

1R - 425-87

REPORTS

DATE:

9-11-12

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

Texerra LLC

20055 Laredo Lane Monument, Colorado 80132

Tel: 719-339-6791 E-mail: lpg@texerra.com

September 11th, 2012

Mr. Edward Hansen

New Mexico Energy, Minerals, & Natural Resources

Oil Conservation Division, Environmental Bureau

1220 S. St. Francis Drive

Santa Fe, New Mexico 87505

RECEIVED

SEP 17 2012

RE: **Corrective Action Plan (CAP) Report & Termination Request**
Rice Operating Company – Vacuum SWD System
Vacuum Jct N-28-1: UL/N, Sec. 28, T17S, R35E (formerly Vacuum Jct K-28-1)
NMOCD Case Number: 1R425-87

Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

Sent via Certified U.S. Mail w/ Return Receipt No. 7011 0110 0002 5197 1310

Mr. Hansen:

This report summarizes work completed per the NMOCD approved Corrective Action Plan (CAP) of August 17th, 2012 for the above-referenced project. This site is located approximately 2.5 miles east of Buckeye, New Mexico in UL/N, Sec. 28, T17S, R35E as shown on the attached Site Location Map. The depth to groundwater at this site is estimated to be approximately 68 ft below ground surface (bgs).

In 2009, ROC initiated work on the former Vacuum N-28-1 junction as part of the system abandonment. An initial evaluation of residual soil chlorides and petroleum hydrocarbons was made using an air-rotary drill, analyzing samples taken at the former junction box location from the ground surface to 12 ft bgs. Diesel range organics (DRO) and gasoline range organics (GRO) both tested below 10 mg/kg and residual chlorides tested 7,400 mg/kg in the 12 ft bgs grab sample. The entire borehole was plugged with bentonite to the ground surface. NMOCD was notified of potential groundwater impact on November 16th, 2009.

As part of the Investigation Characterization Plan (ICP) approved by OCD on June 9th, 2011, ROC evaluated soils with respect to residual chlorides and petroleum hydrocarbons from nine bores. Residual soil chlorides are high in the at-source soil boring (SB-2) from the surface to a depth of 65 ft bgs. The lateral extent of residual soil chlorides was defined by SB-3 to the west, SB-8 to the north and SB-6 to the south where a three-point decline (with the lowest sample testing less than 250 mg/kg) was found in the lowest intervals sampled. The easterly extent was defined by SB-4, where chloride concentrations decreased from 4,000 mg/kg at 25 ft bgs to 432 mg/kg at 65 ft bgs. SB-9, drilled east of SB-4, is encroaching upon an abandoned lease facility. Residual soil petroleum hydrocarbons were generally negligible in each of the soil bores. Petroleum hydrocarbons were therefore determined not to be of concern.

Vacuum Jct. N-28-1

It should be noted that site is located within the immediate vicinity of oil field facilities having a long history with apparent surface spillage and that the elevated levels of residual soil chlorides are likely due to activities not directly caused by ROC operations. Nevertheless, in order to protect groundwater quality from the potential migration of residual soil chlorides, ROC submitted a CAP on April 17th, 2012. The report proposed installing a 20-mil reinforced liner at 3 ft bgs (limited by the presence of hard rock), backfilling with clean soil, and seeding of the surface. NMOCD approved the report on June 25th, 2012.

Between July 31st, 2012 and August 29th, 2012, ROC completed the following actions:

- Excavated the area encompassed by the soil borings (48 ft by 96 ft) to a depth of approximately 5 ft bgs. Due to the close proximity between this and the ROC Vacuum N-28 vent junction box, the excavation and liner encompassed the affected areas of both former boxes (See attached plat).
- Clean blow sand was imported placed in the bottom of the excavation creating a 6 inch blow sand layer. The imported blow sand was utilized for the three N-28 sites (N-28 vent, Jct. N-28-1, and N-28-2 vent). A sample of the imported soil returned a field PID result of 1.4 ppm, a laboratory chloride result below detectable limit (<16 mg/kg) and a laboratory TPH result below detectable limit (<10 mg/kg DRO and GRO). A 48 ft by 96 ft, 20-mil, reinforced poly liner was installed and properly seated above a 6 inch pad, and a 6 inch layer of blow sand was placed above the liner.
- The excavated soil was screened to remove large rocks and the soil was properly disposed of at a NMOCD approved facility.
- The large rocks were returned to the excavation and the site was then backfilled and contoured to the surrounding area with clean, imported soil. The site was then seeded with a blend of native vegetation.

A schematic diagram, photographs of the course of work, laboratory analysis, and a revegetation form are attached.

As this work has ensured the protection of groundwater quality from potential impacts of residual soil chlorides, ROC respectfully requests remediation termination or other appropriate regulatory closure status.

ROC is the service provider (agent) for the Vacuum 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.

Vacuum Jct. N-28-1

We appreciate your consideration of this CAP Report and Termination Request. Please do not hesitate to contact either Hack Conder of Rice Operating Company or myself if you have any questions or need additional information.

Sincerely,

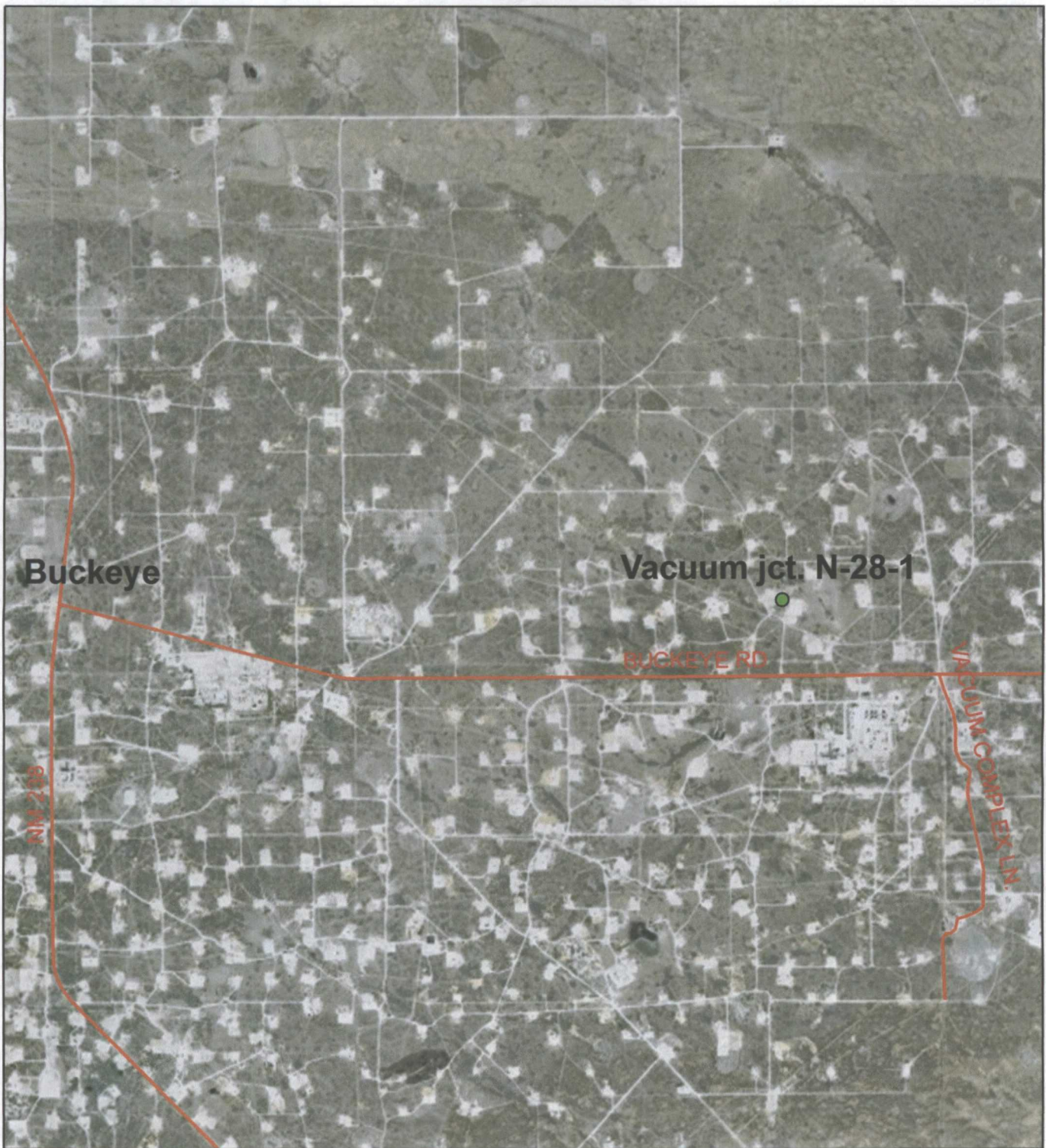
A handwritten signature in black ink, appearing to be 'L. Peter Galusky, Jr.', written in a cursive style.

L. Peter Galusky, Jr. Ph.D.

Copy: Rice Operating Company

Attachments: *as noted in text*

Site Location



Vacuum jct. N-28-1

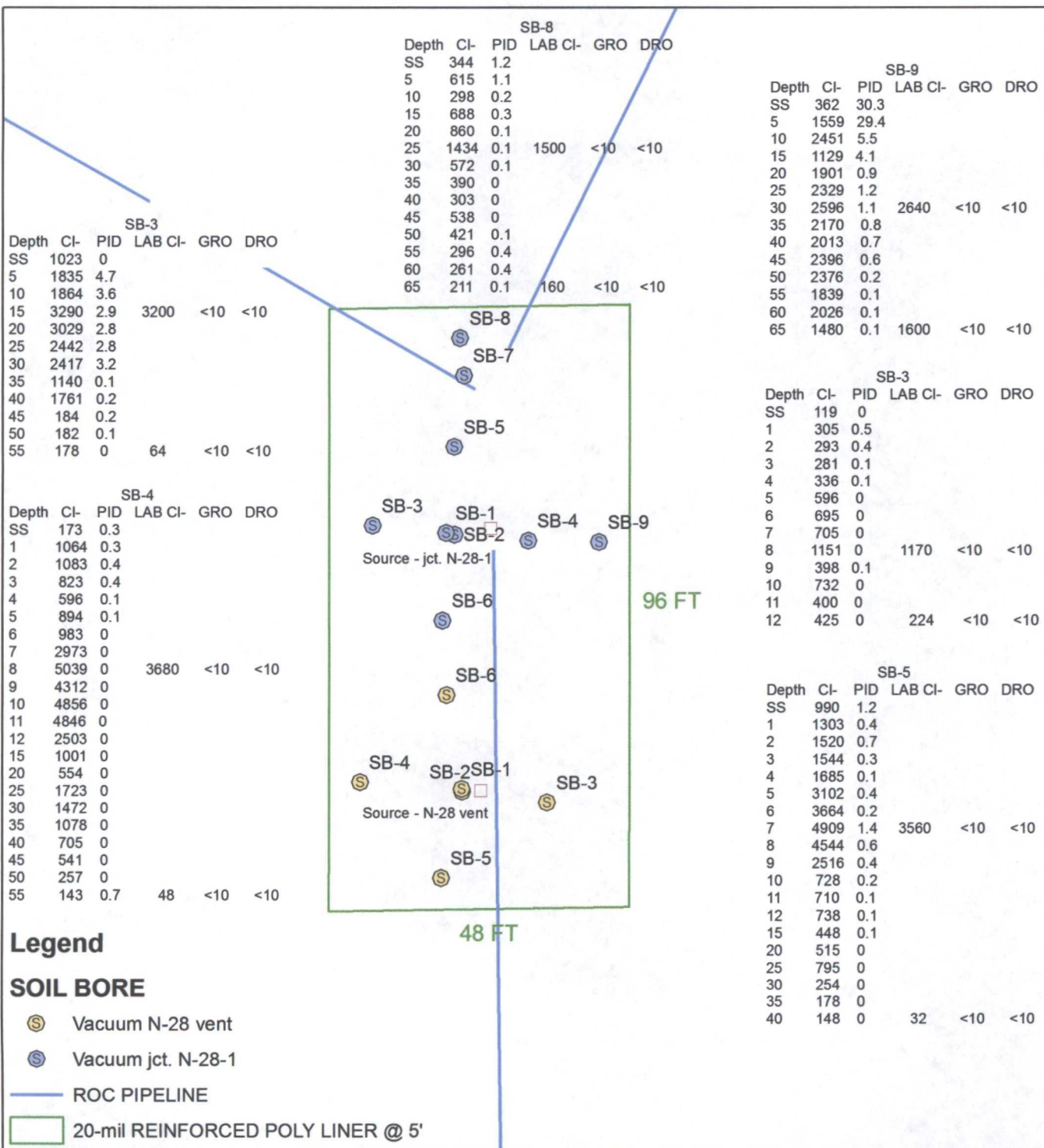
LEGALS: UL/N sec. 28
T17S R35E

NMOCD Case #: 1R425-87



0 875 1,750 3,500
Feet

Drawing date: 4-20-11
Drafted by: L. Weinheimer



**VACUUM
N-28 VENT &
JCT. N-28-1**

UL's N & K SECTION 28
T-17-S R-35-E
LEA COUNTY, NM



0 10 20
Feet

Drawing date: 4/12/12
Drafted by: L. Weinheimer

September 07, 2012

ZACH CONDER

RICE ENVIRONMENTAL CONSULTING & SAFETY LLC

112 W. TAYLOR

HOBBS, NM 88240

RE: VACUUM N-28-2 VENT

Enclosed are the results of analyses for samples received by the laboratory on 08/31/12 15:20.

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.

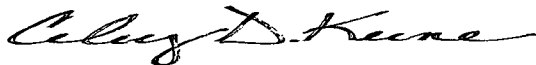
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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 ENVIRONMENTAL CONSULTING & SAFETY
 ZACH CONDER
 112 W. TAYLOR
 HOBBS NM, 88240
 Fax To: (575) 397-1471

Received:	08/31/2012	Sampling Date:	08/31/2012
Reported:	09/07/2012	Sampling Type:	Soil
Project Name:	VACUUM N-28-2 VENT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

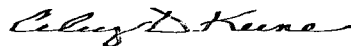
Sample ID: IMPORT SOIL/ BACKFILL (H202111-01)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: HM				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/04/2012	ND	400	100	400	0.00	
TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/06/2012	ND	191	95.3	200	5.10	
DRO >C10-C28	<10.0	10.0	09/06/2012	ND	156	78.2	200	6.68	
Surrogate: 1-Chlorooctane	90.0 %	65.2-140							
Surrogate: 1-Chlorooctadecane	99.1 %	63.6-154							

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

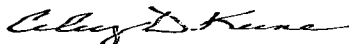
Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: <u>Pace Environmental Consulting & Safety</u> Project Manager: <u>Zach Pender</u> Address: City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____ Project Name: <u>Vac. N-25-2 Vent</u> Project Location: _____ Sampler Name: _____				BILL TO P.O. #: _____ Company: _____ Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____		ANALYSIS REQUEST <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <p style="font-size: small;">FOR LAB USE ONLY</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Lab I.D.</th> <th rowspan="2">Sample I.D.</th> <th rowspan="2">(O)RAB OR (C)OMP.</th> <th rowspan="2"># CONTAINERS</th> <th colspan="5">MATRIX</th> <th colspan="3">PRESERV.</th> <th colspan="2">SAMPLING</th> </tr> <tr> <th>GROUNDWATER</th> <th>WASTEWATER</th> <th>SOIL</th> <th>SLUDGE</th> <th>OTHER</th> <th>ACID/BASE</th> <th>ICE / COOL</th> <th>OTHER</th> <th>DATE</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>H202111</td> <td>Impact Soil/Backfill</td> <td>2</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>8-31-12</td> <td>6:45A</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> </div> <div style="width: 55%; font-size: 2em; transform: rotate(-90deg); transform-origin: left top; position: absolute; left: -50px; top: 50%;"> chlorides VTPH 8015M </div> </div>										Lab I.D.	Sample I.D.	(O)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.			SAMPLING		GROUNDWATER	WASTEWATER	SOIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER	DATE	TIME	H202111	Impact Soil/Backfill	2	1										8-31-12	6:45A																																																																																																																																																						
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† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

RICE ENVIRONMENTAL CONSULTING & SAFETY

122 West Taylor Hobbs, NM 88240
PHONE: (505) 393-9174 FAX: (505) 397-1471
PID METER CALIBRATION & FIELD REPORT FORM

CK.	<input type="checkbox"/>	MODEL: PGM 7300	SERIAL NO: 590-000508
MODEL	<input type="checkbox"/>	MODEL: PGM 7300	SERIAL NO: 590-000504
NO.	<input type="checkbox"/>	MODEL: PGM 7320	SERIAL NO: 592-903318
	<input checked="" type="checkbox"/>	MODEL: PGM 7300	SERIAL NO: 590-902012

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO: HAL-248-100-1	EXPIRATION DATE: 7/1/2015
METER READING ACCURACY: 100 PPM	


ACCURACY : +/- 2%

COMPANY
Rice Operating

SITE	UNIT	SECTION	TOWN SHIP	RANGE
VAC N-28-2 Vent	N	28	17S	35E

SAMPLE ID	PID	SAMPLE ID	PID
Imported Backfill Soil	1.4		

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

SIGNATURE: 

DATE: 8.31.12

Vacuum N-28 Vent (1R425-85) and Vacuum Jct. N-28-1 (1R425-87)
Unit Letter N, Section 28, T17S, R35E



Sites prior to excavation, facing south-southwest
7/31/2012



Screening rock, facing northeast 8/10/2012



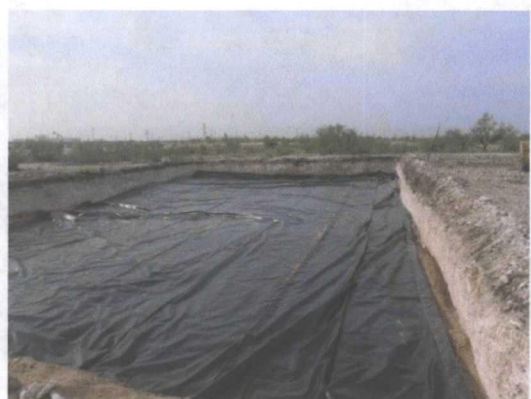
Completed excavation, facing south 8/10/2012



Exporting spoil pile, facing west 8/13/2012



Installing 6" bottom sand pad, facing south
8/15/2012



Installed 48' x 96', 20-mil reinforced plastic
liner at 5' bgs, facing south 8/17/2012



Installing 1' sand lift above liner, facing south
8/17/2012



Returning rock to 2' bgs, facing east 8/17/2012



Backfilling with topsoil from 2' bgs, facing
north 8/17/2012



Seeding site, facing east 8/29/2012



Raking seed, facing north 8/29/2012



Site complete, facing south 8/29/2012



PO Box 5630
Hobbs, NM 88241
Phone: (575) 393-4411
Fax: (575) 393-0293

REVEGETATION FORM

1. General Information

Site name: Vacuum N-28 Vent and Vacuum Jct. N-28-1						
U/L N	Section 28	Township 17S	Range 35E	County Lea	Latitude 32°48'7.954"N 32°48'8.341"N	Longitude 103°27'47.929"W 103°27'47.989"W
Contact Name: Bruce Baker						
Email: bbaker@rice-ecs.com						
Site size: 45' x 85' 3,825 square feet			Map detail of site attached <input type="checkbox"/>			
Additional information:						

2. Soils

**Do not rip caliche subsoils; caliche rocks brought to the surface by ripping shall be removed.*

Salvaged from site <input type="checkbox"/>	Bioremediated <input type="checkbox"/>	Imported <input checked="" type="checkbox"/>	Blended <input type="checkbox"/>	Depth (in): 60 in
Texture: Sandy	Describe soil & subsoil: Sandy soils			
Soil prep methods: Rip <input type="checkbox"/>	Depth(in):	Disc <input type="checkbox"/>	Depth (in):	Rollerpack <input type="checkbox"/>
Date completed: 8/22/12				

3. Bioremediation

Fertilizer <input type="checkbox"/>	Hay <input type="checkbox"/>	Other <input type="checkbox"/>
Type:		Describe:
Lbs/acre:		

4. Seeding

**Attach seed bag tags to this form. Seed bag tags shall contain the site name and S-T-R.*

Custom seed mix <input checked="" type="checkbox"/>	Prescribed mix <input type="checkbox"/>	Seed mix name: 5 lbs side oats 5 lbs blue grama grass seed	Seeding date: 8/29/12
Broadcast <input checked="" type="checkbox"/>			
Method: Hand Broadcast			
Soil conditions during seeding: Dry <input checked="" type="checkbox"/> Damp <input type="checkbox"/> Wet <input type="checkbox"/>			
Photos attached <input type="checkbox"/>	Observations: Seed was raked into soil.		
Number of photos:			

5. Certification

I hereby certify that the information in this form and attachments is true and complete to the best of my knowledge and belief.

Name: Eduardo Garcia	Title: Environmental Tech	Date: 8/29/12
Signature:		