1R - 426-98

REPORTS

DATE:

7-20-12

Texerra LLC

20055 Laredo Lane Monument, CO 80132
Tel: 719-339-6791 E-mail: lpg@texerra.com

July 20th, 2012

Mr. Edward Hansen
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87504

RE: Rice Operating Company – BD SWD System
BD O-23-1 vent
CAP Report for Groundwater and Request for Remediation Termination
UL O, Sect 23, Township 21S, Range 37E
NMOCD Case Number 1R426-98

Sent via E-mail and U.S. Certified Mail Return Receipt No. 7011 0110 0002 5197 1303

Mr. Hansen:

This letter is to confirm and provide documentation that Rice Operating Company (ROC) has completed the soil and groundwater remediation requirements for the BD O-23-1 junction site (location given in Figure 1) specified in the NMOCD approved Corrective Action Plan (CAP) of December 22nd, 2010, approved by NMOCD on January 20th, 2011, as summarized, below:

- The excavation of chloride impacted soils across a 48 by 50 ft area and the installation of a subsurface synthetic infiltration barrier to protect groundwater from the downward migration of residual soil chlorides. Between February and April 2011, chloride impacted soils were removed to a depth of 5 ft across the affected area. Six inches of clean blow sand (padding) were added to the bottom of the excavation and a 48 by 50 ft, 20 mil synthetic liner was installed. An additional six inches of clean blow sand were carefully added above the liner and excavated soils were backfilled into the excavation. Clean imported topsoil, amended with peanut hay, was spread over the work area and the lease roads were repaired. The site was subsequently seeded with native vegetation mix. A CAP Progress Report was submitted to NMOCD on May 5th, 2011 and NMOCD subsequently granted remediation termination status for the unsaturated zone on June 14th, 2011.

- The removal of 1,590 lbs (721 barrels) of groundwater chloride from a recovery well at this location to compensate for legacy groundwater impacts (Figure 2). Groundwater recovery began at the BD O-23-1 vent site on May 18th, 2012 and was completed on July 12th, 2012. A total of 1,114 barrels of groundwater was extracted from the aquifer at MW-1R. Given that the MW-1R had a chloride concentration of 4,400 mg/L, a total of 779 kg of chloride (1,714 lbs of affected groundwater) have been recovered and used for SWD line maintenance purposes (Table 1 & Appendix). The groundwater remediation requirements have thus been met for the BD-O-23-1 location.

We therefore submit that the work items specified in the Corrective Action Plan for this project have been completed, and therefore respectfully request remediation termination or similar regulatory closure status for this project.

Please be advised that we wish to continue operation of the groundwater recovery well at this location for other groundwater remediation projects within the BD SWD system. We therefore propose to keep this well operational until further notice with approval from NMOCD.

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.

Thank you for your consideration.

Sincerely

L. Peter Galusky, Jr. Ph.D., P.G.

Appendix: Site location and well location maps, groundwater chloride mass removal calculations, recovery well groundwater chloride lab reports.

Copy: Rice Operating Company

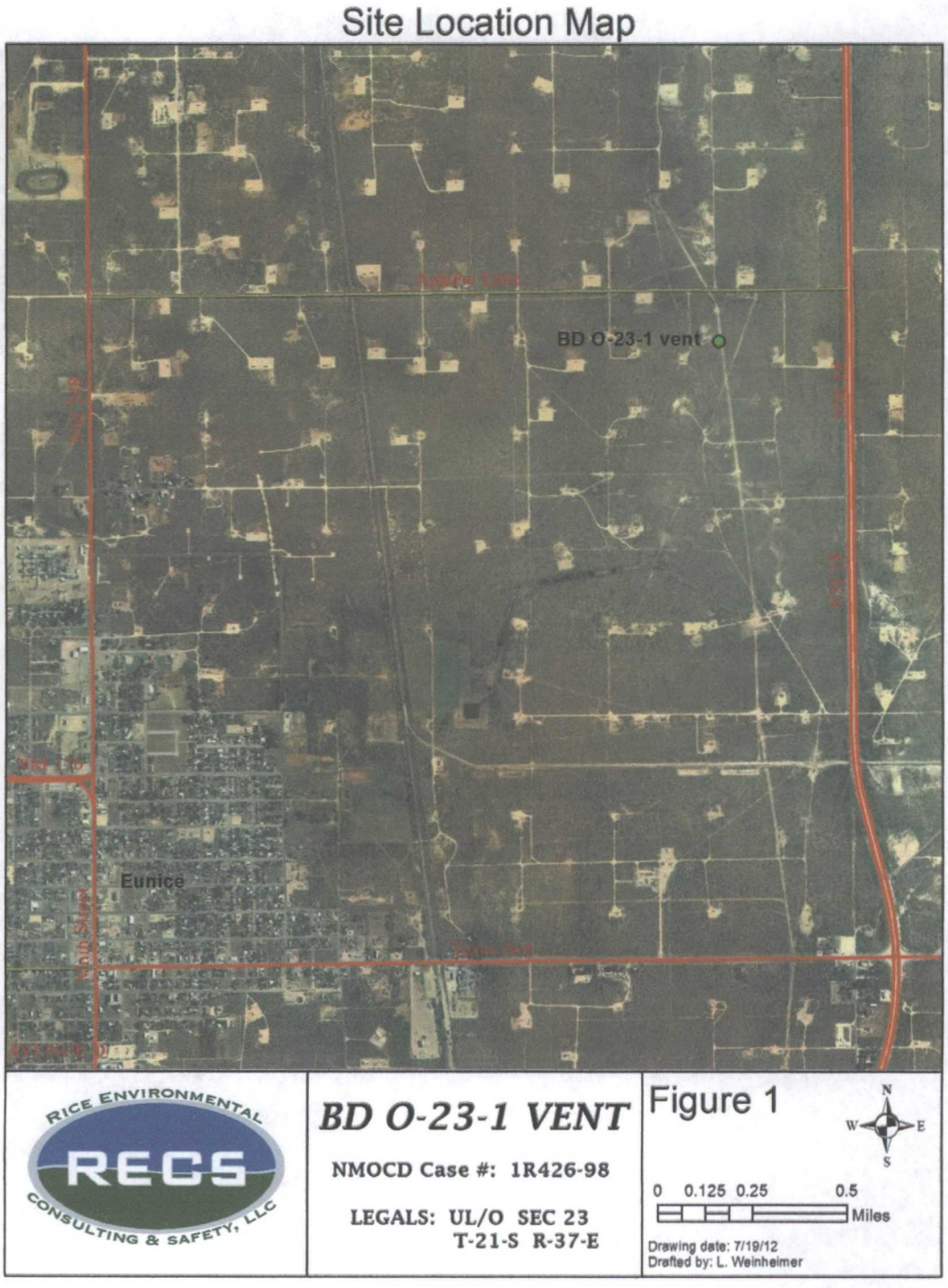

Figure 1 – BD O-23-1 Vent site location map.

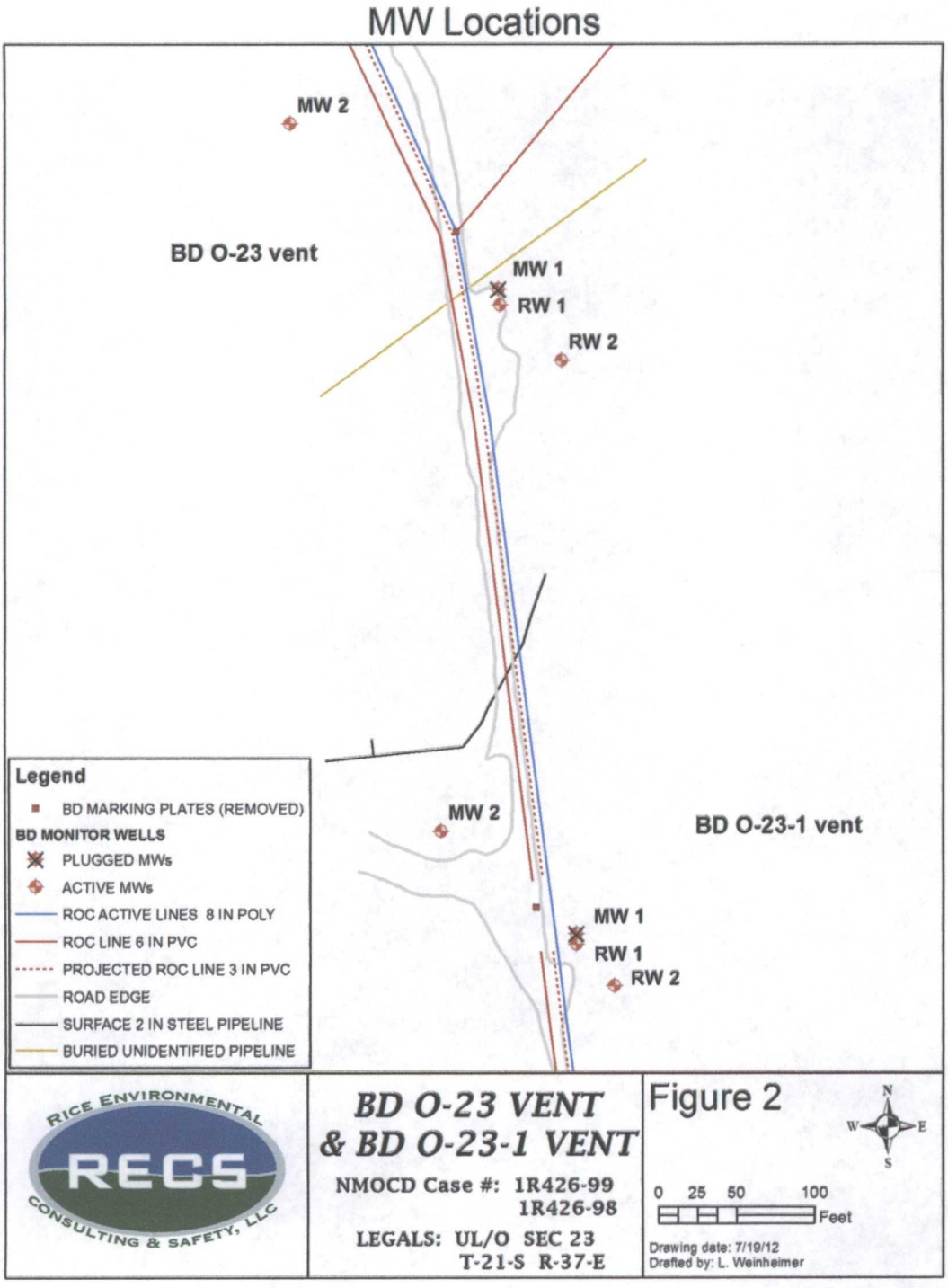

Figure 2 – BD O-23-1 Vent monitor and recovery well locations.

Rice Operating Company – BD O-23-1 vent

General Equation

Total mass (kg) of groundwater chlorides removed =

bbls groundwater removed * 42 gallons/bbl * 3.785 kg/bbl

* groundwater Cl- conc (mg/kg) / 1,000,000 mg/kg

Computation of Groundwater Chlorides Removed at BD O-23-1 Vent

1,114 bbls * 42 gallons/bbl * 3.785 kg/bbl * 4,400 mg/kg/1,000,000 mg/kg = 779 kg

Table 1 – Groundwater chloride mass removal calculations

CARDINAL Laboratories

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

June 26, 2012

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD O-23-1

Enclosed are the results of analyses for samples received by the laboratory on 06/21/12 15:45.

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:	06/21/2012	Sampling Date:	06/21/2012
Reported:	06/26/2012	Sampling Type:	Water
Project Name:	BD O-23-1	Sampling Condition:	** (See Notes)
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T21S R37E SEC23 O-LEA CTY., NM		

Sample ID: MW 1-R (H201421-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	4400	4.00	06/26/2012	ND	100	100	100	0.00	

Sample ID: RW-2 (H201421-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	5050	4.00	06/26/2012	ND	100	100	100	0.00	

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

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

Celey D. Keene, Lab Director/Quality Manager

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	BILL TO
Project Manager: Hack Conder	P.O. #:
Address:	Company:
City: Hobbs State: NM Zip: 88240	Attn:
Phone #: Fax #:	Address:
Project #: Project Owner:	City:
Project Name:	State: Zip:
Project Location: BA A-23-1	Phone #:
Sampler Name: Kyle Norman	Fax #:

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	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS					
H201421																									
1	MW-1R	G	1	X									6-21-12	2:15	X										
2	RW-2	G	1	X									6-21-12	2:19	X										

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:	Date: 6-21-12	Received By:	Phone Result: ☐ Yes ☑ No Add'l Phone #:
	Time: 3:45		Fax Result: ☐ Yes ☑ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: email results: zconder@rice-ecs.com Knorman@rice-ecs.com; lpena@riceswd.com Kjones@riceswd.com; Bbaker@rice-ecs.com; hconder@rice-ecs.com; Lweinheimer@rice-ecs.com
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool ☐ Yes ☐ No Intact ☑ Yes ☐ No	CHECKED BY: (Initials)

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

#26