1R - 427-336

APPROVALS

YEAR(S):

2013

Hansen, Edward J., EMNRD

From:	Hansen, Edward J., EMNRD
Sent:	Monday, March 25, 2013 5:32 PM
To:	Hack Conder (hconder@riceswd.com)
Cc:	Leking, Geoffrey R, EMNRD; Laura Pena (lpena@riceswd.com); Katie Jones <kjones@riceswd.com> (kjones@riceswd.com); Scott Curtis (scurtis@riceswd.com)
Subject:	Remediation Plan (1R427-336) Termination - ROC EME Jct P-17 Site

RE: Termination Request
for the Rice Operating Company's
EME Jct P-17 Site
Unit Letter P, Section 17, T21S, R36E, NMPM, Lea County, New Mexico
Remediation Plan (1R427-336) Termination

Dear Mr. Conder:

The New Mexico Oil Conservation Division (OCD) has received Rice Operating Company's report and request to close the above-referenced site, dated March 8, 2013 (received March 13, 2013). The reports are acceptable to the OCD.

The above-referenced report, submitted in accordance with 19.15.29 NMAC (Rule 29; formally, Rule 116), indicates that Rice Operating Company has met the requirements of 19.15.29 NMAC; therefore, the OCD approves the report and hereby notifies you that the remediation plan (1R427-336) is terminated in accordance with 19.15.29 NMAC.

Please be advised that OCD approval of this report does not relieve the owner/operator of responsibility should operations pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the owner/operator of responsibility for compliance with any OCD, federal, state, or local laws and/or regulations.

If you have any questions regarding this matter, please contact me at 505-476-3489.

Edward J. Hansen
Hydrologist
Environmental Bureau

RICE *Operating Company*
112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax: (575) 397-1471

CERTIFIED MAIL
RETURN RECEIPT NO. 7007 2560 0000 4569 9279

March 8, 2013

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: Termination Request
EME Jct. P-17 (1R427-336): UL/P, Sec. 17, T21S, R36E
RICE Operating Company – Eunice Monument Eumont SWD System

Mr. Hansen:

Rice Operating Company (ROC) is the service provider (agent) for the EME Saltwater Disposal (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.

Background
In 2010, ROC initiated work on the former P-17 junction box. The site is located in UL/P, Sec. 17, T21S, R36E. NM OSE records indicate that groundwater would likely be encountered at a depth of approximately 170 +/- feet. The site was delineated using a backhoe to collect soil samples at regular intervals, creating a 5x3x6 ft deep excavation. Each sample was field titrated for chlorides and field screened using a PID for hydrocarbons, resulting in low concentrations of each. The 6 ft sample was sent to a commercial laboratory for analysis of chloride and TPH, resulting in a chloride concentration of 64 mg/kg, a gasoline range organics (GRO) concentration below detectable limits and a diesel range organics (DRO) concentration of 20.2 mg/kg. The excavated soil was returned to the excavation and contoured to the surrounding area. On 7/13/2010, the site was seeded with a blend of native vegetation. Vegetation has rebounded at the site, so no re-vegetation efforts are needed. Vegetation will act as an evapo-transpiration barrier that will also inhibit the downward migration of residual chlorides and hydrocarbons. Plants capture water through their roots and so reduce the amount of water infiltrating below the root zone. A junction box is no longer needed at the site.

The junction box site location map, final report, photodocumentation, laboratory analysis, PID sheet, chloride graph and current photodocumentation are attached.

Recommendations
Site investigation demonstrates that residual chloride and hydrocarbons in the vadose zone will not with reasonable probability contaminate groundwater in excess of NMOCD standards. This site meets the requirements of the NMOCD-approved Revised Junction Box Upgrade Work Plan (July 16, 2003). As such, ROC request termination of the regulatory file, or similar closure status.

Please contact me at (575)393-9174 if you have any questions or wish to discuss this site. Thank you for your time and consideration.

Sincerely,
RICE Operating Company

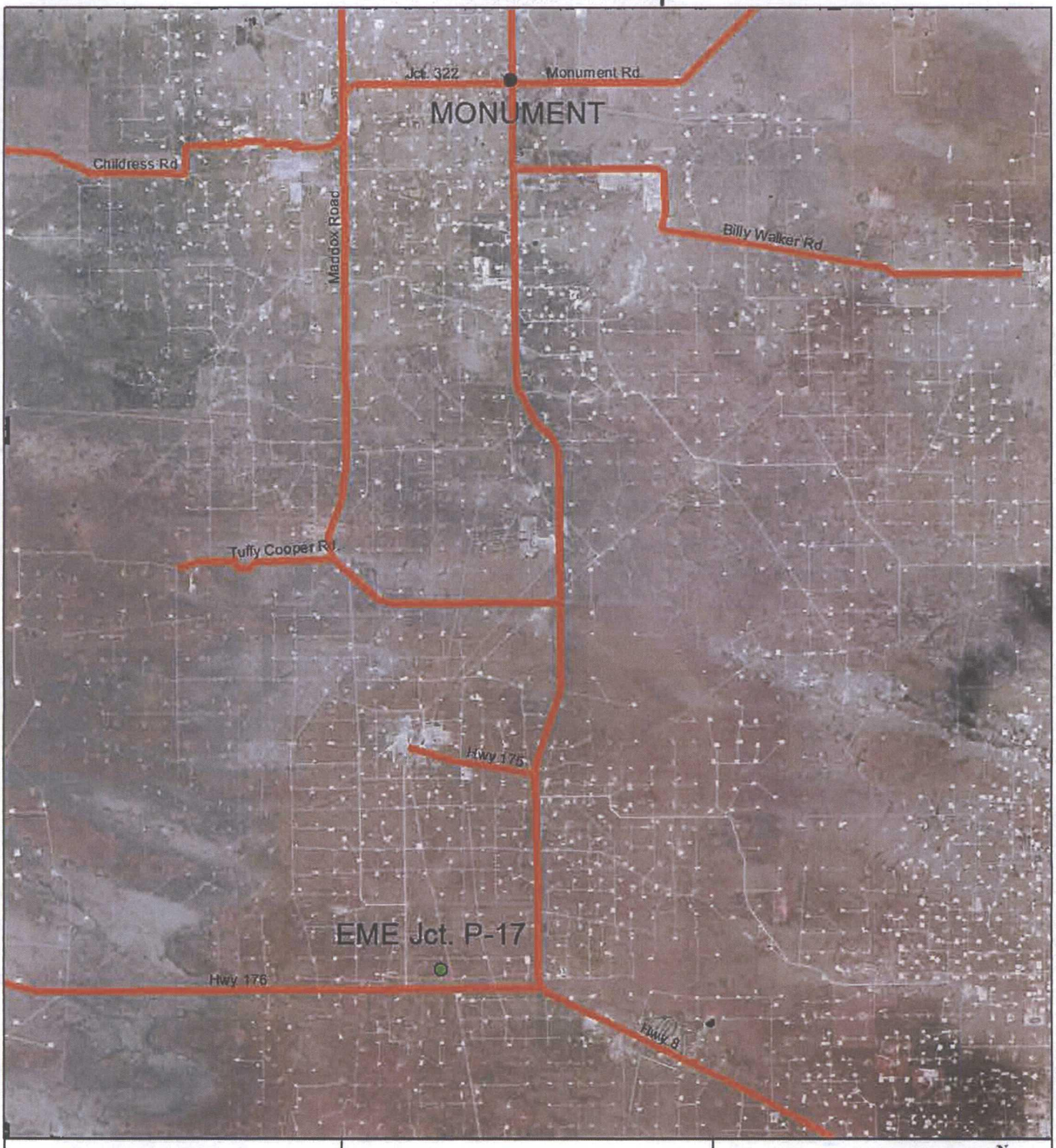
Hack Conder
Environmental Manager

enclosures

Site Location Map

RICE *Operating Company* (ROC)
112 West Taylor Hobbs, NM 88240
Phone: (575) 393-9174 Fax: (575) 397-1471

Site Location Map



RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

EME Jct. P-17

LEGALS: UL/P sec. 17
T-21-S R-36-E
LEA COUNTY, NM

NMOCD CASE #: 1R427-336

N
W E
S

0 1.5 3 Miles

Drawing date 3/6/13
Drafted by L Weinheimer

Junction Box Report

RICE *Operating Company* (ROC)
112 West Taylor Hobbs, NM 88240
Phone: (575) 393-9174 Fax: (575) 397-1471

RICE OPERATING COMPANY
JUNCTION BOX FINAL REPORT

BOX LOCATION

SWD SYSTEM	JUNCTION	UNIT	SECTION	TOWNSHIP	RANGE	COUNTY	BOX DIMENSIONS - FEET		
							Length	Width	Depth
Eunice-Monument-Eumont (EME)	Jct. P-17	P	17	21S	36E	Lea	Eliminated		

LAND TYPE: BLM ___ STATE ___ FEE LANDOWNER Monty Morton OTHER ___

Depth to Groundwater 170 feet NMOCD SITE ASSESSMENT RANKING SCORE: 0

Date Started 5/11/2010 Date Completed 5/11/2010 OCD Witness no

Soil Excavated 3.3 cubic yards Excavation Length 5 Width 3 Depth 6 feet

Soil Disposed 0 cubic yards Offsite Facility n/a Location n/a

FINAL ANALYTICAL RESULTS: Sample Date 5/11/2010 Sample Depth 6 ft.

TPH and Chloride laboratory test results completed by using an approved lab and testing procedures pursuant to NMOCD guidelines.

Sample Location	PID (field) ppm	GRO mg/kg	DRO mg/kg	Chloride mg/kg
SOURCE 6' GRAB	4.0	<10.0	20.2	64

CHLORIDE FIELD TESTS

LOCATION	DEPTH	mg/kg
background	6"	83
vertical delineation trench at the junction (source)	2'	151
	3'	143
	4'	87
	5'	270
	6'	165

General Description of Remedial Action: This junction box and line were eliminated during the pipeline replacement/upgrade program. After the former junction box was removed, an investigation was conducted using a backhoe to collect soil samples at regular intervals producing a 5x3x6-ft-deep excavation. Chloride field tests performed on each sample yielded low concentrations similar to that of the background. Organic vapors were measured using a PID, which yielded low concentrations. The deepest sample, 6 ft. BGS was sent to a commercial laboratory for analysis of chloride and TPH, which confirmed low concentrations. The excavated soil was returned to the excavation to ground surface and contoured to the surrounding area. On 7/13/2010, the site was seeded with a blend of native vegetation and is expected to return to a *productive capacity at a normal rate.*

enclosures: photos, lab results, PID field screenings, chloride curve

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

SITE SUPERVISOR Gerardo Martinez SIGNATURE Gerardo Martinez COMPANY RICE OPERATING COMPANY

REPORT ASSEMBLED BY Larry Bruce Baker Jr. INITIAL LBB

PROJECT LEADER Larry Bruce Baker Jr. SIGNATURE Larry Bruce Baker Jr. DATE 7-31-11

EME Jct. P-17

Unit P, Section 17, T21S, R36E

Site prior to excavation 5/11/2010

Delineation trench being excavated 5/11/2010

Sample being collected 5/11/2010

Seeding excavation 7/13/2010

CARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
RICE OPERATING COMPANY
ATTN: BRUCE BAKER
112 W. TAYLOR
HOBBS, NM 88240

Receiving Date: 05/11/10
Reporting Date: 05/13/10
Project Number: NOT GIVEN
Project Name: EME JCT P-17 (19/36)
Project Location: EME JCT P-17 (19/36)

Sampling Date: 05/11/10
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: JH
Analyzed By: AB/HM

LAB NUMBER	SAMPLE ID	GRO (C_6-C_{10}) (mg/kg)	DRO (>C_{10}-C_{28}) (mg/kg)	Cl* (mg/kg)
ANALYSIS DATE		05/13/10	05/13/10	05/12/10
H19874-1	SOURCE 6FT	<10.0	20.2	64
Quality Control		484	469	500
True Value QC		500	500	500
% Recovery		96.8	93.8	100
Relative Percent Difference		<0.1	1.7	< 0.1

METHODS: TPH GRO & DRO: EPA SW-846 8015 M, Cl: Std. Methods 4500-ClB
*Analysis performed on a 1:4 w:v aqueous extract.
Reported on wet weight.

Chemist

5/13/10
Date

H19874 TCL RICE

CARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325)673-7020

Company Name: Rice Operating Company	BILL TO
Project Manager: Bruce Baker	P.O. #:
Address: 122 W. Taylor	Company:
City: Hobbs State: NM Zip: 88240	Attn:
Phone #: 575-393-9174 Fax #: 575-397-1471	Address:
Project #: Project Owner:	City:
Project Name: Teas Sec 8-17 Com Battery	State: Zip:
Project Location:	Phone #:
Sampler Name: Gerardo Martinez	Fax #:

FOR LAB USE ONLY		MATRIX							PRESERV			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	C.L.	TPH 8015M
19874-1	Source Grt	G	1			✓					✓		5-11-10	10:32	✓	✓

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 the client for the 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 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Gerardo	Date: Time:	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: 5/11/10 Time: 4:40	Received By: Jodi Henson	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool / Intact ☑ Yes ☑ Yes ☐ No ☐ No	CHECKED BY: (Initials)	REMARKS: E-Mail Results To: [redacted] BBaker @ RiceSWD.com Legans " " "

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#26

RICE OPERATING COMPANY

122 West Tayor Hobbs, NM 88240
PHONE: (575) 393-9174 FAX: (575) 397-1471

PID METER CALIBRATION & FIELD REPORT FORM

Check Model Number:

	Model: PGM 7300	Serial No: 590-000183			Model: PGM 7600	Serial No: 110-023920
✓	Model: PGM 7300	Serial No: 590-000508			Model: PGM 7600	Serial No: 110-013744
	Model: PGM 7300	Serial No: 590-000504			Model: PGM 7600	Serial No: 110-013676

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO : 928547	EXPIRATION DATE: 2-4-2013
FILL DATE:	METER READING ACCURACY: 100 PPM

ACCURACY : +/- 2%

SYSTEM	JUNCTION	UNIT	SECTION	TOWN SHIP	RANGE
EME	P-17	P	17	T19S	R36E

SAMPLE ID	PID	SAMPLE ID	PID
Back ground	5.3		
Source 2'	6.9		
3'	23.5		
4'	2		
5'	22		
6'	4		

I verify that I have calibrated the above instrument in accordance to the manufacture operation manual.

SIGNATURE: Gerardo Martinez DATE: 5-11-10

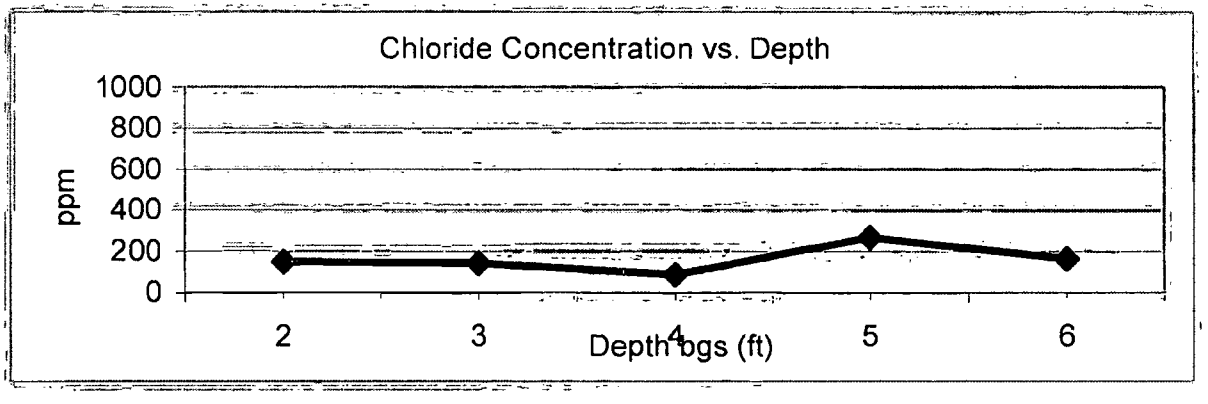
EME Jct. P-17

Unit 'P', Sec. 17, T21S, R36E

Backhoe samples at the junction (source)

Depth bgs (ft)	[Cl⁻] ppm
2	151
3	143
4	87
5	270
6	165

Groundwater = 170 ft.



Current Photodocumentation

RICE *Operating Company* (ROC)
112 West Taylor Hobbs, NM 88240
Phone: (575) 393-9174 Fax: (575) 397-1471

EME Jct. P-17

UL/P, Section 17, T21S, R36E

Facing north 2/22/2013

Facing south 2/22/2013

ARCADIS
Infrastructure, buildings, environment, communications

ARCADIS U.S., Inc.
1004 N. Big Spring Street
Suite 300
Midland Texas 79701
Tel 432.687.5400
Fax 432.687.5401
www.arcadis-us.com

Mr. Edward Hansen
New Mexico Oil Conservation Division
1220 So. Saint Francis Drive
Santa Fe, New Mexico 87505

Certified Mail Receipt No. 7002 2410 0001 5813 3876

Subject:
2012 ANNUAL GROUNDWATER REPORT
NMOCD Case # 1R426-153
Blinebry-Drinkard (BD) N-32 Vent
T21S, R37E, Section 32, Unit N, Lea County, New Mexico

Date:
March 21, 2013

Contact:
Sharon Hall

Phone:
432 687-5400

Email:
shall@arcadis-us.com

Mr. Hansen,

On behalf of Rice Operating Company (ROC), ARCADIS respectfully submits this 2012 Annual Groundwater Report for the BD N-32 Vent site located in the Blinebry-Drinkard (BD) Salt Water Disposal (SWD) System.

One monitoring well was drilled at the site on October 6 and 7, 2008 following approval of the Investigation and Characterization Plan approved by NMOCD on May 28, 2008. A groundwater sample was collected from the monitoring well on November 13, 2008.

An ICP Report was submitted to NMOCD on April 22, 2009. The report recommended that one upgradient and one downgradient monitoring well be drilled at the site to assess groundwater quality. NMOCD approved the drilling of the two monitoring wells on June 24, 2009. The monitoring wells were drilled on July 9, 2009 and sampled on July 24, 2009.

A Monitor Well Report/Sampling Summary was submitted to NMOCD on September 22, 2009. The report recommended drilling one upgradient and one downgradient monitoring well to further delineate elevated chlorides near the site. NMOCD approved drilling the wells on September 30, 2009. The wells were drilled on September 21 and 22, 2009.

All wells were sampled quarterly per NMOCD guidelines. The attached tables summarize the analytical results from groundwater samples collected from the monitor wells at the site.

Corrective Action Plan Activities

In the CAP dated January 10, 2012 and approved by NMOCD on March 26, 2012, ROC presented estimations of chloride mass in groundwater and proposed liner dimensions. According to NMOCD's approval of the CAP, a groundwater recovery system installed at the former junction box location would remove a total chloride mass of 1,980 kilograms (kg). Groundwater recovery began on August 31, 2012. To date, approximately 430 barrels of chloride impacted groundwater have been removed. With a chloride concentration of 1,380 mg/L in MW-3, approximately 94.34 kg of chloride has been removed from groundwater. Chloride mass recovery from groundwater and quarterly monitoring well sampling will continue in 2013.

According to the NMOCD approved CAP, a modified 75x90-ft, 20-mil reinforced liner was installed and properly seated at approximately 25 ft bgs. An Excavation Summary and Soil Closure Request detailing the excavation activities was submitted to the NMOCD on September 4, 2012. NMOCD approved and granted soil closure on September 13, 2012. According to NMOCD's approval, no further action is required with regard to soils.

ROC is the service provider (agent) for the BD Salt Water Disposal System and has no ownership of any portion of the pipelines, wells or facilities. The BD System is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

Thank you for your consideration concerning this summary of groundwater monitoring information. If you have any questions please do not hesitate to contact me or Hack Conder.

Best Regards,

ARCADIS U.S, Inc.

Sharon E. Hall

Sharon E. Hall
Associate Vice President

Copies: Hack Conder- ROC

Attachments:
Monitor Well Summary Tables
Monitor Well Location Figure
Monitor Well Lab Results
Record of Groundwater Recovery

ROC BD N-32 vent

MW	Depth to Water (feet)	Total Depth (feet)	Well Volume (gallons)	Volume Purged (gallons)	Sample Date	Cl	TDS	Benzene	Toluene	Ethylbenzene	Total Xylenes	Sulfate
1	97.17	102.6	3.5	15	11/13/2008	2500	4970	<0.001	<0.001	<0.001	<0.003	187
1	97.18	102.68	3.6	15	1/21/2009	1540	3010	<0.001	<0.001	<0.001	<0.003	130
1	97.13	102.58	3.5	15	4/22/2009	1020	2210	<0.001	<0.001	<0.001	<0.003	119
1	97.1	102.58	3.6	15	7/24/2009	930	2090	<0.001	<0.001	<0.001	<0.003	112
1	97.05	102.58	3.6	15	10/2/2009	1230	2440	<0.001	<0.001	<0.001	<0.003	120
1	96.99	102.63	3.7	15	1/25/2010	2120	4680	<0.001	<0.001	<0.001	<0.003	127
1	96.98	102.63	3.7	15	4/23/2010	2800	4870	<0.001	<0.001	<0.001	<0.003	184
1	96.91	102.63	3.7	15	7/23/2010	3350	6170	<0.001	<0.001	<0.001	<0.003	168
1	96.90	102.63	3.7	15	10/21/2010	3250	5530	<0.001	<0.001	<0.001	<0.003	132
1	96.84	102.65	3.8	15	2/10/2011	4400	7310	<0.001	<0.001	<0.001	<0.003	171
1	96.80	102.65	3.8	15	5/12/2011	4000	6830	<0.001	<0.001	<0.001	<0.003	212
1	96.74	102.65	3.8	15	8/8/2011	3200	5600	<0.001	<0.001	<0.001	<0.003	142
1	96.77	102.65	3.8	15	11/2/2011	3100	5510	<0.001	<0.001	<0.001	<0.003	170
1	96.75	102.65	3.8	15	2/2/2012	2600	4680	<0.001	<0.001	<0.001	<0.003	230
1	96.68	102.65	3.9	15	5/7/2012	1820	3650	<0.001	<0.001	<0.001	<0.003	157
1	96.64	102.65	3.9	15	7/26/2012	2800	5300	<0.001	<0.001	<0.001	<0.003	101
1	96.68	102.65	3.9	15	10/25/2012	2300	4560	<0.001	<0.001	<0.001	<0.003	163

Sample results in milligrams per liter

ROC BD N-32 vent

MW	Depth to Water (feet)	Total Depth (feet)	Well Volume (gallons)	Volume Purged (gallons)	Sample Date	Cl	TDS	Benzene	Toluene	Ethylbenzene	Total Xylenes	Sulfate
2	99.78	105.96	1	4	7/24/2009	800	1920	<0.001	<0.001	<0.001	<0.003	190
2	98.73	105.96	1.2	4	10/2/2009	770	1970	<0.001	<0.001	<0.001	<0.003	186
2	98.69	105.85	1.1	4	1/25/2010	820	1940	<0.001	<0.001	<0.001	<0.003	214
2	98.68	105.85	1.1	4	4/23/2010	780	1760	<0.001	<0.001	<0.001	<0.003	243
2	98.61	105.85	1.2	4	7/23/2010	840	2120	<0.001	<0.001	<0.001	<0.003	238
2	98.55	105.85	1.2	4	10/21/2010	790	2170	<0.001	<0.001	<0.001	<0.003	214
2	98.54	105.93	1.2	5	2/10/2011	850	2070	<0.001	<0.001	<0.001	<0.003	361
2	98.51	105.93	1.2	5	5/11/2011	900	2130	<0.001	<0.001	<0.001	<0.003	341
2	98.46	105.93	1.2	5	8/8/2011	880	1970	<0.001	<0.001	<0.001	<0.003	249
2	98.48	105.93	1.2	5	11/2/2011	860	1900	<0.001	<0.001	<0.001	<0.003	208
2	98.44	105.93	1.2	5	2/2/2012	860	2040	<0.001	<0.001	<0.001	<0.003	244
2	98.39	105.93	1.2	5	5/7/2012	820	2040	<0.001	<0.001	<0.001	<0.003	224
2	98.36	105.93	1.2	5	7/26/2012	1120	2370	<0.001	<0.001	<0.001	<0.003	92.0
2	98.37	105.93	1.2	5	10/25/2012	790	2010	<0.001	<0.001	<0.001	<0.003	243

Sample results in milligrams per liter

ROC BD N-32 vent

MW	Depth to Water (feet)	Total Depth (feet)	Well Volume (gallons)	Volume Purged (gallons)	Sample Date	Cl	TDS	Benzene	Toluene	Ethylbenzene	Total Xylenes	Sulfate
3	99.74	138.48	25.2	150	7/24/2009	2340	5220	<0.001	<0.001	<0.001	<0.003	106
3	99.74	138.48	25.2	200	10/2/2009	6400	12,400	<0.001	<0.001	<0.001	<0.003	127
3	99.65	138.58	25.3	150	1/25/2010	2020	3900	<0.001	<0.001	<0.001	<0.003	116
3	99.67	138.58	25.3	150	4/23/2010	2500	4640	<0.001	<0.001	<0.001	<0.003	193
3	99.58	138.58	25.4	80	7/23/2010	1800	3300	<0.001	<0.001	<0.001	<0.003	86.0
3	99.50	138.58	25.4	80	10/21/2010	940	2110	<0.001	<0.001	<0.001	<0.003	74.9
3	99.49	138.58	25.4	80	2/10/2011	3250	5680	<0.001	<0.001	<0.001	<0.003	115
3	99.47	138.58	25.4	80	5/12/2011	2650	4630	<0.001	<0.001	<0.001	<0.003	114
3	99.44	138.58	25.4	80	8/8/2011	1000	1900	<0.001	<0.001	<0.001	<0.003	93.2
3	99.38	138.58	25.5	80	11/2/2011	660	1480	<0.001	<0.001	<0.001	<0.003	94.3
3	99.42	138.58	25.5	80	2/2/2012	1500	2760	<0.001	<0.001	<0.001	<0.003	81.6
3	99.40	138.58	25.5	80	5/7/2012	424	1150	<0.001	<0.001	<0.001	<0.003	212
3	99.32	138.58	25.5	80	7/27/2012	2100	4070	<0.001	<0.001	<0.001	<0.003	114
3	-	138.58	-	Pumping	10/25/2012	1380	2660	<0.001	<0.001	<0.001	<0.003	91.0

Sample results in milligrams per liter

ROC BD N-32 vent

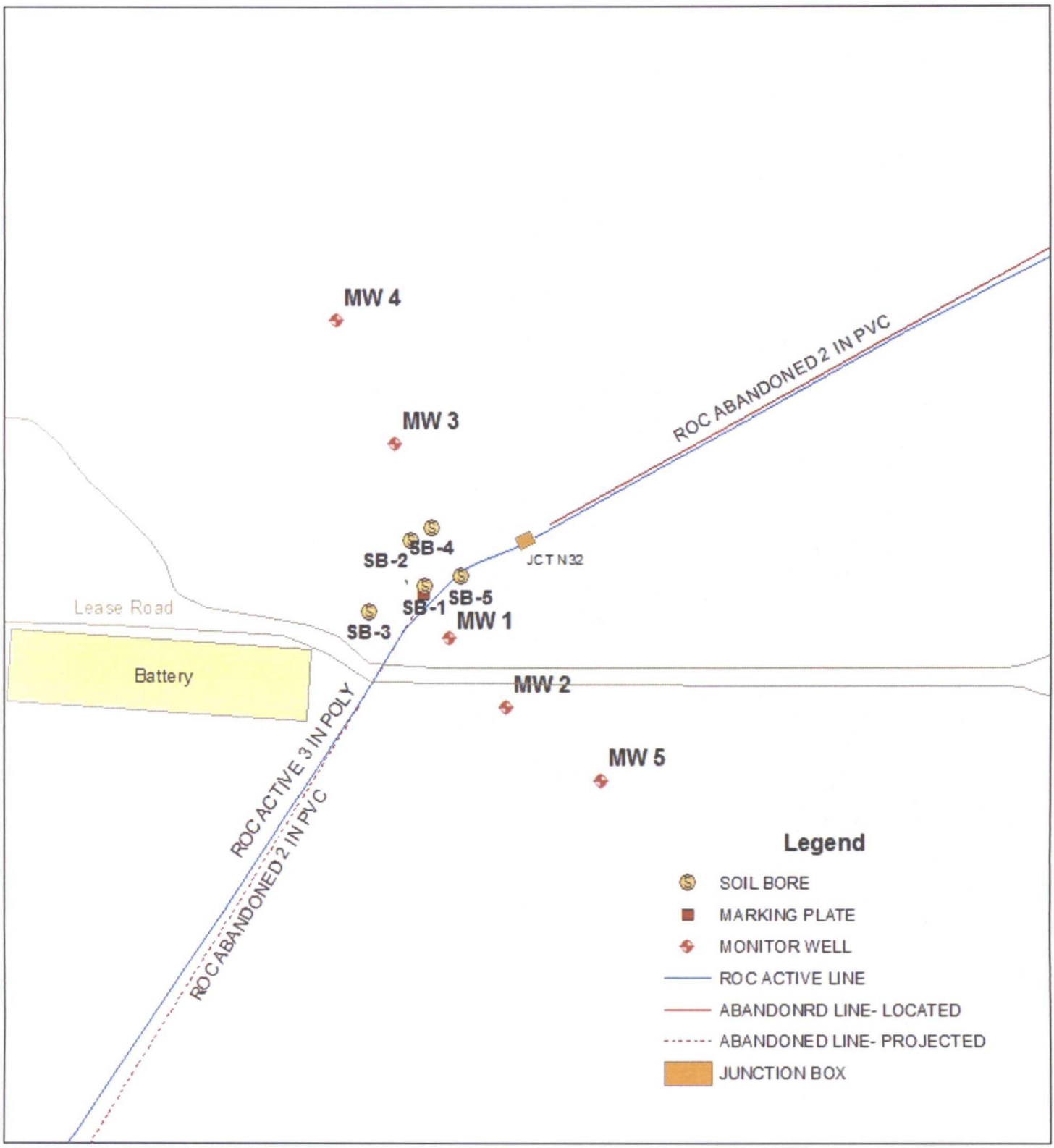
MW	Depth to Water (feet)	Total Depth (feet)	Well Volume (gallons)	Volume Purged (gallons)	Sample Date	Cl	TDS	Benzene	Toluene	Ethylbenzene	Total Xylenes	Sulfate
4	98.90	138.80	25.9	200	10/2/2009	420	1170	<0.001	<0.001	<0.001	<0.003	115
4	98.84	138.80	26.0	150	1/25/2010	216	807	<0.001	<0.001	<0.001	<0.003	126
4	98.86	138.80	26.0	150	4/23/2010	72.0	492	<0.001	<0.001	<0.001	<0.003	93.2
4	98.80	138.80	26.0	80	7/23/2010	148	607	<0.001	<0.001	<0.001	<0.003	82.0
4	98.64	138.80	26.1	80	10/21/2010	72.0	489	<0.001	<0.001	<0.001	<0.003	90.3
4	98.62	138.80	26.1	80	2/10/2011	204	795	<0.001	<0.001	<0.001	<0.003	87.0
4	98.60	138.80	26.1	80	5/12/2011	64.0	484	<0.001	<0.001	<0.001	<0.003	97.9
4	98.53	138.80	26.2	80	8/8/2011	72.0	478	<0.001	<0.001	<0.001	<0.003	86.0
4	98.47	138.80	26.2	80	11/2/2011	92.0	575	<0.001	<0.001	<0.001	<0.003	91.8
4	-	138.80	-	Pumping	2/2/2012	140	664	<0.001	<0.001	<0.001	<0.003	100
4	-	138.80	-	Pumping	5/7/2012	168	684	<0.001	<0.001	<0.001	<0.003	108
4	-	138.80	-	Pumping	7/27/2012	344	964	<0.001	<0.001	<0.001	<0.003	91.2
4	-	138.80	-	Pumping	10/25/2012	96.0	539	<0.001	<0.001	<0.001	<0.003	83.0

Sample results in milligrams per liter

ROC BD N-32 vent

MW	Depth to Water (feet)	Total Depth (feet)	Well Volume (gallons)	Volume Purged (gallons)	Sample Date	Cl	TDS	Benzene	Toluene	Ethylbenzene	Total Xylenes	Sulfate
5	98.09	110.2	1.9	6	10/2/2009	164	706	<0.001	<0.001	<0.001	<0.003	83.7
5	98.05	110.14	1.9	6	1/25/2010	132	623	<0.001	<0.001	<0.001	<0.003	104
5	98.08	110.14	1.9	6	4/23/2010	128	580	<0.001	<0.001	<0.001	<0.003	91.7
5	98.01	110.14	1.9	6	7/23/2010	120	615	<0.001	<0.001	<0.001	<0.003	94.6
5	97.91	110.14	2.0	6	10/21/2010	116	561	<0.001	<0.001	<0.001	<0.003	99.5
5	97.89	110.19	2.0	8	2/10/2011	120	542	<0.001	<0.001	<0.001	<0.003	82.9
5	97.88	110.19	2.0	8	5/11/2011	108	573	<0.001	<0.001	<0.001	<0.003	89.7
5	97.91	110.19	2.0	8	8/8/2011	124	559	<0.001	<0.001	<0.001	<0.003	75.5
5	97.89	110.19	2.0	8	11/2/2011	108	554	<0.001	<0.001	<0.001	<0.003	89.2
5	97.83	110.19	2.0	8	2/2/2012	100	536	<0.001	<0.001	<0.001	<0.003	98.0
5	97.75	110.19	2.0	8	5/7/2012	108	568	<0.001	<0.001	<0.001	<0.003	243
5	97.71	110.19	2.0	8	7/26/2012	108	549	<0.001	<0.001	<0.001	<0.003	98.3
5	97.74	110.19	2.0	8	10/25/2012	92.0	520	<0.001	<0.001	<0.001	<0.003	93.0

Sample results in milligrams per liter



RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC

BD N-32 vent

UL/N SECTION. 32
T21S R37E
LEA COUNTY, NM
NMOCD Case #: 1R426-153

FIGURE 1

N
W E
S

0 25 50 100 150 200
Feet

Drawing date:3/19/12
Drafted by:TONY GRIECO

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

November 02, 2012

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD N-32-VENT

Enclosed are the results of analyses for samples received by the laboratory on 10/25/12 16:40.

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 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.

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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	10/25/2012	Sampling Date:	10/25/2012
Reported:	11/02/2012	Sampling Type:	Water
Project Name:	BD N-32-VENT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T21S R37E SEC32 N - LEA CTY., NM		

Sample ID: MONITOR WELL #1 (H202612-01)

BTEX 8021B mg/L **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	10/29/2012	ND	0.020	101	0.0200	3.82	
Toluene*	<0.001	0.001	10/29/2012	ND	0.022	110	0.0200	4.89	
Ethylbenzene*	<0.001	0.001	10/29/2012	ND	0.022	109	0.0200	5.48	
Total Xylenes*	<0.003	0.003	10/29/2012	ND	0.066	110	0.0600	5.90	
Total BTEX	<0.006	0.006	10/29/2012	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *89.5-126*

Chloride, SM4500Cl-B mg/L **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**2300**	4.00	10/29/2012	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*	**163**	10.0	10/30/2012	ND	16.2	81.1	20.0	21.2	

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	10/30/2012	ND	234	97.5	240	1.43	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	10/25/2012	Sampling Date:	10/25/2012
Reported:	11/02/2012	Sampling Type:	Water
Project Name:	BD N-32-VENT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T21S R37E SEC32 N - LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H202612-02)

BTEX 8021B mg/L **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	10/29/2012	ND	0.020	101	0.0200	3.82	
Toluene*	<0.001	0.001	10/29/2012	ND	0.022	110	0.0200	4.89	
Ethylbenzene*	<0.001	0.001	10/29/2012	ND	0.022	109	0.0200	5.48	
Total Xylenes*	<0.003	0.003	10/29/2012	ND	0.066	110	0.0600	5.90	
Total BTEX	<0.006	0.006	10/29/2012	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *89.5-126*

Chloride, SM4500Cl-B mg/L **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**790**	4.00	10/29/2012	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*	**243**	10.0	10/30/2012	ND	16.2	81.1	20.0	21.2	

TDS 160.1 mg/L **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**2010**	5.00	10/30/2012	ND	234	97.5	240	1.43	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	10/25/2012	Sampling Date:	10/25/2012
Reported:	11/02/2012	Sampling Type:	Water
Project Name:	BD N-32-VENT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T21S R37E SEC32 N - LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H202612-03)

BTEX 8021B mg/L Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	10/29/2012	ND	0.020	101	0.0200	3.82	
Toluene*	<0.001	0.001	10/29/2012	ND	0.022	110	0.0200	4.89	
Ethylbenzene*	<0.001	0.001	10/29/2012	ND	0.022	109	0.0200	5.48	
Total Xylenes*	<0.003	0.003	10/29/2012	ND	0.066	110	0.0600	5.90	
Total BTEX	<0.006	0.006	10/29/2012	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *89.5-126*

Chloride, SM4500Cl-B mg/L Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**1380**	4.00	10/29/2012	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*	**91.0**	10.0	10/30/2012	ND	16.2	81.1	20.0	21.2	

TDS 160.1 mg/L Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**2660**	5.00	10/30/2012	ND	234	97.5	240	1.43	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	10/25/2012	Sampling Date:	10/25/2012
Reported:	11/02/2012	Sampling Type:	Water
Project Name:	BD N-32-VENT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T21S R37E SEC32 N - LEA CTY., NM		

Sample ID: MONITOR WELL #4 (H202612-04)

BTEX 8021B mg/L **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	10/29/2012	ND	0.020	101	0.0200	3.82	
Toluene*	<0.001	0.001	10/29/2012	ND	0.022	110	0.0200	4.89	
Ethylbenzene*	<0.001	0.001	10/29/2012	ND	0.022	109	0.0200	5.48	
Total Xylenes*	<0.003	0.003	10/29/2012	ND	0.066	110	0.0600	5.90	
Total BTEX	<0.006	0.006	10/29/2012	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *89.5-126*

Chloride, SM4500Cl-B mg/L **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**96.0**	4.00	10/29/2012	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*	**83.0**	10.0	10/30/2012	ND	16.2	81.1	20.0	21.2	

TDS 160.1 mg/L **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**539**	5.00	10/30/2012	ND	234	97.5	240	1.43	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	10/25/2012	Sampling Date:	10/25/2012
Reported:	11/02/2012	Sampling Type:	Water
Project Name:	BD N-32-VENT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T21S R37E SEC32 N - LEA CTY., NM		

Sample ID: MONITOR WELL #5 (H202612-05)

BTEX 8021B mg/L **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	10/29/2012	ND	0.020	101	0.0200	3.82	
Toluene*	<0.001	0.001	10/29/2012	ND	0.022	110	0.0200	4.89	
Ethylbenzene*	<0.001	0.001	10/29/2012	ND	0.022	109	0.0200	5.48	
Total Xylenes*	<0.003	0.003	10/29/2012	ND	0.066	110	0.0600	5.90	
Total BTEX	<0.006	0.006	10/29/2012	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *89.5-126*

Chloride, SM4500Cl-B mg/L **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**92.0**	4.00	10/29/2012	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*	**93.0**	10.0	10/30/2012	ND	16.2	81.1	20.0	21.2	

TDS 160.1 mg/L **Analyzed By: HM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**520**	5.00	10/30/2012	ND	260	108	240	0.384	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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

Celey D. Keene, Lab Director/Quality Manager

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

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

Company Name: RICE Operating Company	BILL TO Company: RICE Operating Company	PO#
Project Manager: Hack Conder	Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240	
Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240	Phone#: (575) 393-9174	Fax#: (575)397-1471
Phone #: (575) 393-9174	Fax #: (575) 397-1471	
Project #:	Project Name: BD N-32 Vent	
Project Location: T21S R37E Sec32 N ~ Lea County New Mexico	Sampler Signature:	Rozanne Johnson (575)631-9310 rozanne@valornet.com

LAB # (LAB USE ONLY)	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL (2 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1 Liter HDPE)	NONE	SAMPLING: DATE (2012)	TIME	MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005 / TX1005 Extended (C35)	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	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	Sulfates	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours
1	Monitor Well #1	G	3	X				2				1		10-25	12:45		X																X	X	X	
2	Monitor Well #2	G	3	X				2				1		10-25	10:20		X																X	X	X	
3	Monitor Well #3	G	3	X				2				1		10-25	11:30		X																X	X	X	
4	Monitor Well #4	G	3	X				2				1		10-25	11:50		X																X	X	X	
5	Monitor Well #5	G	3	X				2				1		10-25	9:05		X																X	X	X	

ANALYSIS REQUEST
(Circle or Specify Method No.)

Relinquished by: Rozanne Johnson	Date: 10/25/2012	Time: 16:39	Received by: Jodi Henson	Date: 10/25/12	Time: 4:44
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)	Date:	Time:

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

REMARKS:

Email Results to: hconder@riceswd.com
weinheimer@rice-ecs.com
kjones@riceswd.com
rozanne@valornet.com

Delivered By: (Circle One)	Sample Condition				CHECKED BY:
	Cool		Intact		
Sampler - UPS - Bus - Other:	Yes	1	Yes	1	(Initials)
	No		No		

Record of Groundwater Withdrawal from MW-3
Site Name: BD N-32 vent (1R426-153)

Date	Fluid Hauled (bbls)	Lab Chloride Conc (ppm)	Remarks
8/31/2012		2,350	Started Pumping MW-1
			Due to MW-1 well construction, groundwater recovery began from MW-3.
9/17/2012	70		
9/19/2012		1,300	MW-3
9/27/2012	70		
Total For Aug/Sept	140 bbls	Total kg of Cl-	28.93568768
	5880 gallons	Removed	
10/5/2012	40		
10/11/2012	40		
10/15/2012	40		
10/19/2012	60		
10/22/2012	50		
10/25/2012		1,380	MW-3 Quarterly Sample
10/26/2012	60		
Total For Aug/Sept	290 bbls	Total kg of Cl-	94.34306081
	12180 gallons	Removed	
Total for Project	430 bbls		
	18060 gallons		