

**AP-48**

**2013**

**Annual Report**

**DATE**

**March 10, 2014**

**From:** [Laura Flores](#)  
**To:** [Lowe, Leonard, EMNRD](#); [VonGonten, Glenn, EMNRD](#)  
**Cc:** ["Hack Conder"](#); ["Katie Jones"](#)  
**Subject:** ROC - BD Santa Rita EOL (AP-48) 2013 Annual Groundwater Report  
**Date:** Monday, March 10, 2014 1:39:43 PM  
**Attachments:** [ROC - BD Santa Rita EOL \(AP-48\) Annual Groundwater Report.pdf](#)

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Mr. Lowe,

Attached is the 2013 Annual Groundwater Report for BD Santa Rita EOL (AP-48). Annual Reports are submitted yearly to update the NMOCD about groundwater quality and groundwater recovery, if applicable, for a particular site. This report does not require NMOCD approval; therefore, a flow chart is not included.

If you have any questions or require any additional information, please contact Hack Conder at 575-631-6432.

Thank you,

Laura Flores  
Project Manager  
Rice Environmental Consulting & Safety (RECS)

# Rice Environmental Consulting & Safety

P.O. Box 2948, Hobbs, NM 88241

Phone 575.393.2967

**March 10<sup>th</sup>, 2014**

**Mr. Leonard Lowe**

New Mexico Energy, Minerals, & Natural Resources

Oil Conservation Division, Environmental Bureau

1220 S. St. Francis Drive

Santa Fe, New Mexico 87505

**RE: 2013 Annual Groundwater Monitoring Report**

**Rice Operating Company – BD SWD System**

**BD Santa Rita EOL Release Site (AP-58): UL/A sec. 27 T22S R37E**

Mr. Lowe:

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.

The site is located approximately 4.5 miles southeast of Eunice, New Mexico at UL/A sec. 27 T22S R37E as shown on the Site Location Map. Groundwater sampling at the site indicates that the depth to groundwater is located at +/- 54 ft bgs.

On November 22<sup>nd</sup>, 2003, ROC discovered a leak from a 2 inch PVC compression coupling. After initial backhoe characterization, the site was disclosed to NMOCD as a potential groundwater impact site on January 6<sup>th</sup>, 2004. Since groundwater impact was suspected, MW-1 was installed on August 30<sup>th</sup>, 2005. On October 30<sup>th</sup>, 2007, an up gradient well, MW-2, and a down gradient well, MW-3, were installed to fully delineate groundwater. NMOCD approved the Amended Stage 2 Abatement Plan on February 4<sup>th</sup>, 2009. As a result, MW-1 was plugged and abandoned on February 27<sup>th</sup>, 2009, and the excavation for liner installation commenced on March 24<sup>th</sup>, 2009. Two, 1 ft thick clay liners, one with dimensions of 40 x 20 ft at 30 ft bgs and one with dimensions of 40 x 50 ft at 12 ft bgs, were installed and a 20-mil plastic liner of equal size was placed above both clay layers. Each plastic liner was padded with a foot of blow sand. The site was backfilled with clean soil, contoured to the surrounding location, and seeded with a native vegetative mix. On June 16<sup>th</sup> and 17<sup>th</sup>, 2009, MW-4 and RW-1 were installed at the site. On October 10<sup>th</sup>, 2012, ROC submitted a Soil Closure Request which was approved by NMOCD on the same day.

Groundwater recovery began on June 22<sup>nd</sup>, 2010 from RW-1. Since that time, approximately 28,390 barrels of groundwater have been removed which equates to approximately 2,392 kg of chlorides removed from the site. Since pumping efforts began, quarterly groundwater sampling readings have dropped in the down gradient wells (RW-1, MW-3, and MW-4) for both chlorides and TDS. This indicates that the pumping

program at the site has been effective in reducing the chloride load in the groundwater. As such, ROC requests that NMOCD allow the pumping program to continue throughout the 2014 year and then ROC will evaluate the data for continued pumping efficacy. In addition, quarterly groundwater sampling will continue through 2014.

Attached is the Appendix, which contains:

1. A site location map.
2. A map showing well locations.
3. A table presenting all laboratory results and depth to groundwater for each well at the site.
4. Graphs showing the concentrations of chloride and TDS in groundwater over time.
5. The laboratory analytical results for the most recent sampling event.

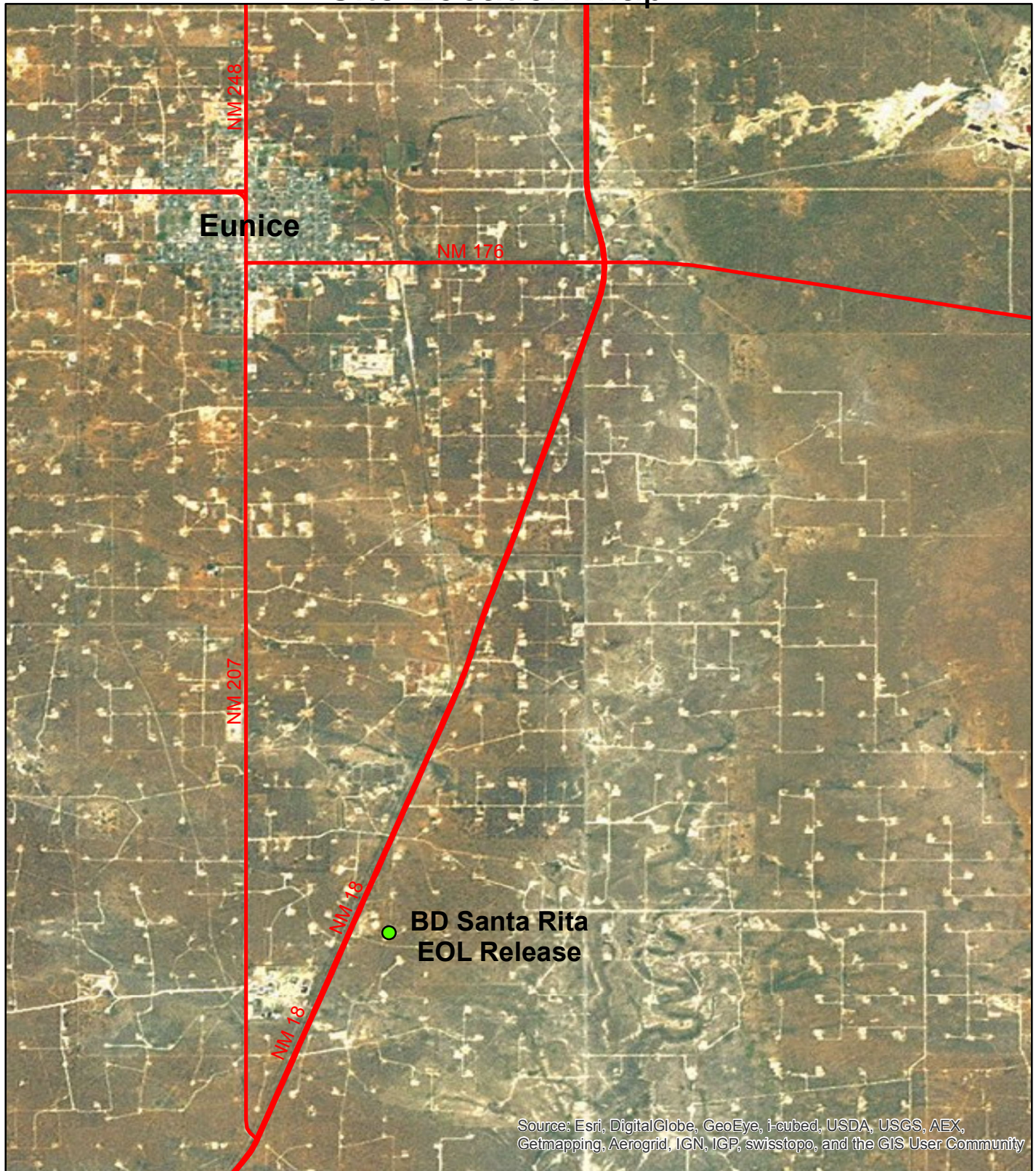
RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,

A handwritten signature in cursive script, appearing to read "L. Flores".

Laura Flores  
Rice Environmental Consulting & Safety (RECS)  
Project Manager

# Site Location Map



## ***BD Santa Rita EOL Release***

Unit Letter A, Section 27,  
T22S, R37E

NMOCD Case #: AP-58

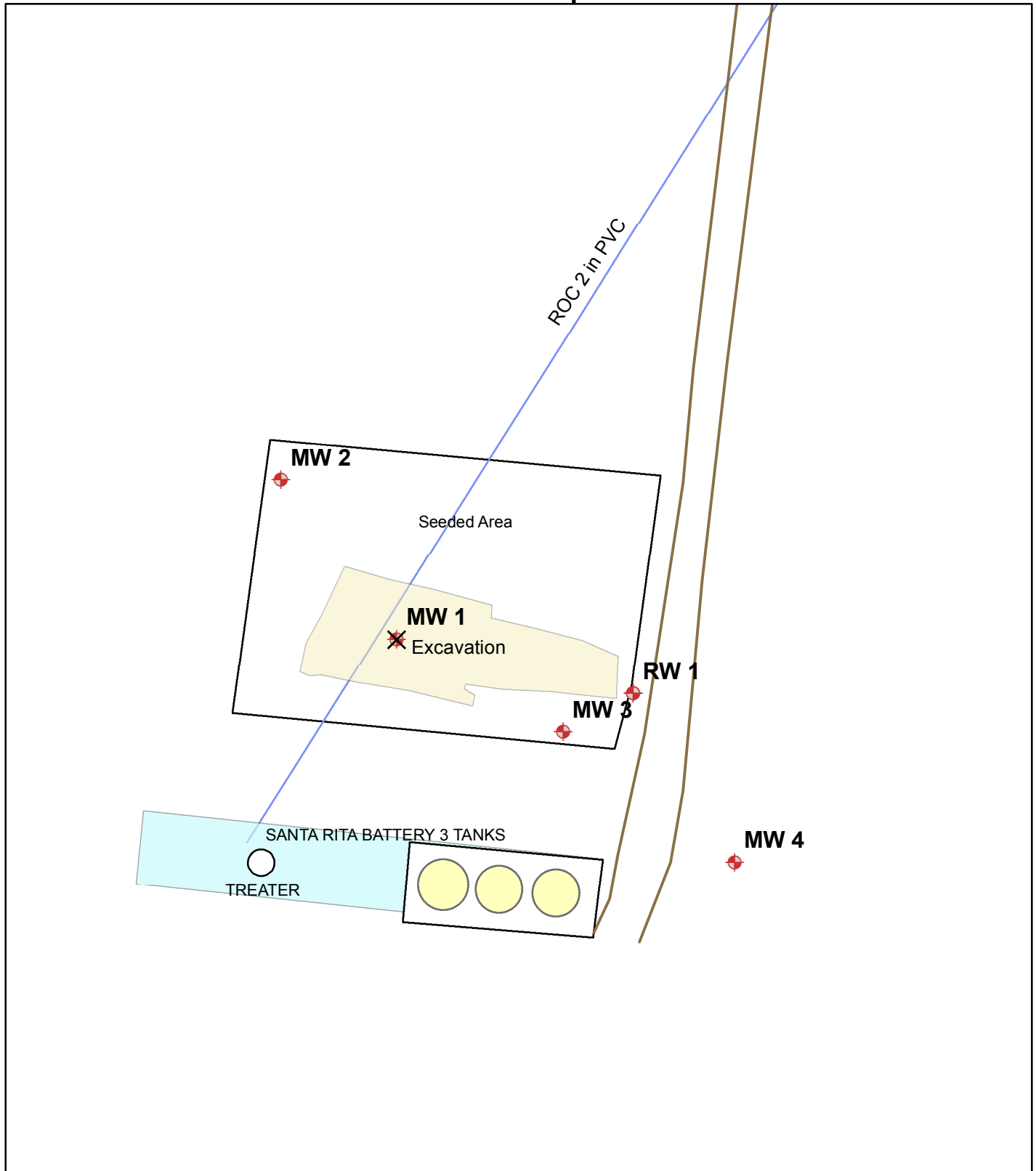


0 0.3 0.6 1.2  
Miles

Drawing date: 2/24/24  
Drafted by: L. Flores



# Site Map



## ***BD Santa Rita EOL Release***

Unit Letter A, Section 27,  
T22S, R37E

NMOCD Case #: AP-58



0 15 30 60  
Feet

Drawing date: 2/24/14  
Drafted by: L. Flores

**BD Santa Rita EOL Release Site (AP-58)**

MW	Depth to Water	Total Depth	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
				(mg/L)						
MW-1	54.04	63.58	9/2/2005	4480	7600	<0.001	<0.001	<0.001	<0.001	1380
	53.85	63.58	10/24/2005	7170	16400	<0.001	<0.001	<0.001	<0.001	726
	53.98	63.58	1/23/2006	7450	14300	<0.001	<0.001	<0.001	<0.001	723
	54.07	63.58	4/24/2006	7100	14300	<0.001	<0.001	<0.001	<0.001	675
	54.08	63.58	7/19/2006	6180	14000	<0.001	<0.001	<0.001	<0.001	583
	53.99	63.58	10/11/2006	2100	4560	<0.001	<0.001	<0.001	<0.001	408
	54.1	63.58	1/25/2007	2740	4560	<0.001	<0.001	<0.001	<0.001	449
	54.11	63.58	4/4/2007	2610	5720	<0.001	<0.001	<0.001	<0.003	314
	53.8	63.58	7/9/2007	363	1470	<0.001	<0.001	<0.001	<0.003	267
	53.87	63.58	11/12/2007	356	1398	<0.001	<0.001	<0.001	<0.003	331
	53.88	63.58	1/15/2008	408	1499	<0.001	<0.001	<0.001	<0.003	232
	53.98	63.58	4/7/2008	420	1460	<0.001	<0.001	<0.001	<0.003	346
	54.06	63.58	7/22/2008	440	1460	<0.002	<0.002	<0.002	<0.006	271
	54.11	63.58	10/2/2008	392	1390	<0.001	<0.001	<0.001	<0.003	281
	54.08	63.2	1/14/2009	352	1250	<0.001	<0.001	<0.001	<0.003	250
MW-1 plugged February 27, 2009										

MW	Depth to Water	Total Depth	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
				(mg/L)						
MW-2	54.55	62.58	11/12/2007	160	930	<0.001	<0.001	<0.001	<0.003	257
	54.57	63.7	1/15/2008	128	1001	<0.001	<0.001	<0.001	<0.003	340
	54.65	63.7	4/7/2008	100	982	<0.001	<0.001	<0.001	<0.003	411
	54.74	63.7	7/22/2008	92	931	<0.002	<0.002	<0.002	<0.006	377
	54.81	63.7	10/2/2008	88	902	<0.001	<0.001	<0.001	<0.003	333
	54.78	64.2	1/14/2009	84	850	<0.001	<0.001	<0.001	<0.003	309
	54.82	64.2	4/14/2009	80	858	<0.001	<0.001	<0.001	<0.003	319
	54.79	64.43	7/13/2009	76	802	<0.001	<0.001	<0.001	<0.003	279
	54.79	64.43	10/8/2009	64	776	<0.001	<0.001	<0.001	<0.003	244
	54.83	64.42	1/6/2010	60	726	<0.001	<0.001	<0.001	<0.003	268

MW-2	54.85	64.42	4/9/2010	52	710	<0.001	<0.001	<0.001	<0.003	250
	55.1	64.42	7/9/2010	52	644	<0.001	<0.001	<0.001	<0.003	201
	55.05	64.42	10/6/2010	40	530	<0.001	<0.001	<0.001	<0.003	115
	54.82	64.42	2/11/2011	88	601	<0.001	<0.001	<0.001	<0.003	123
	54.92	64.42	4/12/2011	40	470	<0.001	<0.001	<0.001	<0.003	117
	55.23	64.42	7/18/2011	36	491	<0.001	<0.001	<0.001	<0.003	106
	55.33	64.42	10/13/2011	44	496	<0.001	<0.001	<0.001	<0.003	121
	54.98	64.42	1/18/2012	40	414	<0.001	<0.001	<0.001	<0.003	116
	55.34	64.42	4/17/2012	32	458	<0.001	<0.001	<0.001	<0.003	94.6
	55.06	64.42	7/16/2012	80	613	<0.001	<0.001	<0.001	<0.003	327
	55.33	64.42	10/5/2012	40	510	<0.001	<0.001	<0.001	<0.003	108
	55.03	64.42	1/8/2013	40	456	<0.001	<0.001	<0.001	<0.003	94
	55.03	64.42	4/19/2013	44	428	<0.001	<0.001	<0.001	<0.003	83
	55.07	64.42	7/16/2013	44	424	<0.001	<0.001	<0.001	<0.003	99
	55.14	64.42	10/17/2013	40	437	<0.001	<0.001	<0.001	<0.003	85.2

MW	Depth to Water	Total Depth	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
				(mg/L)						
MW-3	53.7	65.45	1/12/2007	1210	2596	<0.001	<0.001	<0.001	<0.003	326
	53.69	65.44	1/15/2008	1010	2398	<0.001	<0.001	<0.001	<0.003	269
	53.73	65.44	4/7/2008	1080	2620	<0.001	<0.001	<0.001	<0.003	373
	53.82	65.44	7/22/2008	1030	2890	<0.002	<0.002	<0.002	<0.006	292
	53.86	65.44	10/2/2008	1020	2830	<0.001	<0.001	<0.001	<0.003	280
	53.83	65.42	1/14/2009	1050	2670	<0.001	<0.001	<0.001	<0.003	280
	53.9	65.42	4/14/2009	960	2200	<0.001	<0.001	<0.001	<0.003	294
	53.88	65.45	7/13/2009	900	2080	<0.001	<0.001	<0.001	<0.003	270
	53.85	65.45	10/8/2009	900	2340	<0.001	<0.001	<0.001	<0.003	254
	54.04	65.45	1/6/2010	910	2170	<0.001	<0.001	<0.001	<0.003	254
	53.94	65.45	4/9/2010	1110	2150	<0.001	<0.001	<0.001	<0.003	181
	54.94	65.45	7/9/2010	780	1840	<0.001	<0.001	<0.001	<0.003	276
	54.98	65.45	10/6/2010	1000	2360	<0.001	<0.001	<0.001	<0.003	266
	54.38	65.43	2/11/2011	780	1560	<0.001	<0.001	<0.001	<0.003	192

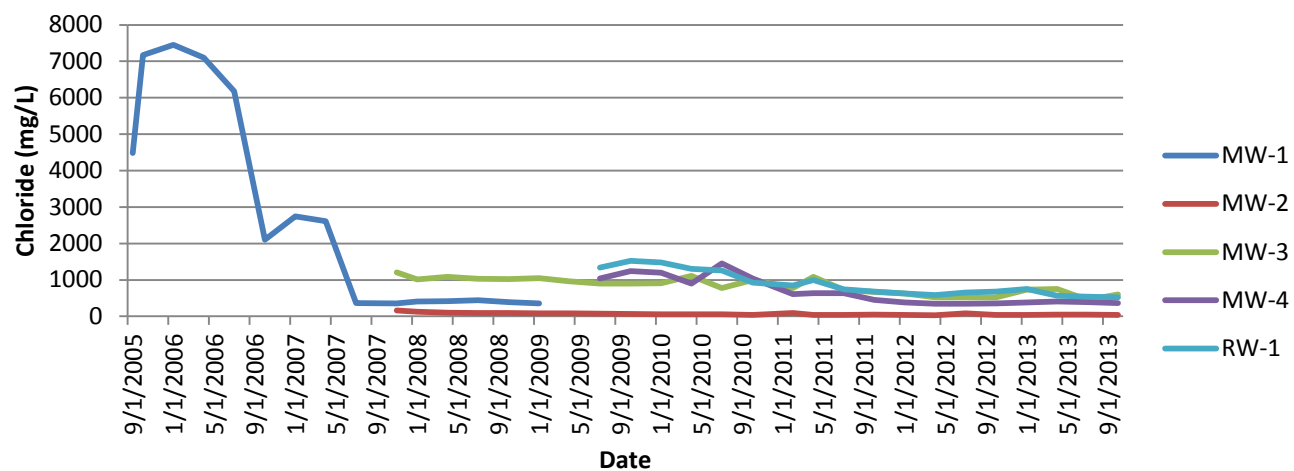


MW-3	55.03	65.43	4/12/2011	1080	2350	<0.001	<0.001	<0.001	<0.003	274
	54.61	65.43	7/18/2011	720	1740	<0.001	<0.001	<0.001	<0.003	234
	54.7	65.43	10/13/2011	670	1590	<0.001	<0.001	<0.001	<0.003	247
	54.18	65.43	1/18/2012	630	1520	<0.001	<0.001	<0.001	<0.003	244
	54.69	65.43	4/17/2012	520	1410	<0.001	<0.001	<0.001	<0.003	208
	54.48	65.43	7/16/2012	520	1460	<0.001	<0.001	<0.001	<0.003	267
	54.64	65.43	10/5/2012	520	1520	<0.001	<0.001	<0.001	<0.003	226
	54.06	65.43	1/8/2013	730	1520	<0.001	<0.001	<0.001	<0.003	177
	54.42	65.43	4/19/2013	750	1620	<0.001	<0.001	<0.001	<0.003	202
	54.26	65.43	7/16/2013	448	1280	<0.001	<0.001	<0.001	<0.003	220
	54.28	65.43	10/17/2013	600	1490	<0.001	<0.001	<0.001	<0.003	174

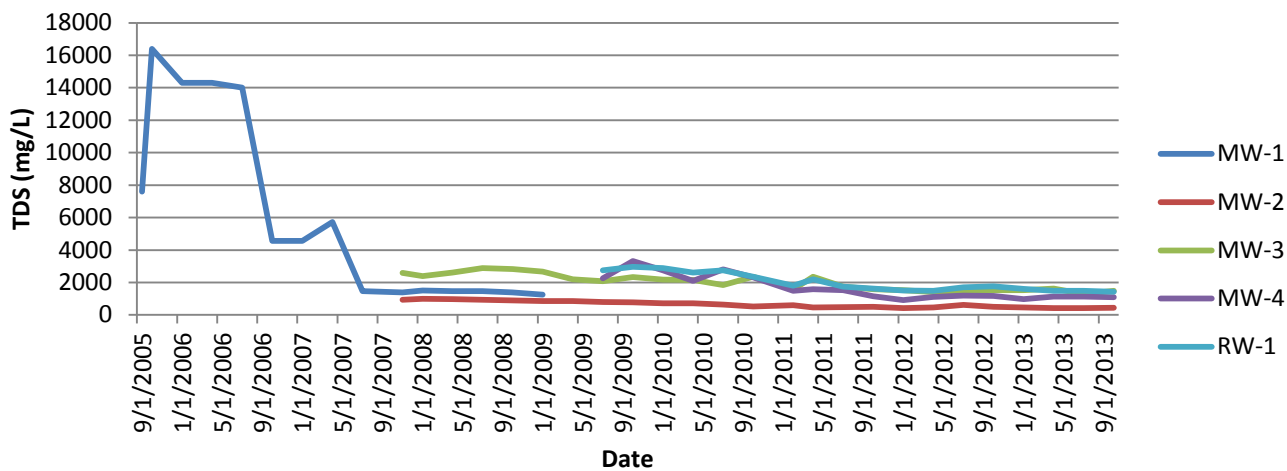
MW	Depth to Water	Total Depth	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
				(mg/L)						
MW-4	52.28	64.4	7/13/2009	1040	2260	<0.001	<0.001	<0.001	<0.003	230
	52.23	64.4	10/8/2009	1240	3320	<0.001	<0.001	<0.001	<0.003	233
	52.23	64.29	1/6/2010	1200	2750	<0.001	<0.001	<0.001	<0.003	209
	52.24	64.29	4/9/2010	900	2100	<0.001	<0.001	<0.001	<0.003	313
	52.76	64.29	7/9/2010	1450	2810	<0.001	<0.001	<0.001	<0.003	280
	52.83	64.29	10/6/2010	1040	2320	<0.001	<0.001	<0.001	<0.003	251
	52.22	65.2	2/11/2011	610	1490	<0.001	<0.001	<0.001	<0.003	208
	52.92	65.2	4/12/2011	640	1580	<0.001	<0.001	<0.001	<0.003	238
	52.95	65.2	7/18/2011	640	1530	<0.001	<0.001	<0.001	<0.003	232
	52.91	65.2	10/13/2011	450	1160	<0.001	<0.001	<0.001	<0.003	235
	52.32	65.2	1/18/2012	380	915	<0.001	<0.001	<0.001	<0.003	216
	52.81	65.2	4/17/2012	344	1110	<0.001	<0.001	<0.001	<0.003	207
	52.64	65.2	7/16/2012	344	1190	<0.001	<0.001	<0.001	<0.003	244
	52.79	65.2	10/5/2012	352	1180	<0.001	<0.001	<0.001	<0.003	218
	52.41	65.2	1/8/2013	380	980	<0.001	<0.001	<0.001	<0.003	149
	52.73	65.2	4/19/2013	410	1140	<0.001	<0.001	<0.001	<0.003	213
	52.57	65.2	7/16/2013	388	1140	<0.001	<0.001	<0.001	<0.003	202
	52.57	65.2	10/17/2013	368	1100	<0.001	<0.001	<0.001	<0.003	197

MW	Depth to Water	Total Depth	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
				(mg/L)						
RW-1	53.02	98.85	7/13/2009	1340	2750	<0.001	<0.001	<0.001	<0.003	288
	53.01	98.85	10/8/2009	1520	2970	<0.001	<0.001	<0.001	<0.003	251
	53.04	98.85	1/6/2010	1480	2880	<0.001	<0.001	<0.001	<0.003	224
	53.06	98.85	4/9/2010	1300	2620	<0.001	<0.001	<0.001	<0.003	290
	XXX	98.85	7/9/2010	1260	2750	<0.001	<0.001	<0.001	<0.003	291
	XXX	98.85	10/6/2010	930	2360	<0.001	<0.001	<0.001	<0.003	298
	XXX	98.85	2/11/2011	850	1800	<0.001	<0.001	<0.001	<0.003	180
	XXX	98.85	4/12/2011	1000	2190	<0.001	<0.001	<0.001	<0.003	298
	XXX	98.85	7/18/2011	740	1740	<0.001	<0.001	<0.001	<0.001	255
	XXX	98.85	10/13/2011	680	1630	<0.001	<0.001	<0.001	<0.003	199
	XXX	98.85	1/18/2012	630	1500	<0.001	<0.001	<0.001	<0.003	244
	XXX	98.85	4/17/2012	580	1490	<0.001	<0.001	<0.001	<0.003	277
	XXX	98.85	7/16/2012	650	1710	<0.001	<0.001	<0.001	<0.003	250
	XXX	98.85	10/5/2012	680	1760	<0.001	<0.001	<0.001	<0.003	218
	XXX	98.85	1/7/2013	750	1600	<0.001	<0.001	<0.001	<0.003	188
	XXX	98.85	4/19/2013	570	1480	<0.001	<0.001	<0.001	<0.003	224
	XXX	98.85	7/16/2013	540	1480	<0.001	<0.001	<0.001	<0.003	247
	XXX	98.85	10/17/2013	520	1430	<0.001	<0.001	<0.001	<0.003	195

### Chloride Concentration Versus Time Graph



### Total Dissolved Solids Concentrations Versus Time



October 28, 2013

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD SANTA RITA LEAK

Enclosed are the results of analyses for samples received by the laboratory on 10/22/13 12:55.

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](http://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:	10/22/2013	Sampling Date:	10/17/2013
Reported:	10/28/2013	Sampling Type:	Water
Project Name:	BD SANTA RITA LEAK	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	T22S R37E SEC27 A-LEA CTY., NM		

**Sample ID: MONITOR WELL #2 (H302549-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	10/23/2013	ND	0.020	98.5	0.0200	1.86	
Toluene*	<0.001	0.001	10/23/2013	ND	0.020	101	0.0200	1.41	
Ethylbenzene*	<0.001	0.001	10/23/2013	ND	0.019	97.2	0.0200	2.41	
Total Xylenes*	<0.003	0.003	10/23/2013	ND	0.059	97.7	0.0600	2.59	
Total BTEX	<0.006	0.006	10/23/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 89.4-126

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	40.0	4.00	10/22/2013	ND	100	100	100	3.92	

Sulfate 375.4		mg/L		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	85.2	25.0	10/23/2013	ND	21.2	106	20.0	2.24	

TDS 160.1		mg/L		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	437	5.00	10/23/2013	ND	238	99.2	240	0.336	

Cardinal Laboratories

\*=Accredited Analyte

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 waived 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 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 claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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:	10/22/2013	Sampling Date:	10/17/2013
Reported:	10/28/2013	Sampling Type:	Water
Project Name:	BD SANTA RITA LEAK	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	T22S R37E SEC27 A-LEA CTY., NM		

**Sample ID: MONITOR WELL #3 (H302549-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	10/23/2013	ND	0.020	98.5	0.0200	1.86		
Toluene*	<0.001	0.001	10/23/2013	ND	0.020	101	0.0200	1.41		
Ethylbenzene*	<0.001	0.001	10/23/2013	ND	0.019	97.2	0.0200	2.41		
Total Xylenes*	<0.003	0.003	10/23/2013	ND	0.059	97.7	0.0600	2.59		
Total BTEx	<0.006	0.006	10/23/2013	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 89.4-126

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	600	4.00	10/22/2013	ND	100	100	100	3.92	

Sulfate 375.4		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	174	50.0	10/23/2013	ND	21.2	106	20.0	2.24		

TDS 160.1		mg/L		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1490	5.00	10/23/2013	ND	238	99.2	240	0.336	

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:	10/22/2013	Sampling Date:	10/17/2013
Reported:	10/28/2013	Sampling Type:	Water
Project Name:	BD SANTA RITA LEAK	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	T22S R37E SEC27 A-LEA CTY., NM		

**Sample ID: MONITOR WELL #4 (H302549-03)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	10/23/2013	ND	0.020	98.5	0.0200	1.86		
Toluene*	<0.001	0.001	10/23/2013	ND	0.020	101	0.0200	1.41		
Ethylbenzene*	<0.001	0.001	10/23/2013	ND	0.019	97.2	0.0200	2.41		
Total Xylenes*	<0.003	0.003	10/23/2013	ND	0.059	97.7	0.0600	2.59		
Total BTEX	<0.006	0.006	10/23/2013	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 89.4-126

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	368	4.00	10/22/2013	ND	100	100	100	3.92	

Sulfate 375.4		mg/L		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	197	25.0	10/23/2013	ND	21.2	106	20.0	2.24	

TDS 160.1		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	1100	5.00	10/23/2013	ND	238	99.2	240	0.336		

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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:	10/22/2013	Sampling Date:	10/17/2013
Reported:	10/28/2013	Sampling Type:	Water
Project Name:	BD SANTA RITA LEAK	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	T22S R37E SEC27 A-LEA CTY., NM		

**Sample ID: RECOVERY WELL #1 (H302549-04)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	10/23/2013	ND	0.020	98.5	0.0200	1.86		
Toluene*	<0.001	0.001	10/23/2013	ND	0.020	101	0.0200	1.41		
Ethylbenzene*	<0.001	0.001	10/23/2013	ND	0.019	97.2	0.0200	2.41		
Total Xylenes*	<0.003	0.003	10/23/2013	ND	0.059	97.7	0.0600	2.59		
Total BTEX	<0.006	0.006	10/23/2013	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 89.4-126

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	520	4.00	10/22/2013	ND	100	100	100	3.92	

Sulfate 375.4		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	195	50.0	10/23/2013	ND	21.2	106	20.0	2.24		

TDS 160.1		mg/L		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1430	5.00	10/23/2013	ND	238	99.2	240	0.336	

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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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Celey D. Keene, Lab Director/Quality Manager

# Cardinal Laboratories, Inc.

## LAB Order ID #

Company Name: <b>RICE Operating Company</b>		BILL TO Company: PO# <b>RICE Operating Company</b>	
Project Manager: <b>Hack Conder</b>		Address: (Street, City, Zip) <b>122 W Taylor Street ~ Hobbs, New Mexico 88240</b>	
Address: (Street, City, Zip) <b>122 W Taylor Street ~ Hobbs, New Mexico 88240</b>		Phone#: Fax#: <b>(575) 393-9174 (575)397-1471</b>	
Phone #: <b>(575) 393-9174</b>		Fax #: <b>(575) 397-1471</b>	

Project #:	Project Name:
	BD Santa Rita Leak

Project Location: T22S R37E Sec27 A ~ Lea County New Mexico

[illegible]

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Rozanne Johnson	10/22/13	12:54	[Signature]	10/22/13	12:55
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)	Date:	Time:

Delivered By: (Circle One)		Sample Condition		CHECKED BY:													
Sampler - UPS - Bus - Other:		<table border="1"> <thead> <tr> <th></th> <th>Cool</th> <th>Yes</th> <th>Intact</th> </tr> </thead> <tbody> <tr> <td>Yes</td> <td><input checked="" type="checkbox"/></td> <td></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>No</td> <td><input type="checkbox"/></td> <td>No</td> <td><input type="checkbox"/></td> </tr> </tbody> </table>			Cool	Yes	Intact	Yes	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	No	<input type="checkbox"/>	(Initials) Cph	
	Cool	Yes	Intact														
Yes	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>														
No	<input type="checkbox"/>	No	<input type="checkbox"/>														

ANALYSIS REQUEST									
(Circle or Specify Method No.)									
5		MTBE 8021B/602							
5		BTEX 8021B/602	X						
5		TPH 418.1/TX1005 / TX1005 Extended (C35)							
5		PAH 8270C							
		Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7							
		TCLP Metals Ag As Ba Cd Cr Pb Se Hg							
		TCLP Volatiles							
		TCLP Semi Volatiles							
		TCLP Pesticides							
		RCI							
		GC/MS Vol. 8260B/624							
		GC/MS Semi. Vol. 8270C/625							
		PCB's 8082/608							
		Pesticides 8081A/608							
		BOD, TSS, pH							
		Moisture Content							
		Anions (Cl, SO4, CO3, HCO3)							
		Cations (Ca, Mg, Na, K)							
		Sulfates (SO4)							
		Total Dissolved Solids							
		Chlorides							
		Turn Around Time ~ 24 Hours							

Phone Results	Yes	No
Fax Results	Yes	No      Additional Fax Number:

REMARKS:

Email Results to: hconder@riceswd.com  
lweinheimer@rice-ecs.com  
kiones@riceswd.com  
rozanne11@windstream.net

#54