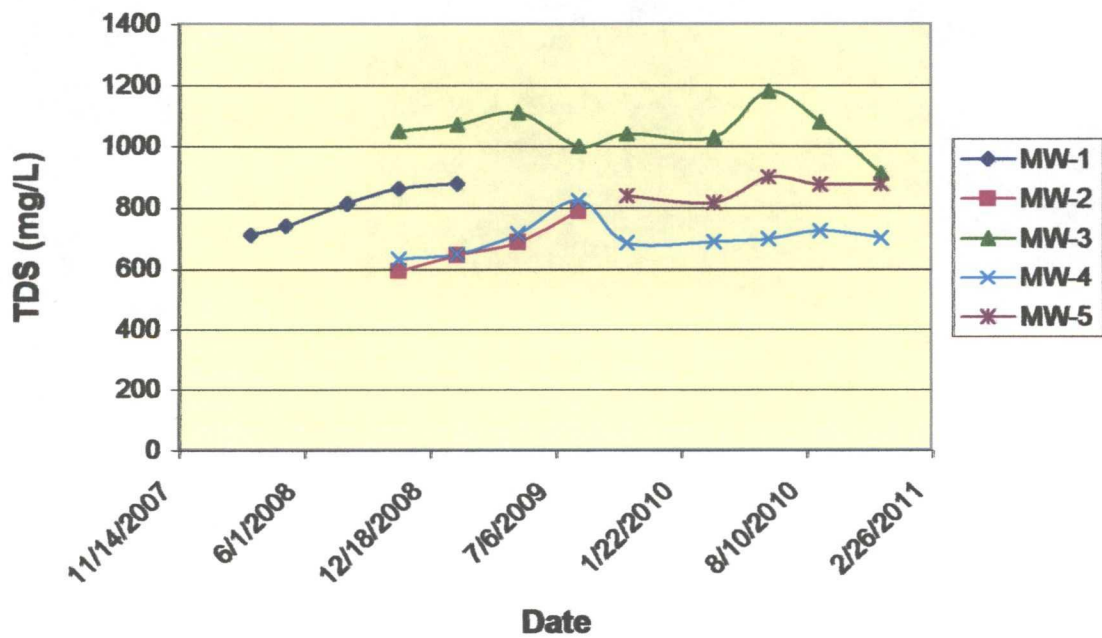
MW	Depth to Water (ft)	Sample Date	CI	TDS	Benzene	Toluene	Ethyl Benzene (mg/L)		Total Xylenes	Sulfate
3	34.76	10/29/2008	108	1050	0.001	0.004	0.035	0.086		364
3	34.99	1/30/2009	104	1070	0.005	0.002	0.078	0.109		382
3	35.48	5/7/2009	104	1110	0.002	<0.001	0.027	0.04		359
3	35.79	8/12/2009	104	1000	0.001	<0.001	0.02	0.024		326
3	35.98	10/28/2009	104	1040	0.003	<0.001	0.008	0.004		343
3	36.38	3/16/2010	108	1030	<0.001	<0.001	<0.001	<0.003		398
3	36.58	6/11/2010	116	1180	<0.001	<0.001	<0.001	<0.003		368
3	35.69	9/1/2010	136	1080	0.004	<0.001	0.001	<0.003		317
3	36.08	12/7/2010	116	912	<0.001	<0.001	<0.001	<0.003		335
4	36.94	10/29/2008	76	634	0.17	0.002	0.116	0.037		12.9
4	37.17	1/30/2009	76	650	0.538	0.003	0.167	0.013		<10
4	37.62	5/7/2009	84	716	0.68	<0.002	0.195	<0.006		<10
4	37.97	8/12/2009	88	824	0.419	0.009	0.184	0.014		278
4	38.11	10/28/2009	80	686	0.434	0.002	0.141	<0.003		<10
4	38.56	3/16/2010	72	689	0.33	0.002	0.112	<0.003		<10
4	38.75	6/11/2010	72	699	0.215	<0.005	0.073	<0.015		<15
4	37.86	9/1/2010	72	725	0.18	0.002	0.043	0.008		<10
4	38.29	12/7/2010	88	702	0.295	0.001	0.067	0.004		<10
5	36.84	10/28/2009	116	839	0.001	<0.001	0.002	<0.003		96
5	37.22	3/16/2010	92	816	0.007	0.001	0.002	<0.003		126
5	37.41	6/11/2010	96	899	0.003	<0.001	0.002	<0.003		114
5	36.54	9/1/2010	96	875	0.001	0.001	0.003	<0.003		123
5	37.01	12/7/2010	96	876	0.003	0.001	0.002	<0.003		131

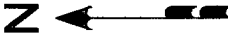
XXX: Not Sampled due to Floating Product or with NMOCD Permission

Hobbs E-4 Chloride in Ground Water



Hobbs E-4 TDS in Ground Water





Hobbs SWD E-4 Jet Box: MW-2

Sample Date:	12-7-10
PSH Thickness	0.91 Ft

Hobbs SWD E-4 Jet Box: MW-5

Sample Date:	12-7-10
Analyte	(mg/L)
Benzene	0.003
Toluene	0.001
Ethylbenzene	0.002
Total Xylenes	<0.003
Chloride	96.0
Sulfate	131
TDS	876

Hobbs SWD E-4 Jet Box: MW-4

Sample Date:	12-7-10
Analyte	(mg/L)
Benzene	0.295
Toluene	0.001
Ethylbenzene	0.067
Total Xylenes	0.004
Chloride	88.0
Sulfate	<10.0
TDS	702

Hobbs SWD E-4 Jet Box: MW-1

Sample Date:	12-7-10
PSH Thickness	1.59 Ft

Hobbs SWD E-4 Jet Box: MW-3

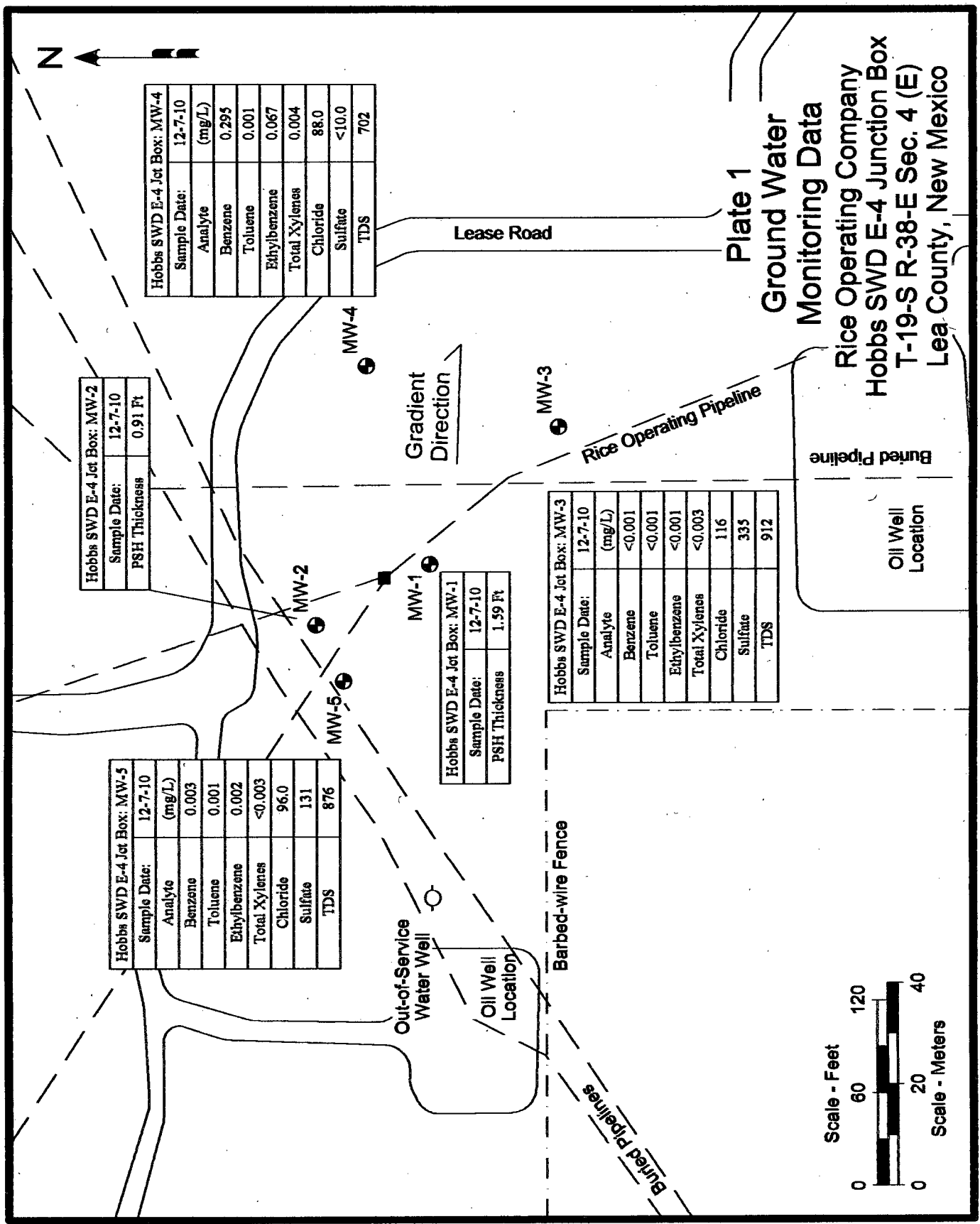
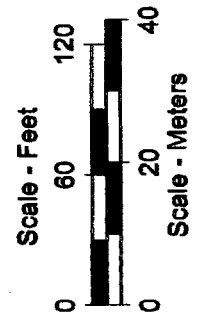
Sample Date:	12-7-10
Analyte	(mg/L)
Benzene	<0.001
Toluene	<0.001
Ethylbenzene	<0.001
Total Xylenes	<0.003
Chloride	116
Sulfate	335
TDS	912

Plate 1

Ground Water Monitoring Data

Rice Operating Company
Hobbs SWD E-4 Junction Box
T-19-S R-38-E Sec. 4 (E)
Lea County, New Mexico

Buried Pipeline
Oil Well Location





December 17, 2010

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: HOBBS JUNCTION E-4

Enclosed are the results of analyses for samples received by the laboratory on 12/10/10 12:25.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

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 (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: 12/10/2010
Reported: 12/17/2010
Project Name: HOBBS JUNCTION E-4
Project Number: NONE GIVEN
Project Location: T19S-R38E-SEC4 E-LEA CTY.,NM

Sampling Date: 12/07/2010
Sampling Type: Water
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: MONITOR WELL #3 (H021491-01)

BTX 8021B		mg/L		Analyzed By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	12/14/2010	ND	0.025	101	0.0250	23.9	
Toluene*	<0.001	0.001	12/14/2010	ND	0.025	99.7	0.0250	23.8	
Ethylbenzene*	<0.001	0.001	12/14/2010	ND	0.025	99.1	0.0250	21.5	
Total Xylenes*	<0.003	0.003	12/14/2010	ND	0.072	96.7	0.0750	21.0	

Surrogate: 4-Bromofluorobenzene (PIL) 106 % 80-120

Chloride, SM4500Cl-B		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	116	4.00	12/14/2010	ND	108	108	100	3.77	

Sulfate 375.4		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate	335	10.0	12/15/2010	ND	38.3	95.8	40.0	0.536	

TDS 160.1		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS	912	5.00	12/10/2010	ND				2.86	

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: 12/10/2010
Reported: 12/17/2010
Project Name: HOBBS JUNCTION E-4
Project Number: NONE GIVEN
Project Location: T19S-R38E-SEC4 E-LEA CTY.,NM

Sampling Date: 12/07/2010
Sampling Type: Water
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: MONITOR WELL #4 (H021491-02)

BTX 8021B		mg/L		Analyzed By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.295	0.001	12/14/2010	ND	0.025	101	0.0250	23.9	
Toluene*	0.001	0.001	12/14/2010	ND	0.025	99.7	0.0250	23.8	
Ethylbenzene*	0.067	0.001	12/14/2010	ND	0.025	99.1	0.0250	21.5	
Total Xylenes*	0.004	0.003	12/14/2010	ND	0.072	96.7	0.0750	21.0	

Surrogate: 4-Bromofluorobenzene (PIL) 87.3 % 80-120

Chloride, SM4500Cl-B		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	88.0	4.00	12/14/2010	ND	108	108	100	3.77	

Sulfate 375.4		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate	<10.0	10.0	12/15/2010	ND	38.3	95.8	40.0	0.536	

TDS 160.1		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS	702	5.00	12/10/2010	ND				2.86	

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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: 12/10/2010
 Reported: 12/17/2010
 Project Name: HOBBS JUNCTION E-4
 Project Number: NONE GIVEN
 Project Location: T19S-R38E-SEC4 E-LEA CTY.,NM

 Sampling Date: 12/07/2010
 Sampling Type: Water
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: MONITOR WELL #5 (H021491-03)

BTEx 8021B		mg/L		Analyzed By: CMS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.003	0.001	12/14/2010	ND	0.025	101	0.0250	23.9	
Toluene*	0.001	0.001	12/14/2010	ND	0.025	99.7	0.0250	23.8	
Ethylbenzene*	0.002	0.001	12/14/2010	ND	0.025	99.1	0.0250	21.5	
Total Xylenes*	<0.003	0.003	12/14/2010	ND	0.072	96.7	0.0750	21.0	

Surrogate: 4-Bromofluorobenzene (PIL) 82.0 % 80-120

Chloride, SM4500Cl-B		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	4.00	12/14/2010	ND	108	108	100	3.77	

Sulfate 375.4		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate	131	10.0	12/15/2010	ND	38.3	95.8	40.0	0.536	

TDS 160.1		mg/L		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS	876	5.00	12/10/2010	ND				2.86	

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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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Celestine D. Keene, Lab Director/Quality Manager

Cardinal Laboratories, Inc.

101 East Marland - Hobbs, New
Mexico 88240
Tel (575) 393-2326
Fax (575) 393-2476

Company Name:	RICE Operating Company	BILL TO	Company:	RICE Operating Company	PO#
Project Manager:	Hack Conder	Address:	(Street, City, Zip)	Address:	(Street, City, Zip)
		(Street, City, Zip)		Phone#:	Phone#:
		122 W Taylor Street ~ Hobbs, New Mexico 88240		(575) 393-9174	(575) 397-1471
		Phone #:		Fax #:	
		(575) 393-9174		(575) 397-1471	
Project #:		Project Name:			
		Hobbs Junction E-4			
Project Location:		Sampler Signature:			
T19S-R38E-Sec4 E ~ Lea County - New Mexico:					

[illegible]

Relinquished by: Rozanne Johnson	Date: 12-10-2010	Time: 12:25									
Relinquished by:	Date:	Time:									
Received by: C. Henderson	Date: 12/10/10	Time: 12:25									
Received By: (Laboratory Staff)	Date:	Time:									
Delivered By: (Circle One)	CHECKED BY:										
UPS - Bus - Other:	(Initials) AH										
Sampler:	<table border="1"> <tr> <td>Yes</td> <td>Cool</td> <td>Intact</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>No</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>		Yes	Cool	Intact	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	<input type="checkbox"/>
Yes	Cool	Intact									
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
No	<input type="checkbox"/>	<input type="checkbox"/>									
Sample Condition											

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID #

ANALYSIS REQUEST

(Circle or Specify Method No.)

[illegible]

Phone Results	Yes	No
Fax Results	Yes	No

Additional Fax Number:

REMARKS:

Email Results to: hconder@riceswd.com
weinheimer@rice-ss.com
klonee@riceswd.com
rozanne@valornet.com