

1R - 425-37

WORKPLANS

Date:

7-29-13

Rice Environmental Consulting & Safety

P.O. Box 2948, Hobbs, NM 88241
Phone 575.393.2967

RECEIVED OGD

CERTIFIED MAIL
RETURN RECEIPT NO. 7007 2560 0003 0320 5532

2013 JUL 31 P 2: 26

July 29th, 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: Corrective Action Plan (CAP)
Rice Operating Company – Vacuum SWD System
Vacuum F-33 boot (1R425-37): UL/F sec. 33 T17S R35E**

Mr. Hansen:

RICE Operating Company (ROC) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site in the abandoned Vacuum Salt Water Disposal (SWD) system.

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.

Background and Previous Work

The site is located approximately 2.5 miles east of Buckeye, New Mexico at UL/F sec. 33 T17S R35E as shown on the Site Location Map (Figure 1). Monitor well sampling at the site indicates that groundwater is located at 82 ft bgs.

In 2007, ROC initiated work on the former Vacuum F-33 boot junction box. The site was delineated using a backhoe to form a 30 ft x 30 ft x 12 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides (Figure 2). From the excavation, the four-wall composite, bottom composite and the backfill were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 2,260 mg/kg, a gasoline range organics (GRO) readings of 67.3 mg/kg and a diesel range organics (DRO) reading of 1,180 mg/kg. The sample was also submitted for BTEX analysis which returned results of non-detect for benzene, 0.128 mg/kg for toluene, 0.624 mg/kg for ethyl-benzene and 1.85 mg/kg for total xylenes. The bottom composite showed a chloride laboratory reading of 6,800 mg/kg, a GRO reading of 127 mg/kg and a DRO reading of 1,710 mg/kg. BTEX readings returned results of 0.012 mg/kg for benzene, 0.103 mg/kg for toluene, 0.096 mg/kg for ethyl benzene and 0.527 mg/kg for total xylenes. The excavated soil was

blended on site and returned to the excavation. A sample of the backfill was taken to a commercial laboratory for analysis and returned results of 3,600 mg/kg for chlorides, a GRO concentration below detectable limits and 1,700 mg/kg for DRO. The area was contoured to the surrounding landscape, and an identification plate was placed on the surface of the site to mark its location for future environmental considerations. NMOCD was notified of potential groundwater impact on November 20th, 2007 and a junction box disclosure report was submitted to NMOCD with all the 2007 junction box closures and disclosures.

An Investigation and Characterization Plan (ICP) was submitted to NMOCD on March 17th, 2008 and was approved on May 21st, 2008. As part of the ICP, three soil bores and a monitor well were installed at the site on February 3rd and 4th, 2009 (Figure 2). As the soil bores and monitor well were installed, sample were taken at regular intervals and field tested for chlorides and hydrocarbons. Representative samples were taken to a commercial laboratory for confirmatory chloride analysis (Appendix A). SB-1 and SB-2 were installed to 20 ft bgs. Laboratory analysis of SB-1 returned with a chloride value of 384 mg/kg at 5 ft bgs; however, field chloride levels dropped to a concentration of 222 mg/kg at 20 ft bgs. Laboratory analysis of SB-2 returned a chloride value of 1,860 mg/kg at 10 ft bgs; however, the chloride field values dropped as the bore was being advanced. SB-3, installed near the source, returned laboratory chloride readings of 4,400 mg/kg at 20 ft bgs and 5,760 mg/kg at 65 ft bgs. Field chloride levels remained high throughout the bore.

MW-1 was installed 35 feet down-gradient of the former junction box site. As the well was installed, field chloride levels dropped as the bore reached 60 ft bgs. Laboratory chloride readings showed chloride levels of 3,480 mg/kg at 25 ft bgs and 304 mg/kg at 60 ft bgs. The monitor well has been sampled quarterly since it has been installed (Figure 3). During the most recent sampling event on May 29th, 2013, MW-1 had a chloride reading of 860 mg/L and a TDS reading of 1,680 mg/L (Appendix B).

Corrective Action Plan

RECS recommends that ROC install a 20-mil reinforced poly liner measuring 62 ft x 61 ft at a depth of 3 ft bgs, due to the presence of hard rock in the area (Figure 2). The liner will provide a barrier that will inhibit the downward migration of chlorides to groundwater. The soils placed above the liner will have a laboratory chloride reading no greater than 500 mg/kg and a field PID reading below 100 ppm. Excavated soil will be evaluated for use as backfill and any soils requiring disposal will be properly disposed of at a NMOCD approved facility. Upon completion of backfilling, the site will be seeded with a native vegetative mix and soil amendments will be added as necessary. Vegetation above the liner will also provide a natural infiltration barrier for the site since plants capture water through their roots thereby reducing the volume of water moving through the vadose zone to groundwater.

In order to determine if there is an up-gradient groundwater source for contamination at the site, RECS recommends that ROC install a monitor well (MW-2) approximately 100

ft up-gradient of the site (Figure 3). The monitor well will be sampled quarterly in conjunction with MW-1. Once the monitor wells at the site have been analyzed for chloride and TPH readings, ROC will submit a groundwater remedy to NMOCD to address groundwater quality at the site.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-2967 or me if you have any questions or wish to discuss the site.

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Weinheimer', with a long horizontal flourish extending to the right.

Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

Attachments:

- Figure 1 – Site Location Map
- Figure 2 – Soil Data Map
- Figure 3 – MW Sampling Map
- Appendix A – Soil Bore Installation Labs
- Appendix B – MW Sampling Lab



Figures

RICE Environmental Consulting and Safety (RECS)
P.O. Box 2948, Hobbs, NM 88241
Phone 575.393.2967

Buckeye

17S 34E

17S 35E

Buckeye RD

Vacuum F-33 boot

18S 35E

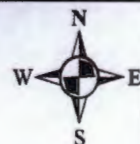
DGW = 82 ft

Image courtesy of USGS © 2013 Microsoft Corporation ImagePatch.com



**LEGALS: UL/F sec. 33
T-17-S R-35-E
LEA COUNTY, NM**

Figure 1



A number line is shown with tick marks at 0, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, and 0.8. The segment from 0.4 to 0.8 is shaded gray.

Drawing date: 5/13/13
Drafted by: L. Weinheimer

Soil Data

MW-1			
Depth	CI-	PID	LAB CI-
5	418	1.4	
10	630	0.2	
15	783	0.2	
20	1087	0.1	
25	2567	0.4	3480
30	1112	0.2	
35	1023	0	
40	947	0.1	
45	700	0.1	
50	401	0	
55	431	0	
60	366	0	304

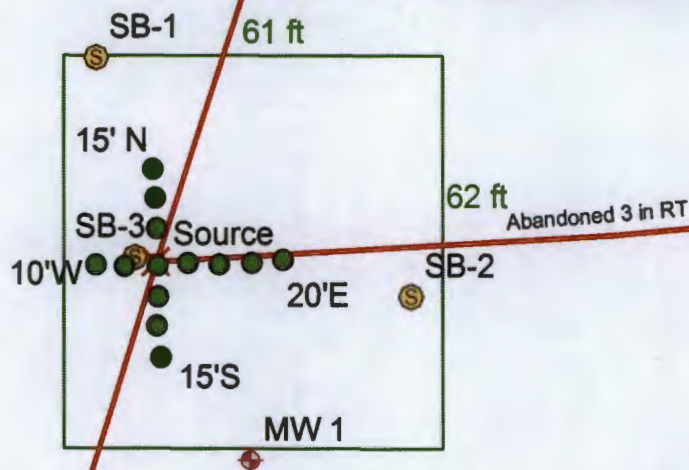
SB-1			
Depth	CI-	PID	LAB CI-
5	395	0.2	384
10	253	0.2	
15	230	0.2	
20	222	0.2	

SB-2			
Depth	CI-	PID	LAB CI-
5	1283	0.5	
10	648	0.5	1860
15	675	0.5	
20	610	0.5	

SB-3			
Depth	CI-	PID	LAB CI-
15	1452	86	
20	2614	127	4400
25	5615	29	
30	6307	23	
35	4706	3.8	
40	2678	7	
45	4399	3.5	
50	4203	3.7	
55	4309	0.6	
60	5304	0.6	
65	4259	—	5760

Source			5'N			5'S			5'E			5'W		
Depth	CI-	PID	Depth	CI-	PID	Depth	CI-	PID	Depth	CI-	PID	Depth	CI-	PID
8	164	23.7	8	4981	546	8	273	343	8	1969	177	8	421	83
9	515	139	9	4348	461	9	334	320	9	3788	314	9	183	65.4
10	775	308	10	6560	511	10	338	252	10	6060	367	10	513	534
11	221	540	11	6600	653	11	468	740	11	4025	528	11	346	631
12	126	954	12	7698	528	12	490	1272	12	6121	706	12	326	715

10'N			10'S			10'E			10'W		
Depth	CI-	PID	Depth	CI-	PID	Depth	CI-	PID	Depth	CI-	PID
1	608	49.5	1	294	58.2	1	851	91.1	1	366	36.2
2	545	60.4	2	288	59.7	2	921	68.8	2	346	18.7
3	552	67.2	3	195	64.8	3	1806	28.4	3	136	29.6
4	651	14.5	4	337	150	4	2338	50.3	4	436	24.1
5	1864	32.6	5	242	650	5	2182	41	5	254	37.4
6	1611	344	6	233	279	6	2035	30	6	882	51
7	2282	337	7	356	378	7	1355	23.8	7	666	83.7
8	5328	511	8	264	725	8	2129	28.3	8	515	98
9	4795	643	9	164	534	9	3256	36.4	9	551	12.6
10	5547	765	10	282	737	10	3582	62.6	10	264	71.4
11	7966	761	11	771	959	11	4847	472	11	398	45.1
12	7248	665	12	967	900	12	4087	646	12	404	189



15'N			15'S			15'E			20'E		
Depth	CI-	PID	Depth	CI-	PID	Depth	CI-	PID	Depth	CI-	PID
1	885	0.7	1	105	0	1	1254	0	1	810	1.8
2	1438	0	2	162	0	2	873	0	2	978	1.5
3	1585	0	3	190	0	3	2892	0	3	855	2.3
4	4544	0	4	188	0	4	2670	0	4	932	1.2
5	5748	0	5	219	158	5	2327	0	5	1210	1.1
6	4984	0	6	269	173	6	3136	0	6	2240	2.4
7	6099	0	7	200	516	7	6352	0	7	2516	1.6
8	5958	0	8	398	325	8	4640	0	8	3259	3.9
9	9456	0	9	341	375	9	6303	0	9	3933	3.4
10	7552	0	10	518	576	10	10103	0.5	10	3524	2.4
11	5112	0	11	1129	219	11	9156	2.5	11	4413	5.4
12	3775	0	12	968	424	12	8288	2.4	12	3618	7.7

Legend

- ◆ MONITOR WELLS
 - ✕ VACUUM REMOVED BOX
 - VACUUM SOIL BORES
 - VACUUM ABANDONED LINE
 - PROPOSED 20-MIL REINFORCED POLY LINER @ 3 ft
 - VERTICALS
- DGW = 82 ft

Vertical Lab Data						
	Benzene	Toluene	Ethly Benzene	Xylenes	GRO	DRO
4 wall comp	<0.025	0.128	0.624	1.85	67.3	1180
Bottom Comp	0.012	0.103	0.096	0.527	127	1710
Backfill					<10	1700
						3600

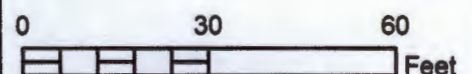


VACUUM F-33 BOOT

LEGALS: UL/F sec. 33
T-17-S R-35-E
LEA COUNTY, NM

NMOCD CASE #: 1R425-37

Figure 2



Drawing date: 5/6/13
Drafted by: L. Weinheimer

MW Sampling Data

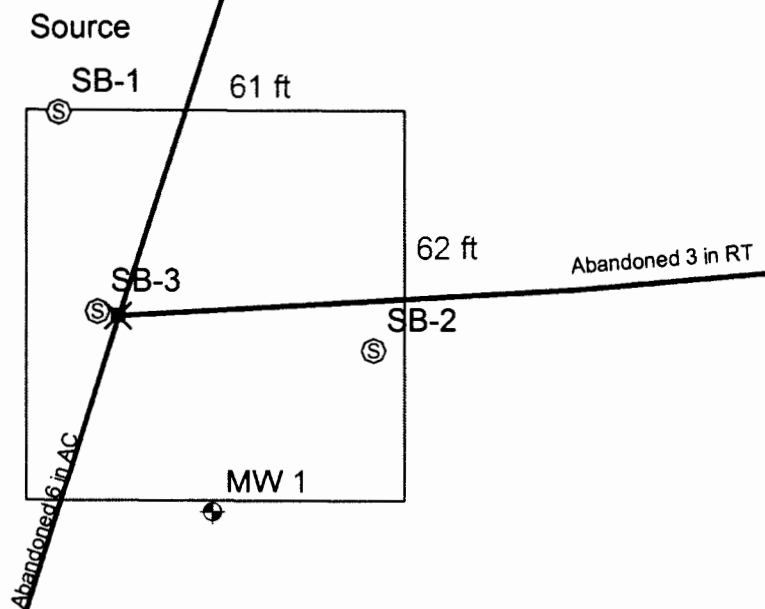
MW	Depth to Water	Total Depth	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
1	80.63	126.5	3/2/2009	432	1070	<0.001	<0.001	<0.001	<0.003	56
	80.73	126.5	4/28/2009	600	1330	<0.001	<0.001	<0.001	<0.003	38.3
	80.85	126.5	8/5/2009	308	845	<0.001	<0.001	<0.001	<0.003	25.2
	80.98	126.5	11/23/2009	1080	2340	<0.001	<0.001	<0.001	<0.003	34.2
	81.11	126.51	2/9/2010	1160	2240	<0.001	<0.001	<0.001	<0.003	54.6
	81.29	126.51	5/28/2010	510	1190	<0.001	<0.001	<0.001	<0.003	29
	81.33	126.51	7/27/2010	710	1500	<0.001	<0.001	<0.001	<0.003	40.8
	81.4	126.51	10/27/2010	76	454	<0.001	<0.001	<0.001	<0.003	17.6
	81.53	126.51	2/20/2011	68	365	<0.001	<0.001	<0.001	<0.003	17.2
	81.66	126.51	6/3/2011	240	707	<0.001	<0.001	<0.001	<0.003	45.9
	81.74	126.51	9/1/2011	308	825	<0.001	<0.001	<0.001	<0.003	56.6
	81.78	126.51	12/12/2011	52	395	<0.001	<0.001	<0.001	<0.003	28.6
	81.9	126.51	2/23/2012	188	605	<0.001	<0.001	<0.001	<0.003	45.2
	81.82	126.51	5/30/2012	730	1740	<0.001	<0.001	<0.001	<0.003	84.9
	81.85	126.51	8/23/2012	580	1280	<0.001	<0.001	<0.001	<0.003	81.2
	81.89	126.51	11/19/2012	480	1170	<0.001	<0.001	<0.001	<0.003	50.4
	81.96	126.51	2/13/2013	870	1680	<0.001	<0.001	<0.001	<0.003	59.7
	82.03	126.51	5/29/2013	860	1940	<0.001	<0.001	<0.001	<0.003	79.3

Proposed MW-2

Legend

- MONITOR WELLS
- VACUUM REMOVED BOX
- VACUUM SOIL BORES
- VACUUM ABANDONED LINE
- PROPOSED 20-MIL REINFORCED POLY LINER @ 3 ft

DGW = 82 ft



VACUUM F-33 BOOT

LEGALS: UL/F sec. 33
T-17-S R-35-E
LEA COUNTY, NM

NMOCD CASE #: 1R425-37

Figure 3



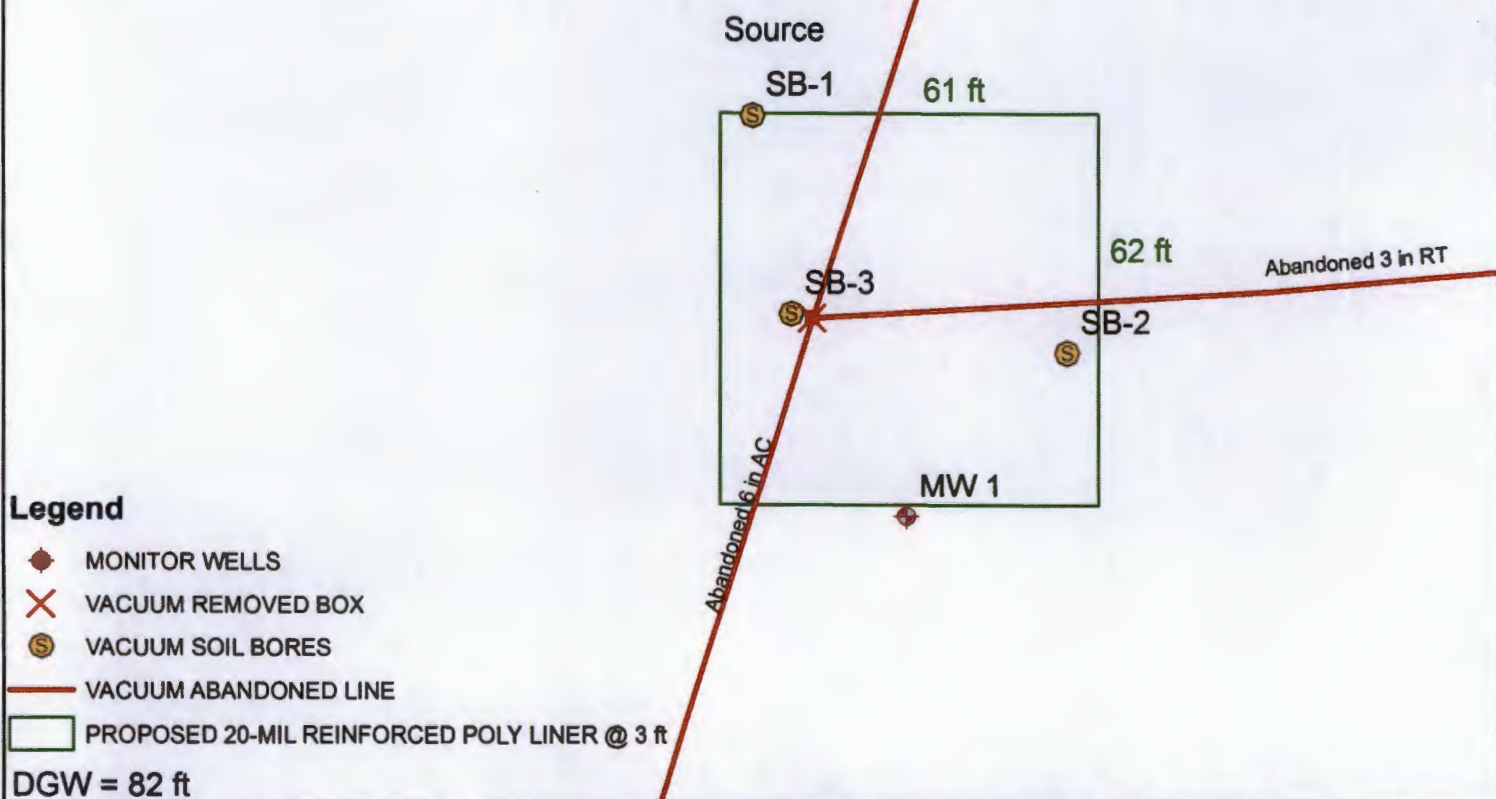
0 30 60
Feet

Drawing date: 7/24/13
Drafted by: L. Weinheimer

MW Sampling Data

MW	Depth to Water	Total Depth	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate
1	80.63	126.5	3/2/2009	432	1070	<0.001	<0.001	<0.001	<0.003	56
	80.73	126.5	4/28/2009	600	1330	<0.001	<0.001	<0.001	<0.003	38.3
	80.85	126.5	8/5/2009	308	845	<0.001	<0.001	<0.001	<0.003	25.2
	80.98	126.5	11/23/2009	1080	2340	<0.001	<0.001	<0.001	<0.003	34.2
	81.11	126.51	2/9/2010	1160	2240	<0.001	<0.001	<0.001	<0.003	54.6
	81.29	126.51	5/28/2010	510	1190	<0.001	<0.001	<0.001	<0.003	29
	81.33	126.51	7/27/2010	710	1500	<0.001	<0.001	<0.001	<0.003	40.8
	81.4	126.51	10/27/2010	76	454	<0.001	<0.001	<0.001	<0.003	17.6
	81.53	126.51	2/20/2011	68	365	<0.001	<0.001	<0.001	<0.003	17.2
	81.66	126.51	6/3/2011	240	707	<0.001	<0.001	<0.001	<0.003	45.9
	81.74	126.51	9/1/2011	308	825	<0.001	<0.001	<0.001	<0.003	56.6
	81.78	126.51	12/12/2011	52	395	<0.001	<0.001	<0.001	<0.003	28.6
	81.9	126.51	2/23/2012	188	605	<0.001	<0.001	<0.001	<0.003	45.2
	81.82	126.51	5/30/2012	730	1740	<0.001	<0.001	<0.001	<0.003	84.9
	81.85	126.51	8/23/2012	580	1280	<0.001	<0.001	<0.001	<0.003	81.2
	81.89	126.51	11/19/2012	480	1170	<0.001	<0.001	<0.001	<0.003	50.4
	81.96	126.51	2/13/2013	870	1680	<0.001	<0.001	<0.001	<0.003	59.7
	82.03	126.51	5/29/2013	860	1940	<0.001	<0.001	<0.001	<0.003	79.3

◆ Proposed MW-2

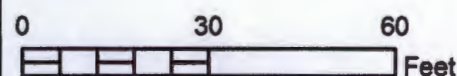
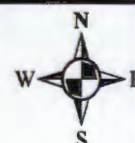


VACUUM F-33 BOOT

LEGALS: UL/F sec. 33
T-17-S R-35-E
LEA COUNTY, NM

NMOCD CASE #: 1R425-37

Figure 3



Drawing date: 7/24/13
Drafted by: L. Weinheimer



Appendix A

Soil Bore Installation Labs

RICE Environmental Consulting and Safety (RECS)
P.O. Box 2948 Hobbs, NM 88241
Phone 575.393.2967



Analysis Date: 02/06/09
Sampling Date: 02/03/09 & 02/04/09
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: ML
Analyzed By: HM

Note: Analyses performed on 1:4 w/v aqueous extracts.

Date 02/06/09

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 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.



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

ANALYTICAL RESULTS FOR
RICE OPERATING COMPANY
ATTN: HACK CONDER
122 W. TAYLOR
HOBBS, NM 88240
FAX TO: (575) 397-1471

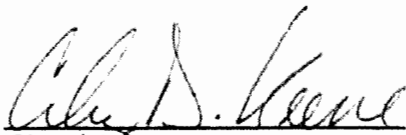
Receiving Date: 02/05/09
Reporting Date: 02/10/09
Project Number: NOT GIVEN
Project Name: VACCUM F-33 BOOT
Project Location: VACCUM F-33 BOOT


Sampling Date: 02/04/09
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: ML
Analyzed By: ZL

LAB NUMBER SAMPLE ID	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)
ANALYSIS DATE	02/09/09	02/09/09	02/09/09	02/09/09
H16836-3 SB #3 @ 20'	<0.050	0.084	0.100	0.923
Quality Control	0.052	0.054	0.052	0.155
True Value QC	0.050	0.050	0.050	0.150
% Recovery	104	108	104	103
Relative Percent Difference	3.5	1.8	<1.0	<1.0

METHOD: EPA SW-846 8021B

TEXAS NELAP CERTIFICATION T104704398-08-TX FOR BENZENE, TOLUENE, ETHYL BENZENE,
AND TOTAL XYLENES.


Chemist


Date

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 for damages, including consequential damages, 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 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.



Appendix B

MW Sampling Lab

RICE Environmental Consulting and Safety (RECS)
P.O. Box 2948 Hobbs, NM 88241
Phone 575.393.2967

June 07, 2013

Hack Conder
Rice Operating Company
112 W. Taylor
Hobbs, NM 88240

RE: VACUUM F-33 BOOT

Enclosed are the results of analyses for samples received by the laboratory on 06/03/13 16:41.

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.

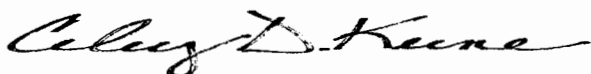
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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

Received: 06/03/2013
Reported: 06/07/2013
Project Name: VACUUM F-33 BOOT
Project Number: NOT GIVEN
Project Location: T17S-R35E-SEC33 F - LEA CTY, NM

Sampling Date: 05/29/2013
Sampling Type: Water
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: MONITOR WELL #1 (H301296-01)

BTEX 8021B		mg/L		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	06/05/2013	ND	0.053	106	0.0500	0.654	
Toluene*	<0.001	0.001	06/05/2013	ND	0.048	95.3	0.0500	0.828	
Ethylbenzene*	<0.001	0.001	06/05/2013	ND	0.050	101	0.0500	0.903	
Total Xylenes*	<0.003	0.003	06/05/2013	ND	0.146	97.4	0.150	1.14	
Total BTEX	<0.006	0.006	06/05/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 92.2 % 89.5-126

Chloride, SM4500Cl-B		mg/L		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	860	4.00	06/07/2013	ND	104	104	100	0.00	

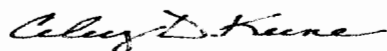
Sulfate 375.4		mg/L		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	79.3	10.0	06/06/2013	ND	18.3	91.7	20.0	3.61	

TDS 160.1		mg/L		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1940	5.00	06/06/2013	ND	245	102	240	1.53	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

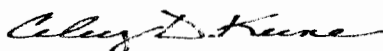
Notes and Definitions

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

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Celey D. Keene, Lab Director/Quality Manager

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

Tel
Fax

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

ANALYSIS REQUEST

(Circle or Specify Method No.)

Company Name: **RICE Operating Company**
Project Manager: **Hack Conder**
Address: (Street, City, Zip)
122 W Taylor Street ~ Hobbs, New Mexico 88240
Phone #: **(575) 393-9174**
Fax #: **(575) 397-1471**

BILL TO Company: **RICE Operating Company** PO#
Address: (Street, City, Zip)
122 W Taylor Street ~ Hobbs, New Mexico 88240
Phone#: **(575) 393-9174** Fax#: **(575) 397-1471**

Project #: _____ Project Name: **Vacuum F-33 Boot**

Project Location: **T17S-R35E-Sec33 F ~ Lea County New Mexico**
Sampler Signature: *Rozanne Johnson* (575) 631-9310
rozanne@valornet.com

LAB # (LAB USE ONLY) H301296	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX				PRESERVATIVE METHOD				SAMPLING		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			
				WATER	SOIL	AIR	SLUDGE	HCL (2 40ml VOA)	HNO3	NaHSO4	H2SO4	ICE (1-1 Liter HDPE)	NONE																							DATE (2013)	TIME	
1	Monitor Well #1	G	3	X				2				1		5-29	9:55		X																					

Relinquished by: *Rozanne Johnson* Date: **6-3-2013** Time: **16:40**
Received by: *Jodi Benson* Date: **6-3-2013** Time: **16:40**

Delivered By: (Circle One) **UPS** - Bus - Other:
Sample Condition: Cool ☒ Yes ☐ No ☐ Intact ☒ Yes ☐ No ☐
CHECKED BY: *JH* (Initials)

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

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

#54

Hansen, Edward J., EMNRD

From: Laura Pena <lpena@riceswd.com>
Sent: Wednesday, August 14, 2013 9:39 AM
To: Hansen, Edward J., EMNRD
Cc: Hack Conder; Katie Jones; Lara Weinheimer
Subject: ROC - Vacuum F-33 boot (1R425-37) CAP Addendum
Attachments: Vacuum F-33 boot Liner and SB Data.pdf

Mr. Hansen

ROC submits the following as an Addendum to the Vacuum F-33 boot (1R425-37) CAP. Page 2, section Corrective Action Plan: text in blue lettering, below, will be added to the paragraph. Red lettering marked with a strike-through will be deleted. The new Figure 2 plat showing the updated proposed liner is attached.

RECS recommends that ROC install a 20-mil reinforced poly liner measuring 62 ft x ~~61~~ 71 ft, extending 15 ft to the east past SB-2, at a depth of 3 ft bgs, due to the presence of hard rock in the area (Figure 2). The liner will provide a barrier that will inhibit the downward migration of chlorides to groundwater. The soils placed above the liner will have a laboratory chloride reading no greater than 500 mg/kg and a field PID reading below 100 ppm. Excavated soil will be evaluated for use as backfill and any soils requiring disposal will be properly disposed of at a NMOCD approved facility. Upon completion of backfilling, the site will be seeded with a native vegetative mix and soil amendments will be added as necessary. Vegetation above the liner will also provide a natural infiltration barrier for the site since plants capture water through their roots thereby reducing the volume of water moving through the vadose zone to groundwater.

If you have any questions or require any additional information, please contact me or Hack Conder at (575)393-2967.

Thank you.

Laura Peña
Environmental Project Assistant Manager
RICE Operating Company

Soil Data

MW-1			
Depth	CI-	PID	LAB CI-
5	418	1.4	
10	630	0.2	
15	783	0.2	
20	1087	0.1	
25	2567	0.4	3480
30	1112	0.2	
35	1023	0	
40	947	0.1	
45	700	0.1	
50	401	0	
55	431	0	
60	366	0	304

SB-1			
Depth	CI-	PID	LAB CI-
5	395	0.2	384
10	253	0.2	
15	230	0.2	
20	222	0.2	

SB-2			
Depth	CI-	PID	LAB CI-
5	1283	0.5	
10	648	0.5	1860
15	675	0.5	
20	610	0.5	

SB-3			
Depth	CI-	PID	LAB CI-
15	1452	86	
20	2614	127	4400
25	5615	29	
30	6307	23	
35	4706	3.8	
40	2678	7	
45	4399	3.5	
50	4203	3.7	
55	4309	0.6	
60	5304	0.6	
65	4259	---	5760

Source		
Depth	CI-	PID
8	164	23.7
9	515	139
10	775	308
11	221	540
12	126	954

5'N		
Depth	CI-	PID
8	4981	546
9	4348	461
10	6560	511
11	6600	653
12	7698	528

5'S		
Depth	CI-	PID
8	273	343
9	334	320
10	338	252
11	468	740
12	490	1272

5'E		
Depth	CI-	PID
8	1969	177
9	3788	314
10	6060	367
11	4025	528
12	6121	706

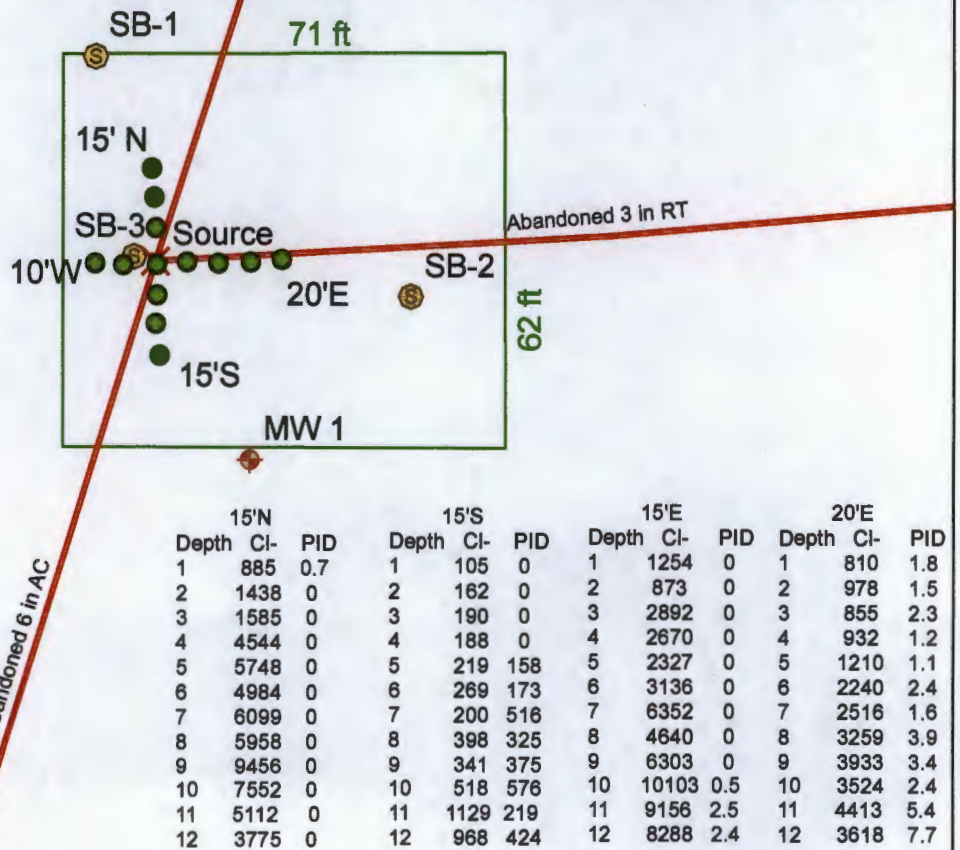
5'W		
Depth	CI-	PID
8	421	83
9	183	65.4
10	513	534
11	346	631
12	326	715

10'N		
Depth	CI-	PID
1	608	49.5
2	545	60.4
3	552	67.2
4	651	145
5	1864	326
6	1611	344
7	2282	337
8	5328	511
9	4799	643
10	5547	765
11	7966	761
12	7248	665

10'S		
Depth	CI-	PID
1	294	58.2
2	288	59.7
3	195	64.8
4	337	150
5	242	650
6	233	279
7	356	378
8	264	725
9	164	534
10	282	737
11	771	959
12	967	900

10'E		
Depth	CI-	PID
1	851	91.1
2	921	68.8
3	1806	28.4
4	2338	50.3
5	2182	41
6	2035	30
7	1355	23.8
8	2129	28.3
9	3256	36.4
10	3582	62.6
11	4847	472
12	4087	646

10'W		
Depth	CI-	PID
1	366	36.2
2	346	18.7
3	136	29.6
4	436	24.1
5	254	37.4
6	882	51
7	666	83.7
8	515	98
9	551	12.6
10	264	71.4
11	398	45.1
12	404	189



Legend

- MONITOR WELLS
- VACUUM REMOVED BOX
- VACUUM SOIL BORES
- VACUUM ABANDONED LINE
- PROPOSED 20-MIL REINFORCED POLY LINER @ 3 ft
- VERTICALS

DGW = 82 ft

15'N		
Depth	CI-	PID
1	885	0.7
2	1438	0
3	1585	0
4	4544	0
5	5748	0
6	4984	0
7	6099	0
8	5958	0
9	9456	0
10	7552	0
11	5112	0
12	3775	0

15'S		
Depth	CI-	PID
1	105	0
2	162	0
3	190	0
4	188	0
5	219	158
6	269	173
7	200	516
8	398	325
9	341	375
10	518	576
11	1129	219
12	968	424

15'E		
Depth	CI-	PID
1	1254	0
2	873	0
3	2892	0
4	2670	0
5	2327	0
6	3136	0
7	6352	0
8	4640	0
9	6303	0
10	10103	0.5
11	9156	2.5
12	8288	2.4

20'E		
Depth	CI-	PID
1	810	1.8
2	978	1.5
3	855	2.3
4	932	1.2
5	1210	1.1
6	2240	2.4
7	2516	1.6
8	3259	3.9
9	3933	3.4
10	3524	2.4
11	4413	5.4
12	3618	7.7

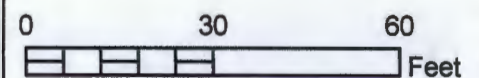
Vertical Lab Data						
	Benzene	Toluene	Ethyl Benzene	Xylenes	GRO	DRO
4 wall comp	<0.025	0.128	0.624	1.85	67.3	1180
Bottom Comp	0.012	0.103	0.096	0.527	127	1710
Backfill					<10	1700
						3600



VACUUM F-33 BOOT

LEGALS: UL/F sec. 33
T-17-S R-35-E
LEA COUNTY, NM
NMOCD CASE #: 1R425-37

Figure 2



Drawing date: 5/6/13
Drafted by: L. Weinheimer