

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,

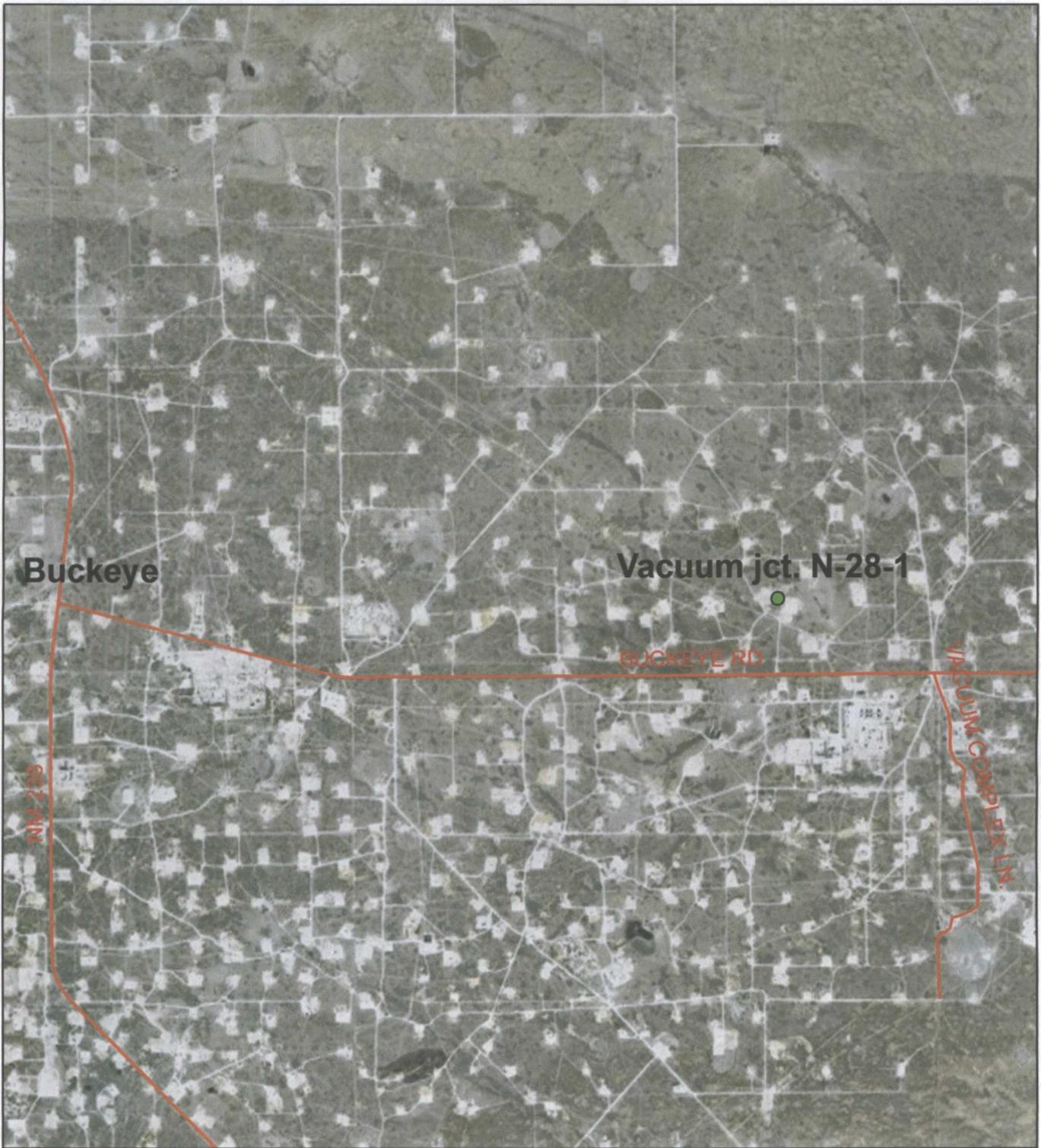
A handwritten signature in black ink, appearing to be 'L. Peter Galusky, Jr.', written in a cursive style.

L. Peter Galusky, Jr. Ph.D.

Copy: Rice Operating Company

Attachments: *as noted in text*

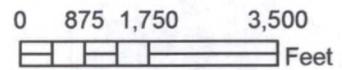
Site Location



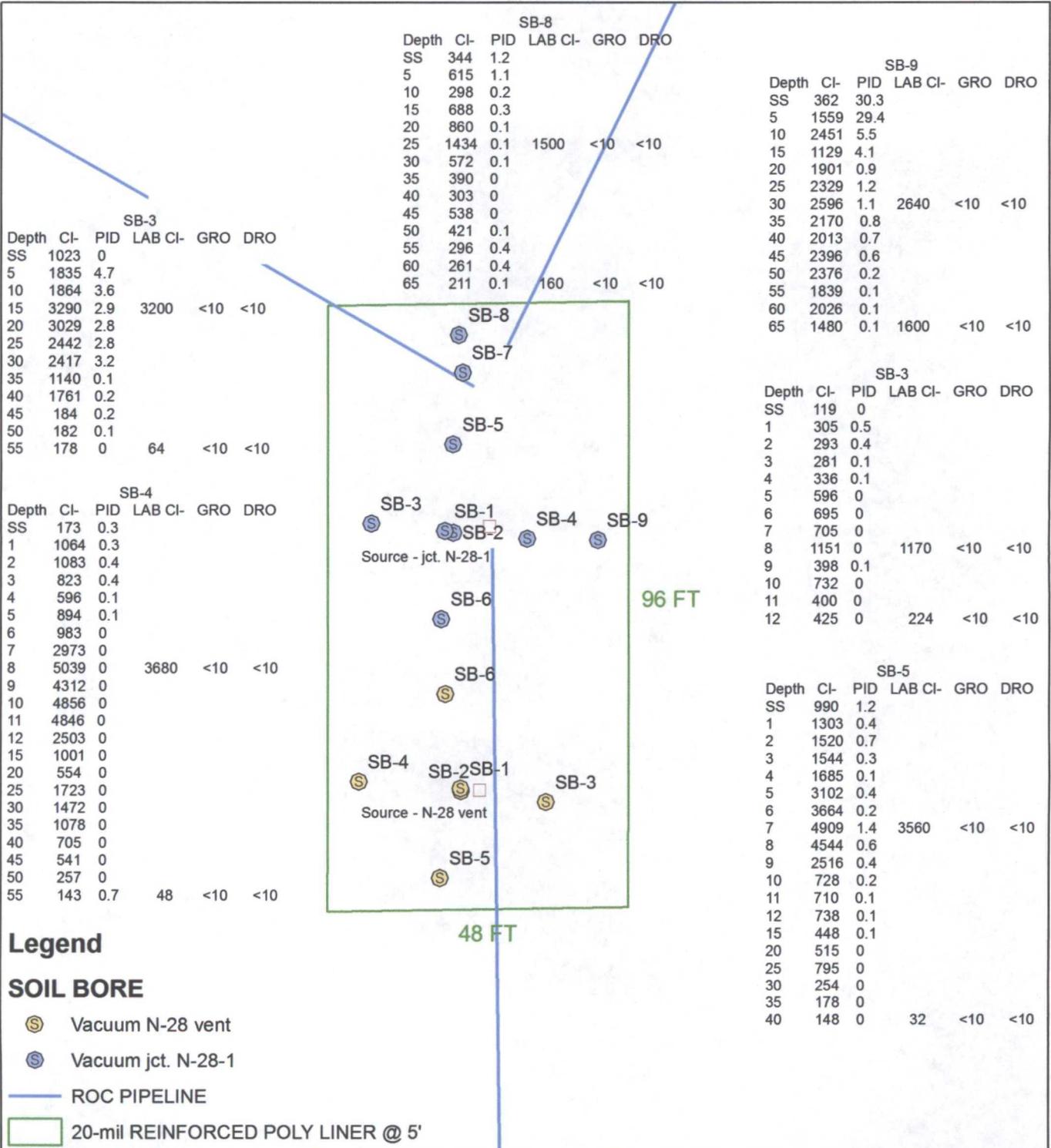
Vacuum jct. N-28-1

LEGALS: UL/N sec. 28
T17S R35E

NMOCD Case #: 1R425-87



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



SB-8

Depth	CI-	PID	LAB CI-	GRO	DRO
SS	344	1.2			
5	615	1.1			
10	298	0.2			
15	688	0.3			
20	860	0.1			
25	1434	0.1	1500	<10	<10
30	572	0.1			
35	390	0			
40	303	0			
45	538	0			
50	421	0.1			
55	296	0.4			
60	261	0.4			
65	211	0.1	160	<10	<10

SB-9

Depth	CI-	PID	LAB CI-	GRO	DRO
SS	362	30.3			
5	1559	29.4			
10	2451	5.5			
15	1129	4.1			
20	1901	0.9			
25	2329	1.2			
30	2596	1.1	2640	<10	<10
35	2170	0.8			
40	2013	0.7			
45	2396	0.6			
50	2376	0.2			
55	1839	0.1			
60	2026	0.1			
65	1480	0.1	1600	<10	<10

SB-3

Depth	CI-	PID	LAB CI-	GRO	DRO
SS	1023	0			
5	1835	4.7			
10	1864	3.6			
15	3290	2.9	3200	<10	<10
20	3029	2.8			
25	2442	2.8			
30	2417	3.2			
35	1140	0.1			
40	1761	0.2			
45	184	0.2			
50	182	0.1			
55	178	0	64	<10	<10

SB-3

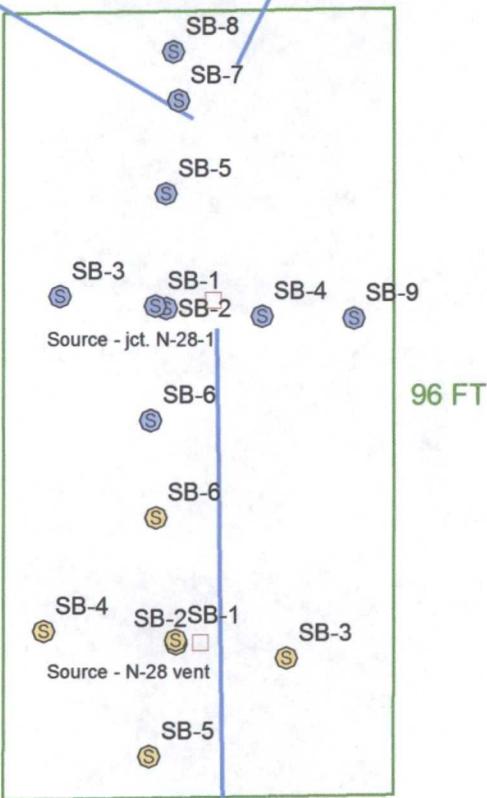
Depth	CI-	PID	LAB CI-	GRO	DRO
SS	119	0			
1	305	0.5			
2	293	0.4			
3	281	0.1			
4	336	0.1			
5	596	0			
6	695	0			
7	705	0			
8	1151	0	1170	<10	<10
9	398	0.1			
10	732	0			
11	400	0			
12	425	0	224	<10	<10

SB-4

Depth	CI-	PID	LAB CI-	GRO	DRO
SS	173	0.3			
1	1064	0.3			
2	1083	0.4			
3	823	0.4			
4	596	0.1			
5	894	0.1			
6	983	0			
7	2973	0			
8	5039	0	3680	<10	<10
9	4312	0			
10	4856	0			
11	4846	0			
12	2503	0			
15	1001	0			
20	554	0			
25	1723	0			
30	1472	0			
35	1078	0			
40	705	0			
45	541	0			
50	257	0			
55	143	0.7	48	<10	<10

SB-5

Depth	CI-	PID	LAB CI-	GRO	DRO
SS	990	1.2			
1	1303	0.4			
2	1520	0.7			
3	1544	0.3			
4	1685	0.1			
5	3102	0.4			
6	3664	0.2			
7	4909	1.4	3560	<10	<10
8	4544	0.6			
9	2516	0.4			
10	728	0.2			
11	710	0.1			
12	738	0.1			
15	448	0.1			
20	515	0			
25	795	0			
30	254	0			
35	178	0			
40	148	0	32	<10	<10



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

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



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, SM4500CI-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		

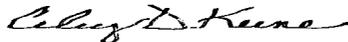
Surrogate: 1-Chlorooctane 90.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 99.1 % 63.6-154

Cardinal Laboratories

*=Accredited Analyte

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

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

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

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: <i>Eduardo Garcia</i>		