AP - 99

STAGE 2 REPORT

Date

9-15-11

TETRA TECH

CERTIFIED MAIL
RETURN RECEIPT NO. 7008 3230 0001 9310 7556

RECEIVED
OCT 3 2011
Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

September 15, 2011

Mr. Edward Hansen
New Mexico Energy, Minerals, & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

Re: Termination Request, Rice Operating Company, Justis Saltwater Disposal System (SWD), E-1 Vent, Unit E, Section 1, T-25-S, R-37-E, Lea County, New Mexico, NMOCD CASE #1R0423-06 (AP-99).

Mr. Hansen:

On behalf of Rice Operating Company (ROC), Tetra Tech submits the following Request for Termination for the Justis Saltwater Disposal System (SWD) E-1 (NMOCD AP-99) site. ROC is the service provider (agent) for the Justis SWD system and has no ownership of any portion of the pipeline, well or facility. The Justis SWD system is owned by a consortium of oil producers, Systems Parties, who provide all operating capital on a percentage ownership/usage basis.

As part of the ROC Junction Box Upgrade Workplan, starting on November 11, 2003, the three junction boxes were removed and the site investigated vertically and horizontally with a backhoe to dimensions of 20' by 20' by 12'. The site was found to be impacted with TPH and chlorides. In late 2003, a clay liner measuring 20' x 20' by 6' deep was installed in the excavation in order to impede further vertical migration of the remaining chlorides in the subsurface. In order to vertically delineate the site, one soil boring was drilled in the center of the excavation on March 17, 2004. Groundwater was encountered at an approximate of 89' bgs. Chloride concentrations did not decrease with depth. In order to define the horizontal extent of the chloride impacts, an

Tetra Tech
1910 North Big Spring, Midland, TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

additional six soil borings (SB-2 through SB-7) were drilled at the site from August to October 2007. Chloride concentrations in SB-2 through SB-7 decreased with depth at a depth of 55' bgs or less. Five monitor wells (MW-1 through MW-5) were installed between August 2007 and March 2008.

Background chloride concentrations were collected from an upgradient source contributing chlorides to the groundwater. As such, a Stage 1 and Stage 2 Abatement Plan was submitted to the NMOCD on October 4, 2008 and proposed installing a recovery well (RW-1) and removing 2121.6 kg of chloride from that well. On June 3, 2010 NMOCD requested an amendment to the plan regarding potential groundwater impact of chloride from the vadose zone in the area of SB-1.

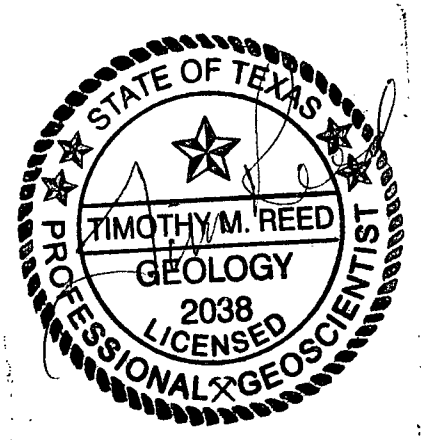
In the amendment to the Stage 1 and Stage 2 Abatement Plan, dated July 2, 2010, ROC proposed removing an additional chloride mass of 212.05 kg to account for the soils from the deep zone and their potential to impact the underlying groundwater. Combining the chloride mass calculated in the vadose zone (212.05 kg) with the chloride mass calculated in the groundwater (2121.6 kg) equals a total mass of 2333.65 kg.

As proposed and approved by the NMOCD on July 21, 2010, the calculated mass was removed by pumping groundwater from recovery well (RW-1). To date a total of 168,588 gallons of water were removed from RW-1 and utilized for pipeline and well maintenance. With monthly monitored chloride concentrations ranging from 3,500 to 4,400 mg/L, approximately 2,808 kg of chloride mass was removed from this site.

Based on the completion activities performed at the site, ROC acknowledges they have met the requirements of 19.15.30 NMAC and respectfully request termination of this regulatory file. Upon NMOCD approval of this Termination Request, all monitoring wells (MW-1, MW-2, MW-3, MW-4 and MW-5) and recovery well (RW-1) will be plugged using a cement grout with 1% to 3% bentonite and a 3 foot cap of cement at the surface. The recovery system will also be dismantled and the area reseeded with native vegetation. Upon completion of these activities, a Monitor Well Plugging Report and Seeding Documentation will be submitted to the NMOCD.

TETRA TECH

If you require any additional information or have any questions or comments concerning the termination request, please call either Hack Conder of ROC at (575) 393-9174 or myself at (432) 682-4559.

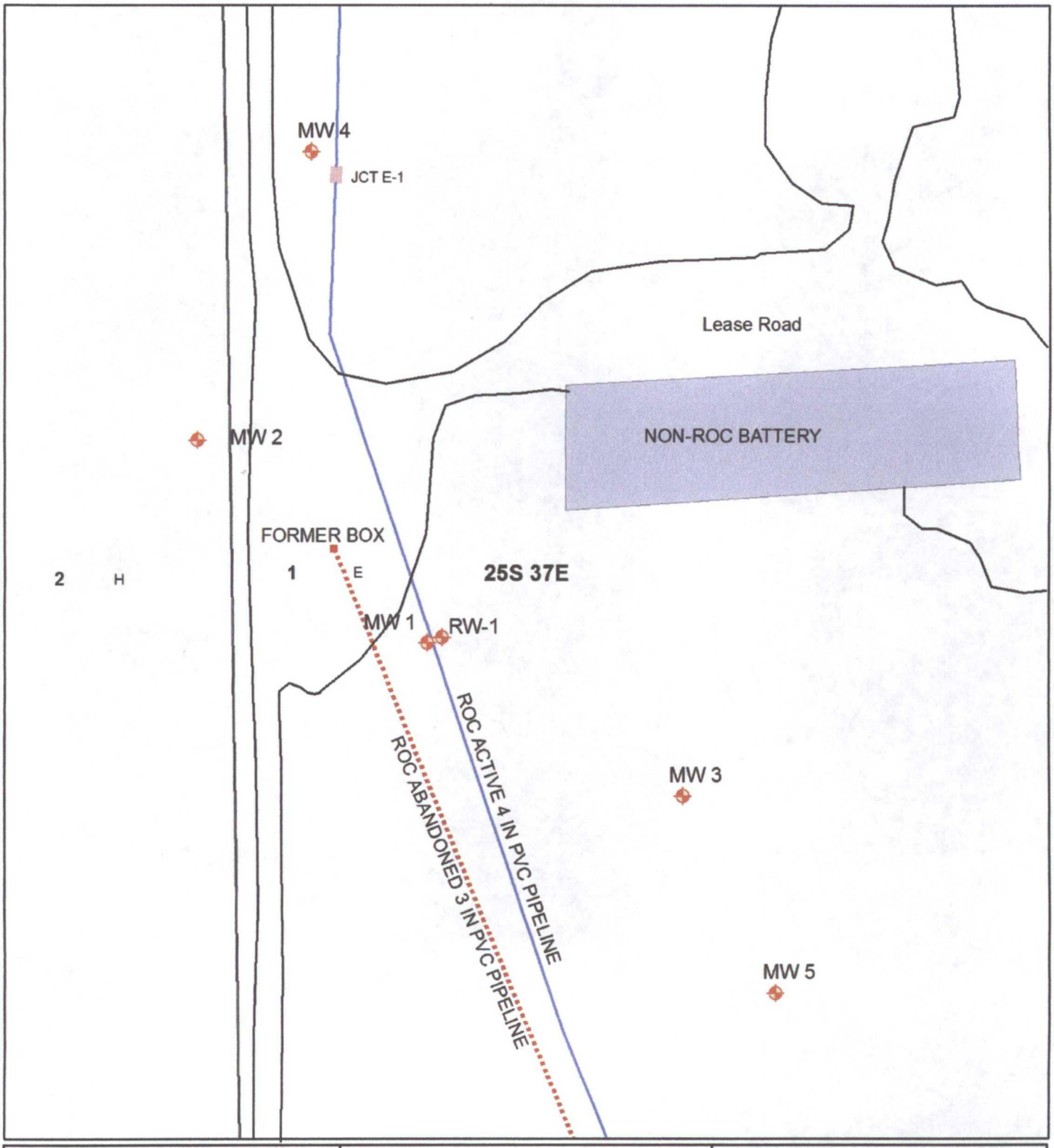


Respectfully Submitted,
Tetra Tech, Inc.

Tim Reed, P.G.
Senior Project Manager

cc: Hack Conder –ROC
attachment: Figure, Pumping Table, Lab Analysis

FIGURE



RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

JUSTIS E-1 VENT

Legals: UL/E SEC 1
T-25-S R-37-E
NMOCD Case #: AP 99

FIGURE 1

0 30 60 120 Feet

Drawing date: 3/24/11
Revision date:
Drafted by: TONY GRIECO

TABLE

Justis E-1 vent (AP-99)

Date	Pre-Haul Fluid Level(gals.)	Pre-Haul Fluid Volume (bbls)	Fluid Hauled (bbls)	Post-Haul Fluid Level (gals)	Post-Haul Fluid Volume (bbls)	Field Chloride Conc (ppm)	Lab Chloride Conc (ppm)	Remarks
9/13/2010			119					
9/17/2010			72					
9/24/2010			86					
	September Total		277 bbls					
			11,634 gals					
10/1/2010			126					
10/8/2010			125					
10/15/2010			129					
10/18/2010							3,500	RW-1
10/22/2010			110					
10/29/2010			120					
	October Total		610 bbls					
			25,620 gals		Total kg of Cl-			
	Total for Project		887 bbls		Removed	494		kg
			37,254 gals					
11/4/2010							3,700	RW-1
11/5/2010			129					
11/12/2010			129					
11/19/2010			124					
11/26/2010			95					
	November Total		477 bbls					
			20,034 gals		Total kg of Cl-			
	Total for Project		1,364 bbls		Removed	802		kg
			57,288 gals					
4/8/2011			61					
4/11/2011			66					
4/13/2011			28					
4/15/2011			33					
4/18/2011			57					
4/20/2011							3,700	RW-1
4/22/2011			76					
4/25/2011			71					

4/28/2011		66				
4/29/2011		30				
	April Total	488 bbls				
		20,496 gals	Total kg of Cl-			
	Total for Project	1,852 bbls	Removed	1,089		kg
		77,784 gals				
5/2/2011		53				
5/6/2011		95				
5/13/2011		126				
5/20/2011		130				
5/25/2011					3,650	RW-1
5/27/2011		130				
	May Total	534 bbls				
		22,428 gals	Total kg of Cl-			
	Total for Project	2,386 bbls	Removed	1,385		kg
		100,212 gals				
6/3/2011		130				
6/10/2011		130				
6/15/2011					3,750	RW-1
6/17/2011		130				
6/24/2011		130				
	June Total	520 bbls				
		21,840 gals	Total kg of Cl-			
	Total for Project	2,906 bbls	Removed	1,733		kg
		122,052 gals				
7/1/2011		130				
7/8/2011		130				
7/15/2011					4,250	RW-1
7/15/2011		130				
7/22/2011		130				
7/29/2011		130				
	July Total	650 bbls				
		27,300 gals	Total kg of Cl-			
	Total for Project	3,556 bbls	Removed	2,403		kg
		149,352 gals				
8/5/2011		130				

8/17/2011					4,400	RW-1
8/19/2011		95				
8/26/2011		123				
	August Total	348	bbls			
		14,616	gals	Total kg of Cl-		
	Total for Project	3,904	bbls	Removed	2,731	kg
		163,968	gals			
9/2/2011		110				
	September Total	110	bbls			
		4,620	gals	Total kg of Cl-		
	Total for Project	4,014	bbls	Removed	2,808	kg
		168,588	gals			

APPENDIX A

CARDINAL Laboratories

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

August 22, 2011

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: JUSTIS E-1 VENT

Enclosed are the results of analyses for samples received by the laboratory on 08/18/11 8:25.

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 Hydorcarbons

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

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 (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:	08/18/2011	Sampling Date:	08/17/2011
Reported:	08/22/2011	Sampling Type:	Water
Project Name:	JUSTIS E-1 VENT	Sampling Condition:	** (See Notes)
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T25S-R37E-SEC1 E-LEA CTY., NM		

Sample ID: RW - 1 (H101740-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4400**	4.00	08/18/2011	ND	108	108	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

		BILL TO	
Company Name:	RICE	P.O. #:	
Project Manager:	HACK CONDER	Company:	
Address:	122 W TAYLOR	Attn:	
City:	HOBBS State: NM Zip: 88240	Address:	
Phone #:	575 393 9174 Fax #:	City:	
Project #:	Project Owner:	State: Zip:	
Project Name:	JUSTIS E-1 VENT	Phone #:	
Project Location:		Fax #:	
Sampler Name:	Tony Conder		

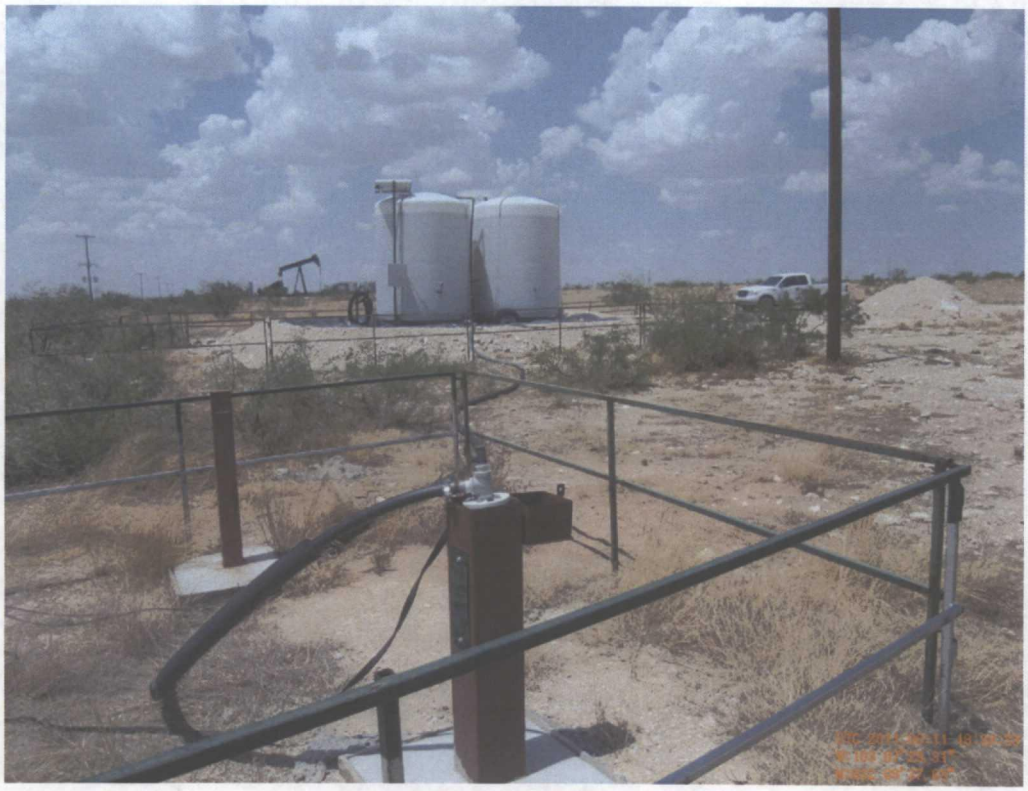
FOR LAB USE ONLY				MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS						
H10740 -1	RW 1		1	✓									8/17/11	12:45	✓											

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: 8/18/11 (10-25-40)	Received By:	Phone Result: ☐ Yes ☑ No Add'l Phone #:
	Time: 8:25	Jodi Henson	Fax Result: ☐ Yes ☑ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: email results KJONES@ricesud.com Zconder@rice-ecs.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 23°C	CHECKED BY: (Initials)	

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

#216



Justis E-1 vent, site photo from RW-1 toward tanks, facing west 8/11/11

Justis E-1 vent, site photo, facing east 8/11/11