State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division

Receipt of Fee Application Payment

PO Number: QRAIV-200127-C-1410

Payment Date:	1/27/2020 10:01:16 AM
Payment Amount:	$150.00
Payment Type:	Credit Card

Application Type:	Application for administrative approval of a release notification and corrective action.
Fee Amount:	$150.00
Application Status:	Pending Document Delivery

OGRID:	19174
First Name:	Katie
Last Name:	Davis
Email:	kjones@riceswd.com

IMPORTANT: If you are mailing or delivering your application, you must print and include your receipt of payment as the first page on your application. All mailed and delivered applications must be sent to the following address: 1220 S. St. Francis Dr., Santa Fe, NM 87505. For inquiries, reference the PO Number listed above.

RICE Operating Company
112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax: (575) 397-1471

January 23, 2020

Bradford Billings
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

RE: **Termination Request**
Rice Operating Company – Vacuum SWD System
Vacuum Jct. C-31 (1R425-84): UL/C, Sec. 31, T17S, R35E

Mr. Billings:

RICE Operating Company (ROC) submits the following to address potential environmental concerns at the above-referenced site in the 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 0.5 miles southwest of Buckeye, New Mexico at UL/C, Sec. 31, T17S, R35E as shown on the Geographical Location Map. Groundwater beneath the site is located at a depth of 117 ft below ground surface (bgs) as shown in MW-1 and MW-2.

In 2009, ROC initiated work on the former Vacuum Jct. C-31 junction box. A site investigation resulted in a 30 x 20 x 12 ft deep excavation. The excavation was backfilled with blended soils to 5 feet bgs, and a geo-synthetic clay liner and plastic liner were installed and properly seated into the excavation. The excavation was then backfilled to ground surface with blended backfill., and the site was re-seeded with native vegetation.

In 2013, ROC initiated additional investigation approved by OCD on March 4, 2013. A total of 11 borings were installed to fully delineate the site. A Corrective Action Plan (CAP) was submitted to OCD on November 8, 2013, requesting to install a modified 84 x 132 ft 20-mil reinforced liner at 3 feet bgs. The CAP also included the installation of two groundwater monitoring wells (near-source and up-gradient). The CAP was approved by OCD on November 21, 2013.

January 23, 2020

In 2014, ROC installed the modified 84x132 ft liner at a depth of 3 ft bgs, overlaying the 30x20-ft liner previously installed at 5 ft bgs. The excavation was backfilled to ground surface with imported and blended excavated soil. The disturbed area tilled with soil amendments and seeded with a blend of native vegetation. On August 15, 2014, a CAP Report and Soil Closure Request were submitted to OCD, which was approved by NMOCD on September 18, 2014. The CAP Report and OCD approval are attached.

According to the NMOCD approval CAP, the proposed groundwater monitoring wells were installed March 13, 2015. The groundwater has been monitored for chloride, TDS, benzene, toluene, ethylbenzene, total xylenes, and sulfates on a quarterly basis. Quarterly sampling indicated the highest concentration of chloride in MW-1 being 470 mg/L on June 2, 2017, which decreased to 232 mg/L on December 6, 2017. Chloride concentrations have since remained below WQCC standards. Chloride concentrations in MW-2 have remained below WQCC standards since installation. The monitoring results for all the BTEX constituents have been non-detect in both MW-1 and MW-2, and all constituents have remained below WQCC standards for nine consecutive quarters.

Recommendations

Based on the liner installation, NMOCD approval of soil closure, and the nine consecutive quarters of monitoring data below WQCC standards, ROC respectfully request termination of this regulatory file. ROC acknowledges they have met the requirements of 19.15.29 NMAC and a final C-141 is attached. Upon NMOCD approval of this Termination Request, MW-1 and MW-2 will be plugged using a cement grout with 1 to 3% bentonite and a 3-ft cap of cement at the surface.

ROC appreciates the opportunity to work with you on this project. Please call me at (575) 393-9174 or Edward Hansen at (505) 920-4965 if you have any questions or wish to discuss the site.

Sincerely,

Katie Davis

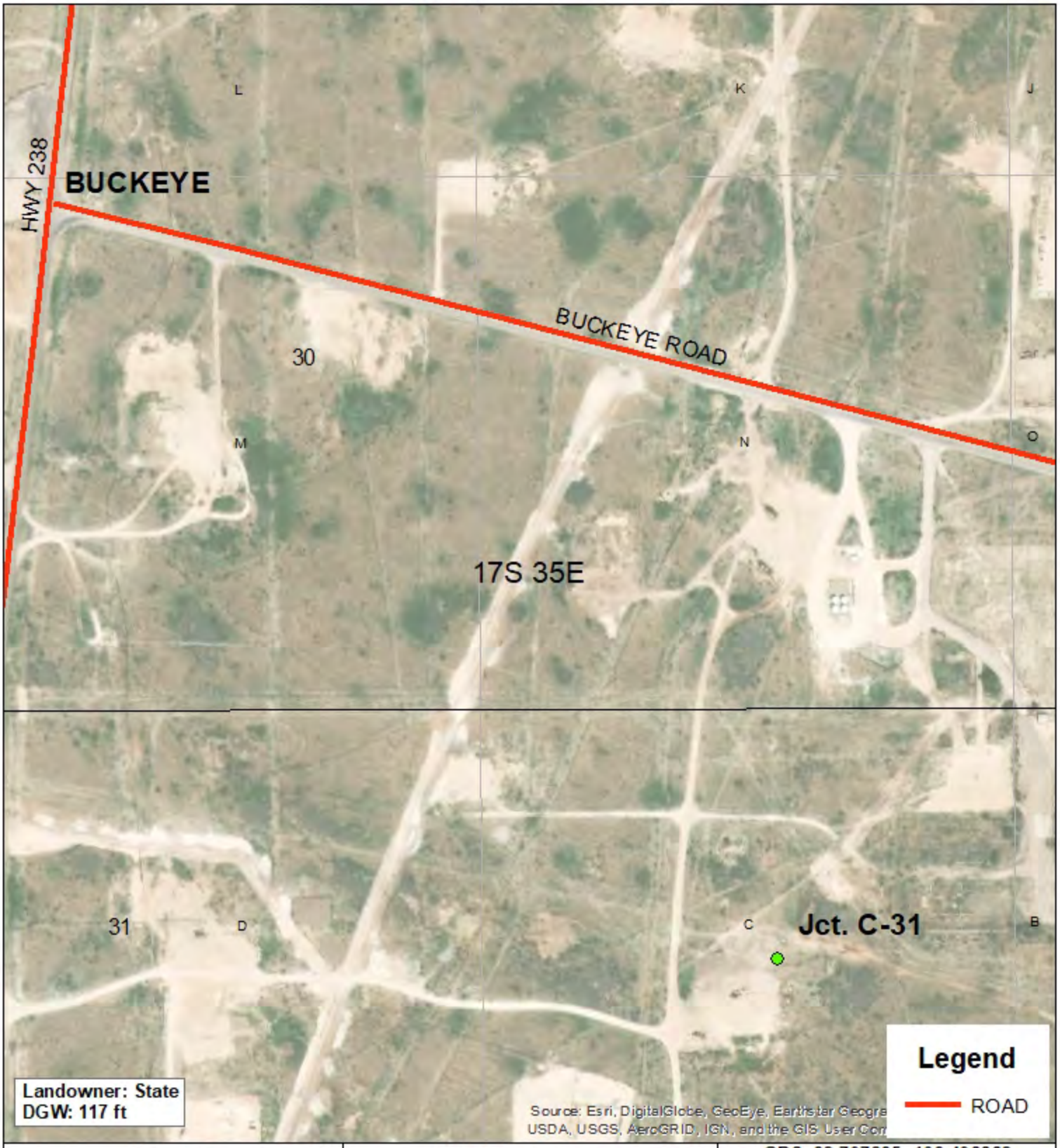
Katie Davis
Environmental Manager
RICE Operating Company

appendix

Figures

RICE Operating Company
112 West Taylor, Hobbs, NM 88240
Phone 575.393.9174

Geographic Location



RICE OPERATING COMPANY
ROC
SINCE 1955

VACUUM
C-31 JCT
1R425-84

UL C SECTION 31
T17S R35E
LEA COUNTY, NM

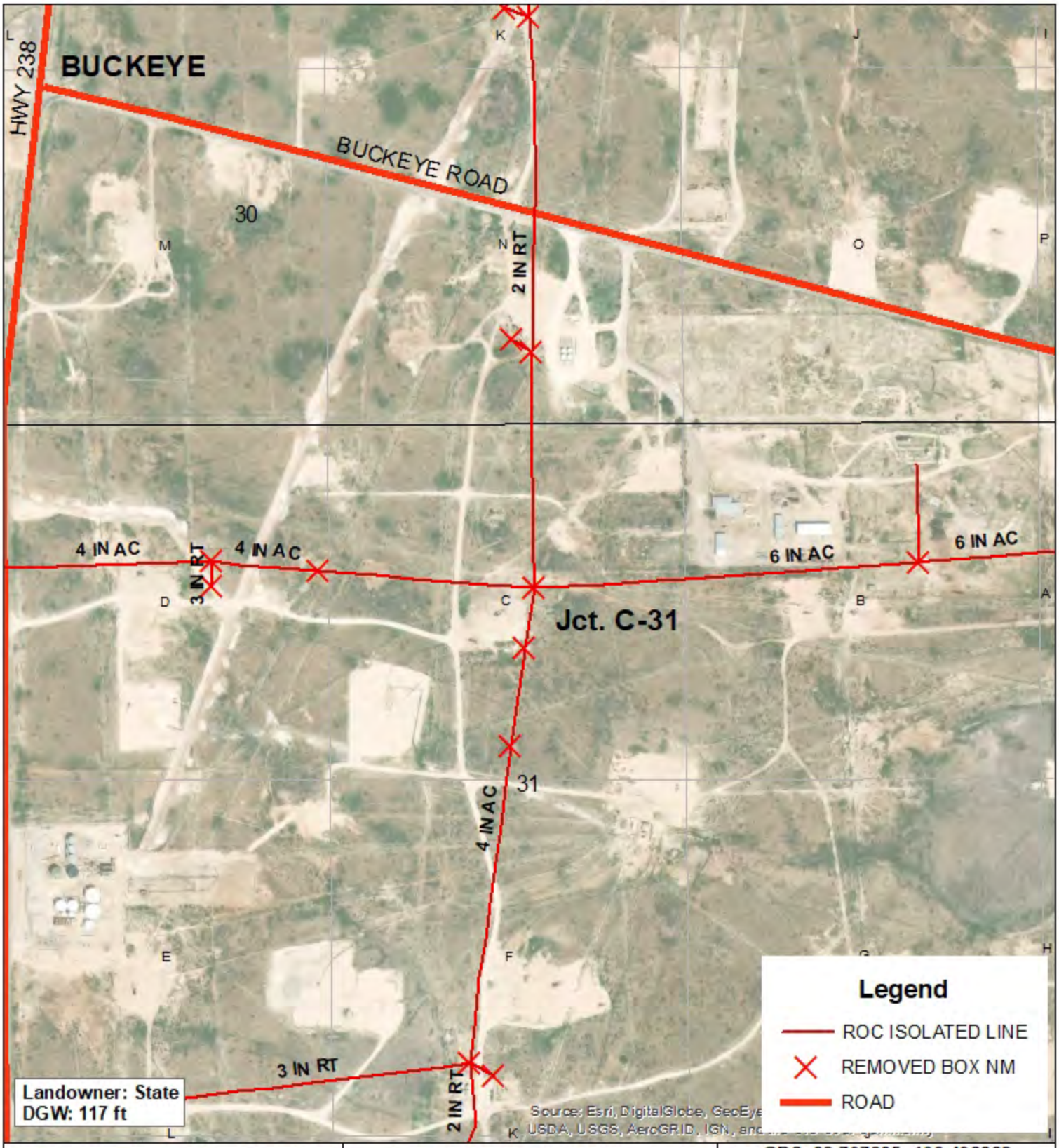
GPS: 32.797235 -103.498882
NAD 83 STATE PLANE PROJ
NM EAST ZONE

N
W E
S

0 250 500
Feet

Drawing date: 9/24/19
Drafted by: T. Grieco

Area Map



RICE OPERATING COMPANY
ROC
SINCE 1955

VACUUM
C-31 JCT

1R425-84

UL C SECTION 31
T17S R35E
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GPS: 32.797235 -103.498882
NAD 83 STATE PLANE PROJ
NM EAST ZONE

N
W E
S

0 500 1,000
Feet

Drawing date: 9/24/19
Drafted by: T. Grieco

SB-1

Depth	Cl-	PID	Lab Cl-	GRO	DRO
SS	1158	0.1			
5'	370	1.3			
10'	443	2.4			
15'	335	3.9			
20'	682	2.2			
25'	1425	1.2			
30'	2216	0.6	2210	<10.0	14.4
35'	1724	0.8			
40'	2026	0.8			
45'	1545	0.9			
50'	949	0.7			
55'	903	0.7			
60'	996	0.5			
65'	534	1.2			
70'	302	1.1			
75'	242	0.8	256	<10.0	<10.0

SB-2

Depth	Cl-	PID	Lab Cl-	GRO	DRO
SS	771	0.7			
5'	600	1.2			
10'	677	10.3			
15'	173	5.7			
20'	1264	3.6			
25'	1096	3.1			
30'	2099	3.8			
35'	3385	3.7			
40'	3619	3.7	3960	<10.0	<10.0
45'	1841	2.2			
50'	1696	1.8			
55'	1788	2.5			
60'	1076	3.8			
65'	1296	3			
70'	591	2.8			
75'	1813	4.6			
80'	2014	3.6			
85'	1400	3.3			
90'	1693	3.4	1710	<10.0	<10.0

SB-3

Depth	Cl-	PID	Lab Cl-	GRO	DRO
SS	641	0.7			
5'	508	1.2			
10'	1767	96.8			
15'	3905	22.1			
20'	2982	24.5			
25'	3179	4.5			
30'	3531	4.9			
35'	2476	3.1			
40'	4242	3.3	4000	<10	20.7
45'	3402	2.5			
50'	3722	2.7			
55'	3284	4.1			
60'	1544	2.5			
65'	2194	3			
70'	1431	1.5			
75'	753	1.9			
80'	841	2.3			
85'	707	3.3			
90'	892	4.2	928	<10	<10

SB-4

Depth	Cl-	PID	Lab Cl-	GRO	DRO
SS	4425	1	5920	<10.0	45.9
5'	1092	1.4			
10'	3520	2.1	4880	<10.0	<10.0
15'	1926	2			
20'	743	2			
25'	2271	0.9			
30'	1545	1.7			
35'	997	1.8			
40'	826	1.8			
45'	1072	2.1			
50'	1481	2.6			
55'	1794	2.3			
60'	1749	2.7			
65'	1002	2.6			
70'	796	1.5			
75'	858	1.9			
80'	1097	2.3			
85'	701	2.1			
90'	1053	0.9	1150	<10.0	<10.0

SB-5

Depth	Cl-	PID	Lab Cl-	GRO	DRO
SS	2621	0.8	4160	<10.0	11.3
5'	780	4.2			
10'	1609	16.5			
15'	1479	8.4			
20'	600	40			
25'	334	8.1			
30'	657	5.3			
35'	1424	4.5			
40'	2096	4			
45'	1995	2.9			
50'	2440	3	2600	<10.0	<10.0
55'	1676	3.4			
60'	1420	3.6			
65'	385	4.2			
70'	556	4.3			
75'	497	1.3			
80'	277	1.6			
85'	248	2	240	<10.0	<10.0

SB-6

Depth	Cl-	PID	Lab Cl-	GRO	DRO
SS	978	0.9			
5'	462	2.6			
10'	495	3.9			
15'	693	1.6			
20'	1081	2.5			
25'	2933	3.2			
30'	2838	3.1			
35'	2825	2.6			
40'	2963	2.4	3280	<10.0	<10.0
45'	1762	2.4			
50'	2678	2.1			
55'	2198	1.9			
60'	2046	1.8			
65'	1908	1.7			
70'	1053	1.8			
75'	1092	2.3			
80'	1049	3.4			
85'	581	3.1			
90'	717	2.2	656	<10.0	<10.0

MW-2

MW-1

SB-1 SB-2 SB-3 SB-4 SB-5 SB-6 SB-7 SB-8 SB-9 SB-10 SB-11

10 IN STEEL NON ROC

ROC abandoned 2 in RT

ROC abandoned 4 in AC

ROC abandoned 2 in RT

73 ft

60 ft

30 ft

20 ft

84 ft

70 ft

132 ft

DGW: 117 ft.

Legend

- MONITOR WELL
- EAST SURFACE SAMPLE
- VACUUM SOIL BORES
- DEADMAN
- BURIED PIPELINE
- ROADWAY
- RISER
- VACUUM REMOVED BOX
- VACUUM ABANDONED LINE
- INSTALLED 20 MIL REINFORCED POLY LINER AT 3 FT BGS
- GEOSYNTHETIC LINER COVERED BY A PLASTIC LINER @ 5 ft

RICE OPERATING COMPANY ROC SINCE 1955

VACUUM
C-31 JCT
1R425-84

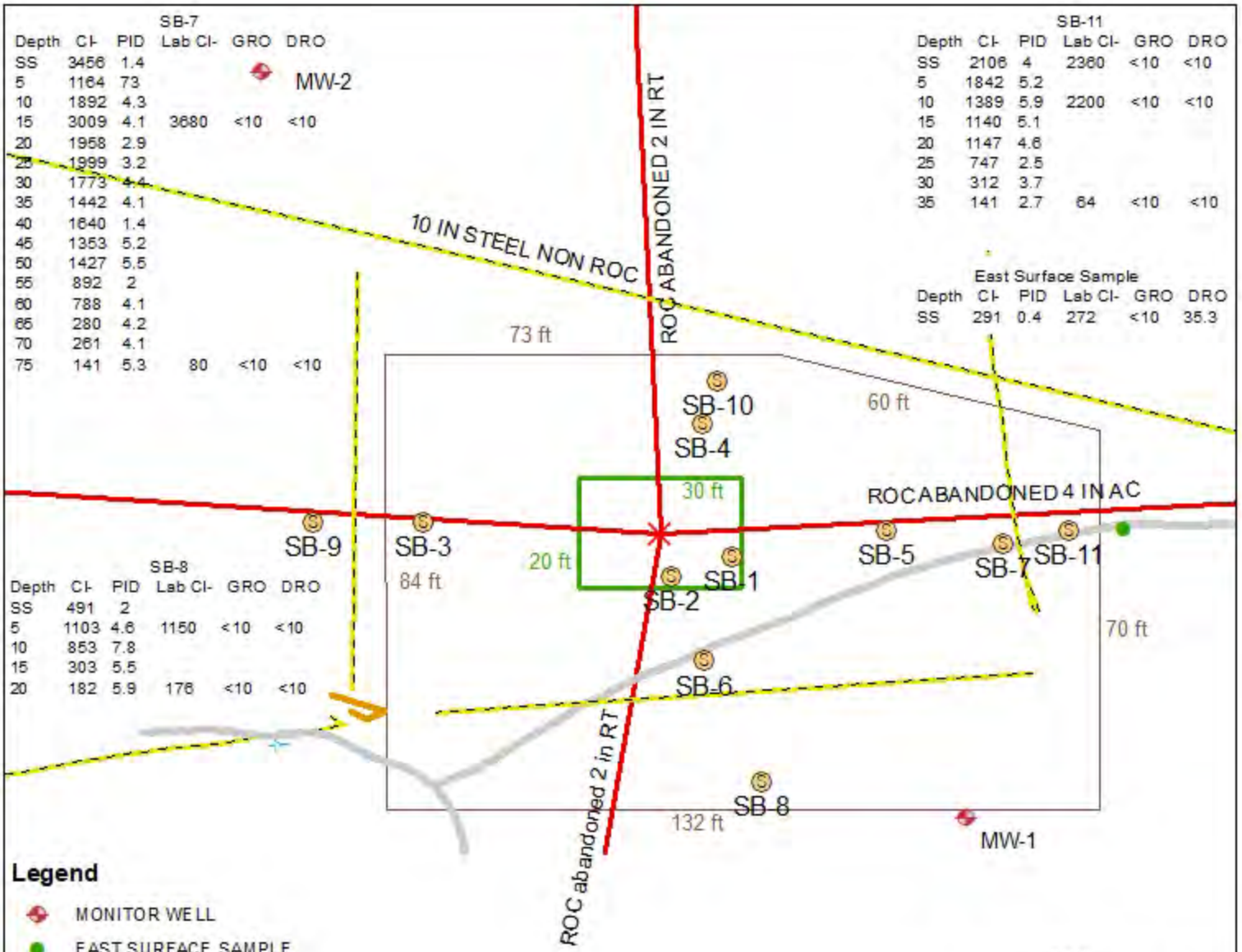
UL C, SECTION 31,
T17S, R35E
LEA COUNTY, NM

GPS: 32.797235 -103.498881
NAD 83 STATE PLANE PROJ.
NM EAST ZONE

N W E S

0 25 50
Feet

GPS DATE: 4/9/13 TG
Drawing date: 1/16/20
Drafted by: L. Weinheimer, T. Grieco



SB-7

Depth	Cl-	PID	Lab Cl-	GRO	DRO
SS	3456	1.4			
5	1164	73			
10	1892	4.3			
15	3009	4.1	3680	<10	<10
20	1958	2.9			
25	1999	3.2			
30	1773	4.4			
35	1442	4.1			
40	1640	1.4			
45	1353	5.2			
50	1427	5.5			
55	892	2			
60	788	4.1			
65	280	4.2			
70	261	4.1			
75	141	5.3	80	<10	<10

SB-11

Depth	Cl-	PID	Lab Cl-	GRO	DRO
SS	2106	4	2360	<10	<10
5	1842	5.2			
10	1389	5.9	2200	<10	<10
15	1140	5.1			
20	1147	4.6			
25	747	2.5			
30	312	3.7			
35	141	2.7	64	<10	<10

East Surface Sample

Depth	Cl-	PID	Lab Cl-	GRO	DRO
SS	291	0.4	272	<10	35.3

SB-8

Depth	Cl-	PID	Lab Cl-	GRO	DRO
SS	491	2			
5	1103	4.6	1150	<10	<10
10	853	7.8			
15	303	5.5			
20	182	5.9	176	<10	<10

SB-9

Depth	Cl-	PID	Lab Cl-	GRO	DRO
SS	84	0.9	<16	<10	22.7
5	86	4	32	<10	<10
10	140	4.2	64	<10	<10

SB-10

Depth	Cl-	PID	Lab Cl-	GRO	DRO
SS	3394	1.2	3480	<10	53.5
5	841	11			
10	2200	20.6			
15	1634	12.5			
20	2201	4.5	2160	11	<10
25	930	8.6			
30	519	3.1			
35	261	5.2			
40	198	5.1	128	<10	<10

Legend

- MONITOR WELL
- EAST SURFACE SAMPLE
- VACUUM SOIL BORES
- DEADMAN
- BURIED PIPELINE
- ROADWAY
- SURFACE PIPELINE
- NON ROC BURIED PIPELINE
- RISER
- VACUUM REMOVED BOX
- VACUUM ABANDONED LINE
- INSTALLED 20 MIL REINFORCED POLY LINER AT 3 FT BGS
- GEOSYNTHETIC LINER COVERED BY A PLASTIC LINER @ 5 ft

DGW: 117 ft.

RICE OPERATING COMPANY

ROC SINCE 1955

VACUUM
C-31 JCT
1R425-84

UL C, SECTION 31,
T17S, R35E
LEA COUNTY, NM

GPS: 32.797235 -103.498881
NAD 83 STATE PLANE PROJ.
NM EAST ZONE

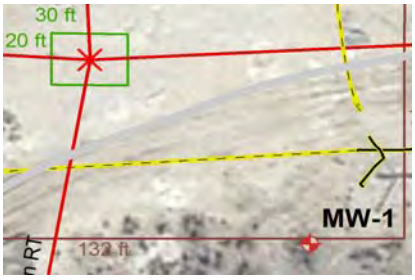
N W E S

0 25 50 Feet

GPS DATE: 4/9/13 TG
Drawing date: 1/16/20
Drafted by: L. Weinheimer, T. Grieco

Monitoring Well Installation

RICE Operating Company
112 West Taylor, Hobbs, NM 88240
Phone 575.393.9174

Logger:	Kyle Schnaidt		Basin Environmental Effective Solutions Service Technologies
Driller:	Harrison & Cooper, Inc.		**Project Name:** Vacuum Jct. C-31 **Well ID:** MW-1
Drilling Method:	Air rotary		**Project Consultant:** Basin Env.
Start Date:	3/13/2015		
End Date:	3/13/2015		

Comments: MW-1 is located 78 ft southeast of the source. No samples were taken as the well was installed.

DRAFTED BY: B. Cooper

TD = 157 ft GW = 115 ft

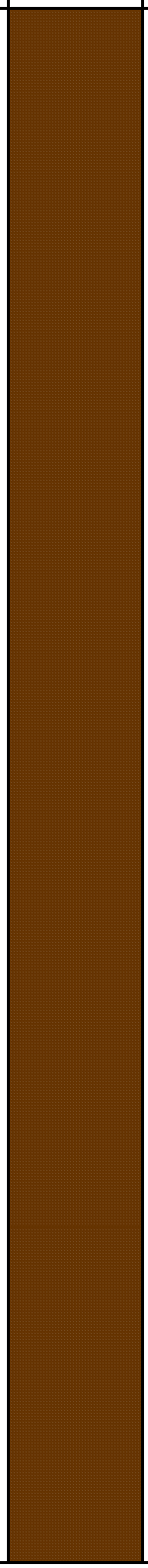
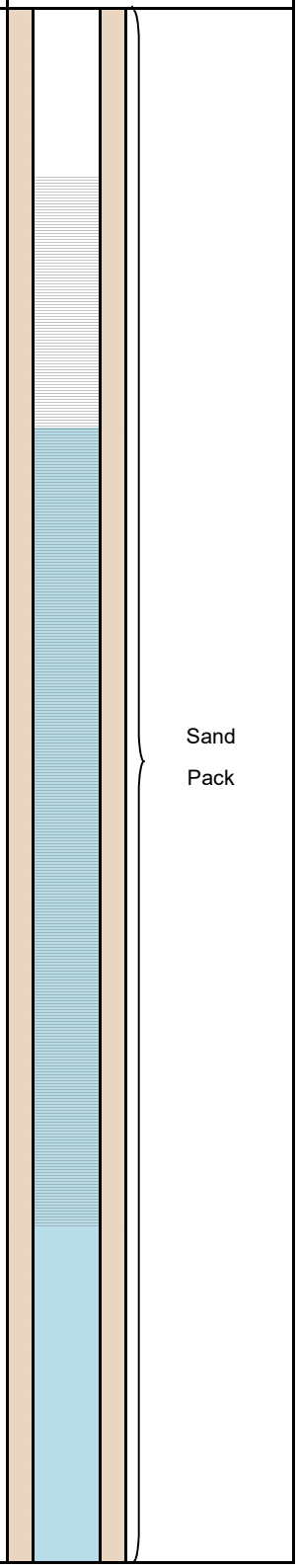
Location: UL/C sec. 31 T-17-S R-35-E

Lat: 32°47'49.519"N **County**: Lea

Long: 103°29'55.322"W **State**: NM

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
SS				Tan Sand with Caliche and Sandstone Lenses		4 in PVC; Bentonite Seal
5 ft						
10 ft						
15 ft						
20 ft						
25 ft						
30 ft						
35 ft						
40 ft						

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
45 ft				Tan Sand with Caliche and Sandstone Lenses		4 in PVC; Bentonite Seal
50 ft						
55 ft						
60 ft						
65 ft						
70 ft						
75 ft						
80 ft						
85 ft						
90 ft						
95 ft				Brown Coarse Sand		

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
100 ft				Brown Coarse Sand		
105 ft						
110 ft						
115 ft						
120 ft						
125 ft						
130 ft						
135 ft						
140 ft						
145 ft						
150 ft						
155 ft						
157 ft						

Logger:	Kyle Schnaidt		Basin Environmental Service Technologies, LLC — Effective Solutions
Driller:	Harrison & Cooper, Inc.		**Project Name:** Vacuum Jct. C-31 **Well ID:** MW-2
Drilling Method:	Air rotary		**Project Consultant:** Basin Env.
Start Date:	3/13/2015		**Location:** UL/C sec. 31 T-17-S R-35-E
End Date:	3/13/2015		**Lat:** 32°47'50.892"N **County**: Lea **Long:** 103°29'56.827"W **State**: NM

Comments: MW-2 is located 112 ft northwest of the source. No samples were taken as the well was installed.

DRAFTED BY: B. Cooper

TD = 130 ft GW = 115 ft

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
SS				**Tan Sand with Caliche and Sandstone Lenses**		2 in PVC; Bentonite Seal
5 ft						
10 ft						
15 ft						
20 ft						
25 ft						
30 ft						
35 ft						
40 ft						

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
45 ft				Tan Sand with Caliche and Sandstone Lenses		2 in PVC; Bentonite Seal
50 ft						
55 ft						
60 ft						
65 ft						
70 ft						
75 ft						
80 ft						
85 ft						
90 ft						
95 ft				Brown Coarse Sand		

Depth (feet)	Chloride field tests	LAB	PID	Description		Lithology		Well Construction
100 ft				Brown Coarse Sand				Sand Pack
105 ft								
110 ft								
115 ft								
120 ft								
125 ft								
130 ft								

Vacuum Jct. C-31
NMOCD Case #: 1R425-84
Unit C, Section 31, T-17-S, R-35-E

Drilling MW-1, facing southeast 3/13/15

Installing casing in MW-1, facing east 3/13/15

Adding the sand pack, MW-1 3/13/15

Placing the bentonite seal, MW-1 3/13/15

Concreting in well, facing east 3/13/15

Completed MW-1, facing northwest 3/13/15

Drilling MW-2, facing north 3/13/15

Installing casing in MW-2, facing north 3/13/15

Adding the sand pack, MW-2 3/13/15

Placing the bentonite seal, MW-2 3/13/15

Concreting in well, facing northeast 3/13/15

Completed MW-2, facing northeast 3/13/15

Monitoring Well Sampling

RICE Operating Company
112 West Taylor, Hobbs, NM 88240
Phone 575.393.9174

ROC - Vacuum Jct. C-31 (1R425-84)
Unit Letter C, Section 31, T17S, R35E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	116.78	164.71	31.2	100	6/5/2015	100	454	<0.001	<0.001	<0.001	<0.003	49.5	Clear No odor
1	116.83	164.71	31.1	100	8/24/2015	152	588	<0.001	<0.001	<0.001	<0.003	48.3	Clear No odor
1	117.08	164.71	30.96	100	11/16/2015	32	312	<0.001	<0.001	<0.001	<0.003	<10.0	Clear No odor
1	117.1	164.71	30.9	100	3/15/2016	128	698	<0.001	<0.001	<0.001	<0.003	48.8	Clear No odor
1	117.26	164.71	30.8	100	6/31/2016	276	852	<0.001	<0.001	<0.001	<0.003	50.7	Clear No odor
1	117.37	164.71	30	100	9/15/2016	256	730	<0.001	<0.001	<0.001	<0.003	32	Clear No odor
1	117.41	164.71	30	100	11/18/2016	264	820	<0.001	<0.001	<0.001	<0.003	72	Clear No odor
1	117.39	164.71	30	100	3/3/2017	240	910	<0.001	<0.001	<0.001	<0.003	50	Clear No odor
1	117.48	164.71	30	100	6/2/2017	470	1,170	<0.001	<0.001	<0.001	<0.003	71	Clear No odor
1	117.56	164.71	30	100	9/14/2017	400	1,090	<0.001	<0.001	<0.001	<0.003	59	Clear No odor
1	117.31	164.71	30	100	12/6/2017	232	852	<0.001	<0.001	<0.001	<0.003	124	Clear No odor
1	117.3	164.71	30.8	100	3/12/2018	152	498	<0.001	<0.001	<0.001	<0.003	30.8	Clear No odor
1	117.4	164.71	30.8	100	6/5/2018	124	508	<0.001	<0.001	<0.001	<0.003	111	Clear No odor
1	117.53	164.71	30.7	100	9/21/2018	28	264	<0.001	<0.001	<0.001	<0.003	43.3	Clear No odor
1	117.65	164.71	30.6	100	11/19/2018	120	472	<0.001	<0.001	<0.001	<0.003	43.8	Clear No odor
1	117.47	164.71	30.7	100	3/14/2019	32	295	<0.001	<0.001	<0.001	<0.003	43.8	Clear No odor
1	117.78	164.71	30.5	100	6/10/2019	28	218	<0.001	<0.001	<0.001	<0.003	48.3	Clear No odor
1	118.11	164.71	30.3	100	9/5/2019	28	256	<0.001	<0.001	<0.001	<0.003	48.4	Clear No odor
1	118.13	164.71	30.3	100	11/22/2019	28	302	<0.001	<0.001	<0.001	<0.003	47.4	Clear No odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	116.74	132.48	2.5	15	6/5/2015	60	398	<0.001	<0.001	<0.001	<0.003	30.8	Clear No odor
2	116.79	132.48	2.5	15	8/24/2015	88	512	<0.001	<0.001	<0.001	<0.003	61.2	Clear No odor
2	117.04	132.48	2.47	15	11/16/2015	40	440	<0.001	<0.001	<0.001	<0.003	56.6	Clear No odor
2	117.09	132.48	2.5	15	3/15/2016	56	328	<0.001	<0.001	<0.001	<0.003	44.6	Clear No odor
2	117.28	132.48	2.4	15	5/31/2016	72	548	<0.001	<0.001	<0.001	<0.003	46.1	Clear No odor

ROC - Vacuum Jct. C-31 (1R425-84)
Unit Letter C, Section 31, T17S, R35E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	117.38	132.48	2.4	15	9/15/2016	60	352	<0.001	<0.001	<0.001	<0.003	45	Clear No odor
2	117.43	132.48	2.4	15	11/18/2016	56	254	<0.001	<0.001	<0.001	<0.003	50	Clear No odor
2	117.41	132.48	2.4	15	3/3/2017	52	326	<0.001	<0.001	<0.001	<0.003	55	Clear No odor
2	117.51	132.48	2.4	15	6/2/2017	80	486	<0.001	<0.001	<0.001	<0.003	57	Clear No odor
2	117.6	132.48	2.4	15	9/14/2017	60	336	<0.001	<0.001	<0.001	<0.003	46	Clear No odor
2	117.36	132.48	2.4	15	12/6/2017	48	334	<0.001	<0.001	<0.001	<0.003	44	Clear No odor
2	117.34	132.48	2.4	15	3/12/2018	52	280	<0.001	<0.001	<0.001	<0.003	45.6	Clear No odor
2	117.44	132.48	2.4	15	6/5/2018	48	362	<0.001	<0.001	<0.001	<0.003	45.9	Clear No odor
2	117.57	132.48	2.4	10	9/21/2018	40	376	<0.001	<0.001	<0.001	<0.003	42.2	Clear No odor
2	117.72	132.48	2.4	10	11/19/2018	52	350	<0.001	<0.001	<0.001	<0.003	45.6	Clear No odor
2	117.51	132.48	2.4	10	3/14/2019	52	110	<0.001	<0.001	<0.001	<0.003	51.2	Clear No odor
2	117.83	132.48	2.3	15	6/10/2019	40	338	<0.001	<0.001	<0.001	<0.003	49.7	Clear No odor
2	118.17	132.48	2.3	10	9/5/2019	48	372	<0.001	<0.001	<0.001	<0.003	45.1	Clear No odor
2	118.19	132.48	2.3	10	11/22/2019	44	135	<0.001	<0.001	<0.001	<0.003	43.3	Clear No odor

CARDINAL Laboratories

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

December 06, 2019

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: VACUUM JUNCTION C-31

Enclosed are the results of analyses for samples received by the laboratory on 11/25/19 16:31.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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
KATIE JONES
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	11/25/2019	Sampling Date:	11/22/2019
Reported:	12/06/2019	Sampling Type:	Water
Project Name:	VACUUM JUNCTION C-31	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T17S-R35E-SEC31C - LEA CTY., NM		

Sample ID: MONITOR WELL #1 (H904001-01)

BTEX 8021B mg/L Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	11/27/2019	ND	0.021	105	0.0200	0.744	
Toluene*	<0.001	0.001	11/27/2019	ND	0.020	101	0.0200	0.637	
Ethylbenzene*	<0.001	0.001	11/27/2019	ND	0.021	104	0.0200	1.69	
Total Xylenes*	<0.003	0.003	11/27/2019	ND	0.064	106	0.0600	2.54	
Total BTEX	<0.006	0.006	11/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.7 %* *58.2-133*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**28.0**	4.00	11/26/2019	ND	104	104	100	0.00	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**47.4**	10.0	11/27/2019	ND	18.3	91.6	20.0	18.5	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**302**	5.00	12/03/2019	ND	515	97.7	527	15.3	

Cardinal Laboratories *=Accredited Analyte

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
KATIE JONES
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	11/25/2019	Sampling Date:	11/22/2019
Reported:	12/06/2019	Sampling Type:	Water
Project Name:	VACUUM JUNCTION C-31	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T17S-R35E-SEC31C - LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H904001-02)

BTEX 8021B mg/L Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	11/27/2019	ND	0.021	105	0.0200	0.744	
Toluene*	<0.001	0.001	11/27/2019	ND	0.020	101	0.0200	0.637	
Ethylbenzene*	<0.001	0.001	11/27/2019	ND	0.021	104	0.0200	1.69	
Total Xylenes*	<0.003	0.003	11/27/2019	ND	0.064	106	0.0600	2.54	
Total BTEX	<0.006	0.006	11/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.0 %* *58.2-133*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**44.0**	4.00	11/26/2019	ND	104	104	100	0.00	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**43.3**	10.0	11/27/2019	ND	18.3	91.6	20.0	18.5	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**135**	5.00	12/03/2019	ND	515	97.7	527	15.3	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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

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

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

Company Name: RICE Operating Company	BILL TO Company: RICE Operating Company PO#
Project Manager: Katie Jones	Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240
Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240	Phone#: (575) 393-9174 Fax#: (575)397-1471
Phone #: (575) 393-9174	Fax #: (575) 397-1471
Project #:	Project Name: Vacuum Junction C-31
Project Location: T17S-R35E-Sec31 C ~ Lea County New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

LAB # (LAB USE ONLY) 1904001	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL (2 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2019)	TIME
1	Monitor Well #1	G	3	X				2				1		11/22	13:40
2	Monitor Well #2	G	3	X				2				1		11/22	10:15

ANALYSIS REQUEST (Circle or Specify Method No.)

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
	X																	X	X	X	
	X																	X	X	X	

Relinquished by: Rozanne Johnson	Date: 11/25/19	Time: 16:30	Received by:	Date: Time:
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff) Jodi Henson	Date: 11/25/19 Time: 16:31

Delivered By: (Circle One) Sampler - UPS - Bus - Other:

Sample Condition: Cool: Yes ✓ / No; Intact: Yes ✓ / No

CHECKED BY: (Initials) JH

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

REMARKS:

Email Results: kjones@riceswd.com
rozanne11@windstream.net

Soil Closure Request and NMOCD Approval

RICE Operating Company
112 West Taylor, Hobbs, NM 88240
Phone 575.393.9174

RICE ENVIRONMENTAL CONSULTING & SAFETY
PO Box 2948 | Hobbs, NM 88241 | Phone 575.393.2967

August 15, 2014

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

RE: **Initial CAP Report & Soil Closure Request**
Rice Operating Company – Vacuum SWD System
Vacuum Jct. C-31 (1R425-84): UL/C sec. 31 T17S R35E

Mr. Lowe:

RICE Operating Company (ROC) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced sites in the 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 .5 miles southeast of Buckeye, New Mexico at UL/C sec. 31 T17S R35E as shown on the Geographical Location Map (Figure 1). Soil bore installation at the site show groundwater to be located at 100 +/- feet.

Vacuum Jct. C-31 Backhoe Delineation

In 2009, ROC initiated work on the former Vacuum Jct. C-31 junction boxes. The site was delineated using a backhoe to collect soil samples at regular intervals, creating a 30 x 20 x 12-ft deep excavation. Soil samples were field tested for chlorides and hydrocarbons and resulted in elevated chloride concentrations. Representative samples were taken to a commercial laboratory for analysis. Laboratory analysis of the four-wall composite resulted in a chloride concentration of 2,400 mg/kg, a gasoline range organics (GRO) concentration of 69.1 mg/kg and a diesel range organics (DRO) concentration of 1,110 mg/kg. BTEX analysis of the four-wall composite resulted in benzene and toluene concentrations of non-detect, an ethyl benzene concentration of 0.363 mg/kg and a total xylenes concentration of 1.48 mg/kg. Laboratory analysis of the bottom composite resulted in a chloride concentration of 944 mg/kg, a GRO concentration of 158 mg/kg and a DRO concentration of 1,590 mg/kg. BTEX analysis of the bottom composite resulted in benzene, toluene, and ethyl benzene concentrations of non-detect and a total xylenes concentration of 2.77 mg/kg.
The excavated soil was blended on site and a representative composite sample was sent to a commercial laboratory for analysis of chlorides and TPH. The laboratory analysis resulted in a chloride concentration of 1,200 mg/kg, a GRO concentration of 10.4 mg/kg and a DRO concentration of 1,130 mg/kg. The blended backfill was returned to the excavation to 5 ft below ground surface (bgs) and a geo-synthetic and plastic liner were installed and properly seated into the excavation. The remaining backfill was blended with clean, imported soil and analyzed by a commercial laboratory for chlorides and TPH. Laboratory analysis of the blended backfill II resulted in a chloride concentration of 400 mg/kg, a GRO concentration

of non-detect and a DRO concentration of 312 mg/kg. The blended backfill II returned the excavation to ground surface and was used to contour the site to the surrounding area. On June 8th, 2009, the site was seeded with a blend of native vegetation.

NMOCD was notified of potential groundwater impact on March 12th, 2010, and a junction box disclosure report was submitted to NMOCD with all the 2009 junction box closures and disclosures.

Investigation and Characterization Plan (ICP)

On February 8th, 2013, ROC submitted an Investigation and Characterization Plan (ICP) to NMOCD, which was approved on March 4th, 2013. As part of the ICP, RECS personnel were on site April 11th and 12th, 2013 to install soil bores. A total of six soil bores were drilled at the site and as they were advanced, soil samples were taken at regular intervals. The samples were field tested for chlorides and hydrocarbons and representative samples were taken to a commercial laboratory for analysis. Laboratory analysis showed evidence that as the bores were advanced, the chloride levels declined with depth in all six bores. DRO levels were non-detect in SB-2 and SB-6 at all depths and declined with depth to non-detect in the remainder of the bores. GRO levels returned results of non-detect in all bores at all depths.

On May 31st 2013, ROC submitted and Investigation and Characterization Plan (ICP)
Report and Request for Further Delineation to NMOCD, which was approved on August 28th, 2013. The report recommended that ROC continue to investigate the site to determine the lateral extent of the chloride contamination. ROC would also review historical photos and, if warranted, install monitor wells. All monitor wells would be installed and sampled according to NMOCD and industry standards.

Additional soil bores were installed on September 24th, 2013 to further delineate the site. A total of five soil bores were drilled and as they were advanced, soil samples were taken at regular intervals. The samples were field tested for chloride and hydrocarbon and representative samples were taken to a commercial laboratory for analysis. A surface sample was also collect 10 ft east of SB-11 and was analyzed by a commercial labor for chloride and TPH. The northern edge of the site was defined with SB-10, the west was defined with SB-9, the south was defined with SB-8, and the east was defined with SB-11 and the surface sample 10 ft east of SB-11.

Historical aerial photos were assessed to determine areas of concern adjacent to the site.
In the 1955 aerial photo, a facility is evident north of the site and a stain is evident south of the site. In the 2013 aerial photo, a facility is evident directly east of the site.
Based on the results of the soil bore installation, a Corrective Action Plan (CAP) was submitted to the NMOCD on November 8th, 2013. In order to prohibit the downward migration of residual chloride, the CAP proposed the installation of a modified 84x132-ft, 20-mil reinforced liner at 3 ft bgs, backfill with soil containing a chloride concentration below 500 mg/kg and a field PID reading below 100 ppm, and seeding of the backfilled site. The CAP also proposed installation of a near-source and an up-gradient monitoring well to determine groundwater quality. NMOCD approved the CAP on November 21st, 2013.

CAP Report for Soils

On June 17th, 2014, RECS personnel were on site to begin liner installation according to the NMOCD approved CAP. The site was excavated to dimensions of 84x132 ft x 3.5 ft deep (Figure 2). The northeast corner remained a safe distance from a 10 inch, non-ROC steel line. The excavation was padded with 6 inches of imported soil and an 84x132 ft, 20-mil liner was installed at 3 ft bgs, overlaying the previously installed 30 ft x 20 ft geosynthetic liner at 5 ft bgs. The top of the liner was padded with an additional 6 inches of imported soil. A composite sample of the imported soil was analyzed by a commercial laboratory for chloride, resulting in a concentration of 16 mg/kg. The sample was also field tested for hydrocarbon using a PID, resulting in a reading of 2.3 ppm. Approximately 1,144 cubic yards of

excavated soil were properly disposed of at an NMOCD approved facility. The remaining excavated soil was blended on site and a sample of the west 8 pt comp blended backfill was field tested for hydrocarbons using a PID and returned a result of 13.3 ppm. The sample was taken to a commercial laboratory for analysis and returned a laboratory chloride reading of 464 mg/kg. The blended backfilled was returned to the excavated and imported soil was used to contour the site to the surrounding area. The site was tilled with soil amendments and seeded with a blend of native vegetation. Documentation of the CAP activities can be found in Appendix A.

Groundwater Remedy

According to the NMOCD approved CAP, ROC will install a near-source monitor well (MW-1) and an up-gradient well (MW-2) to determine groundwater quality. Once groundwater quality has been determined, ROC will submit a report to NMOCD with recommendations.

ROC acknowledges they have met the soil requirements as approved by NMOCD in the Corrective Action Plan (CAP), and the newly installed 20-mil reinforced liner will prohibit the migration of any residual chlorides. 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. As such, ROC requests 'Soil Closure' for this site.

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

Sincerely,

L Flores

Laura Flores
Rice Environmental Consulting & Safety (RECS)
Project Manager

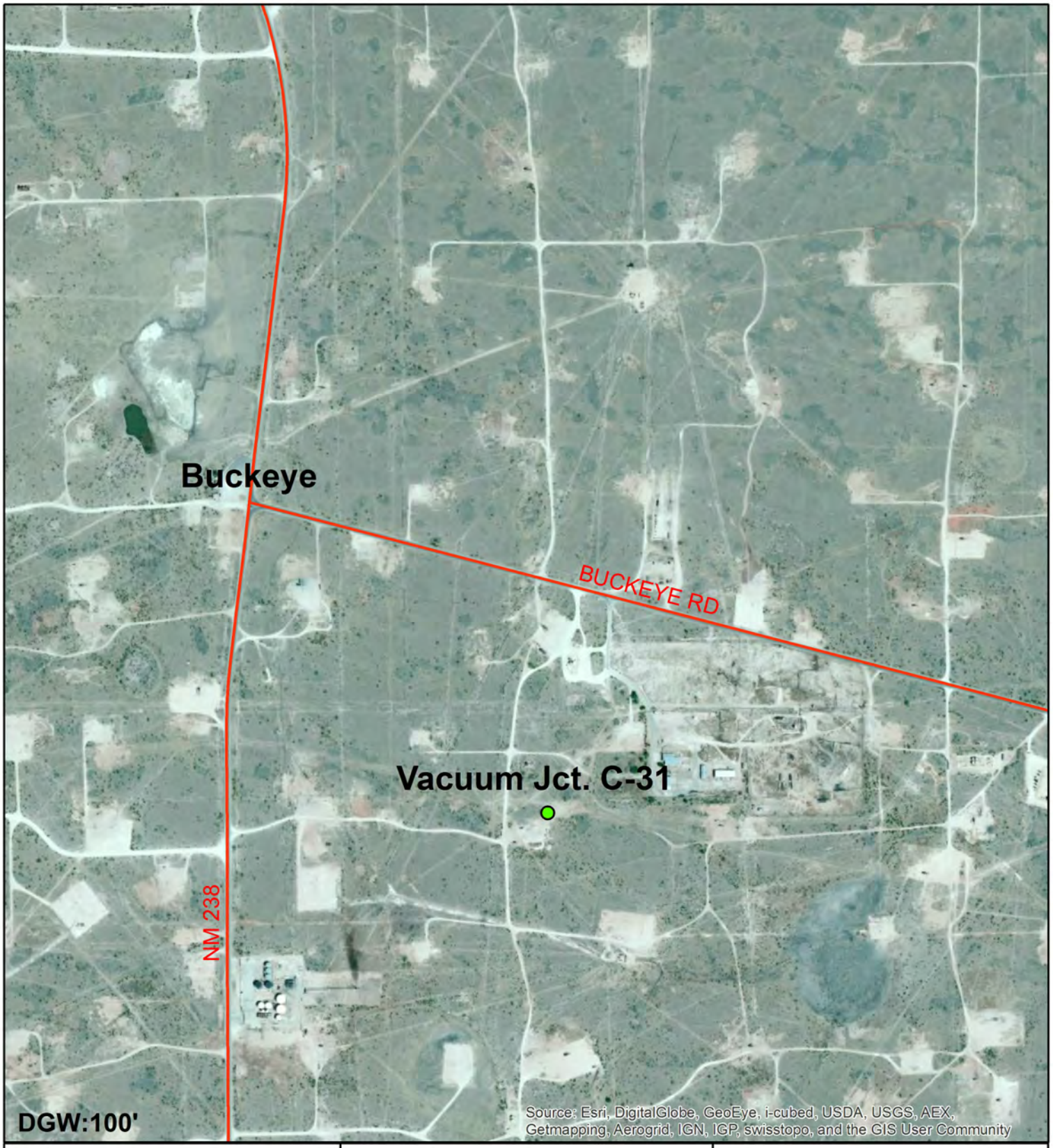
Attachments:

Figure 1 – Geographical Location Map
Figure 2 – Installed NMOCD Approved Liner
Appendix A – Liner Installation Documentation

Figures

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

Geographical Locaton Map



RECS
RICE ENVIRONMENTAL
CONSULTING & SAFETY

Vacuum Jct. C-31

UL/ C, Section 31,
T17S, R35E
Lea County, NM

NMOCD Case #: 1R425-84

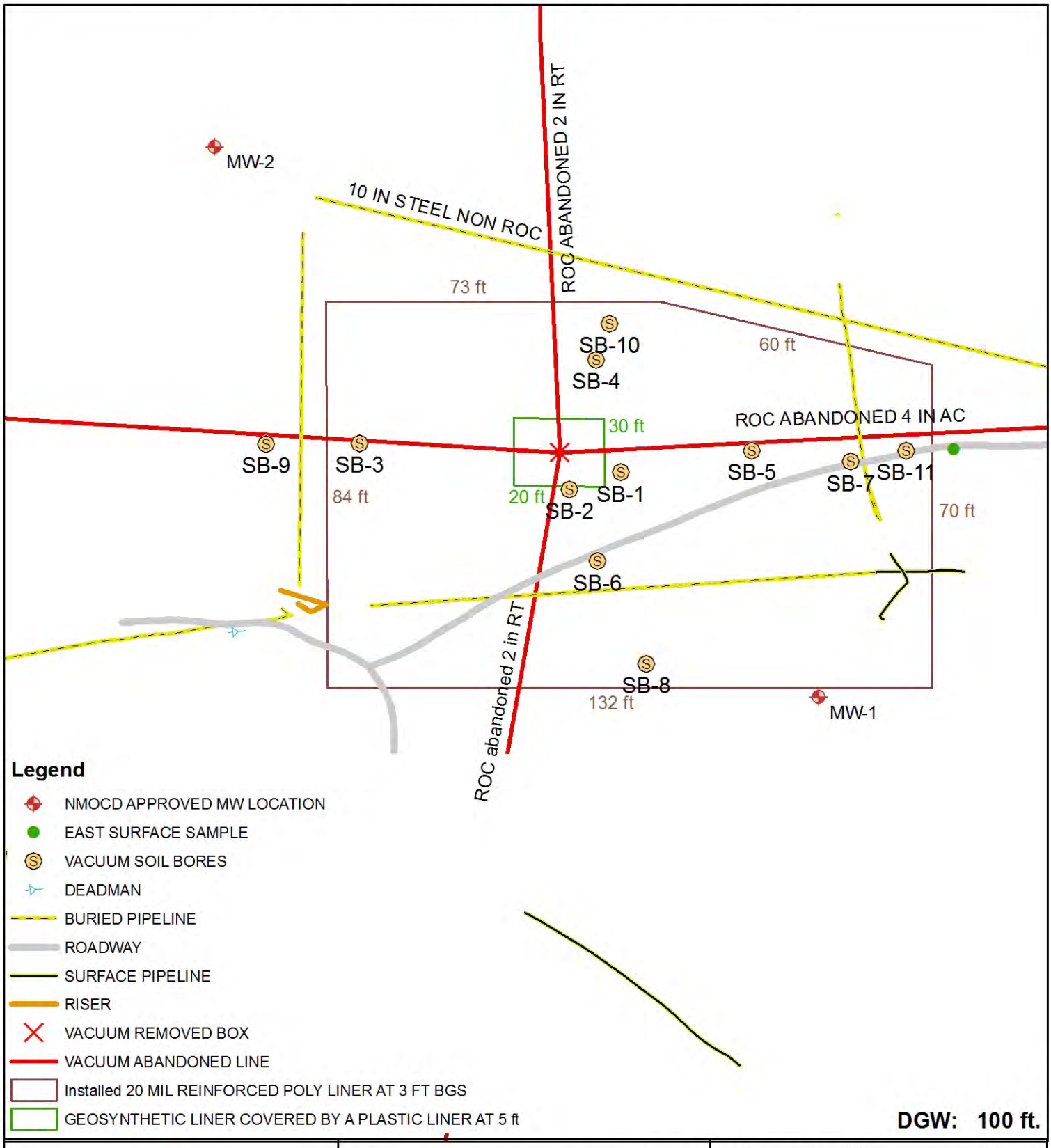
Figure 1

N
W E
S

0 0.05 0.1 0.2
Miles

Drawing date: 2-8-13

Installed NMOCD Approved Liner



RECS
RICE ENVIRONMENTAL
CONSULTING & SAFETY

Vacuum Jct. C-31

UL/ C, Section 31,
T17S, R35E
Lea County, NM

NMOCD Case #: 1R425-84

Figure 2

N
W E
S

0 10 20 40
Feet

GPS DATE: 9/27/13 TG
Drawing date: 10/22/13
Drafted by: Lara Weinheimer

Appendix A

Liner Installation Documentation

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

CARDINAL Laboratories

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

June 30, 2014

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: VACUUM JCT C-31 17S-35E

Enclosed are the results of analyses for samples received by the laboratory on 06/27/14 14:53.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Rice Operating Company
KATIE JONES
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	06/27/2014	Sampling Date:	06/27/2014
Reported:	06/30/2014	Sampling Type:	Soil
Project Name:	VACUUM JCT C-31 17S-35E	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: 8 PT. BLENDED BACKFILL (H401954-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**464**	16.0	06/30/2014	ND	400	100	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

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

RUSH

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL LABORATORIES
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 Operating	P.O. #:	
Project Manager:	Katie Jones	Company:	
Address:	112 W. Taylor	Attn:	
City:	Hobbs State: NM Zip: 88240	Address:	
Phone #:	Fax #:	City:	
Project #:	Project Owner:	State: Zip:	
Project Name:		Phone #:	
Project Location:	Vacuum JC1. C-31	Fax #:	
Sampler Name:	Abe Rodecop		

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						
H401954	Spt Blended Backfill	C	1			✓							6-27-14	2:00	✓										

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 consequental 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: 6-27-14	Received By:	
	Time: 2:53		
Relinquished By:	Date:	Received By:	
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other:

Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No

CHECKED BY: (Initials) KP

Phone Result: ☐ Yes ☑ No Add'l Phone #:
Fax Result: ☐ Yes ☑ No Add'l Fax #:
REMARKS:

email: hconder@riceswd.com; kjones@riceswd.com; lflores@rice-ecs.com; lweinheimer@rice-ecs.com; knorman@rice-ecs.com; jkamplain@rice-ecs.com; sedwards@rice-ecs.com; cursanic@rice-ecs.com
Environmental Tech: @rice-ecs.com

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

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. MODEL NO.			
	X	MODEL: PGM 7300 X	SERIAL NO: 590-000183
		MODEL: PGM 7300	SERIAL NO: 590-000504
		MODEL: PGM 7320	SERIAL NO: 592-903318
		MODEL: PGM 7300	SERIAL NO: 590-902553

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

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

ACCURACY : +/- 2%

COMPANY
ROC

SITE	UNIT	SECTION	TOWN SHIP	RANGE
Vacuum Jct. C-31	C	31	17-S	35-E

SAMPLE ID	PID	SAMPLE ID	PID
8pt Blended Backfill Comp	13.3		

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

SIGNATURE: DATE: 6/27/2014

CARDINAL Laboratories

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

July 07, 2014

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: VACUUM JCT C-31 17S-35E

Enclosed are the results of analyses for samples received by the laboratory on 07/01/14 11:19.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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
KATIE JONES
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	07/01/2014	Sampling Date:	06/30/2014
Reported:	07/07/2014	Sampling Type:	Soil
Project Name:	VACUUM JCT C-31 17S-35E	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Kathy Perez
Project Location:	NOT GIVEN		

Sample ID: IMPORTED SOIL SAMPLE (H401982-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	07/03/2014	ND	416	104	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

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

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CARDINAL LABORATORIES
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 Operating	BILL TO
Project Manager: Katie Jones	P.O. #:
Address: 112 W. Taylor	Company:
City: Hobbs State: NM Zip: 88240	Attn:
Phone #: Fax #:	Address:
Project #: Project Owner:	City:
Project Name:	State: Zip:
Project Location: Vacuum Jct. C-31	Phone #:
Sampler Name: Abe Rodriguez	Fax #:

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								
H401982 1	Imported soil sample	G	1			✓							6-23-14	5:00	✓													

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 consequental 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: Abe Rodriguez	Date: 6-23-14 Time: 11:19	Received By: Kathy Ken	Phone Result: ☐ Yes ☑ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☐ Yes ☑ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other: -8.2°C +0.4	Sample Condition Cool: ☐ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) KP	REMARKS: email: hconder@riceswd.com; kjones@riceswd.com; lflores@rice-ecs.com; lweinheimer@rice-ecs.com; knorman@rice-ecs.com; jkamplain@rice-ecs.com; sedwards@rice-ecs.com; cursanic@rice-ecs.com Environmental Tech: @rice-ecs.com

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

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. MODEL NO.			
	X	MODEL: PGM 7300 X	SERIAL NO: 590-000183
		MODEL: PGM 7300	SERIAL NO: 590-000504
		MODEL: PGM 7320	SERIAL NO: 592-903318
		MODEL: PGM 7300	SERIAL NO: 590-902553

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

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

ACCURACY : +/- 2%

COMPANY
ROC

SITE	UNIT	SECTION	TOWN SHIP	RANGE
Vacuum Jct. C-31	C	31	17-S	35-E

SAMPLE ID	PID	SAMPLE ID	PID
Imported Soil Sample	2.3		

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

SIGNATURE: DATE: 6/30/2014

PO Box 2498
Hobbs, NM 88241
Phone: (575) 393-2967
Fax: (575) 393-0293

VEGETATION FORM

Site name:	ROC Vacuum Jct. C-31					
U/L	Section	Township	Range	County	Latitude	Longitude
C	31	17S	35E	LEA		
Contact Name:	Hack Conder					
Email:	hconder@rice-ecs.com					
Site size:	185'X94'	square feet:	18,000			

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

Salvaged from site		Bioremediated		Imported	X	Blended		Depth (in)			
Texture:	Sandy		Describe soil & subsoil:		Top Soil on Top and Caliche Below						
Soil prep methods:	Rip		Depth (in)		Disc	X	Depth (in)	3"	Rollerpack		
Date completed:	8/6/2014										

3. Bioremediation

Fertilizer		Hay		Other	X
Type:				Describe:	12 Bags of Sphagnum Peat Moss, Lawn
Lbs/acre:				Soil, Premium Top Soil, Composted Mulch & Steer Manur	

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

Custom Seed Mix	X	Prescribed Mix		Seed Mix Name:	18 lbs. of Lea Co. Mix, Side Oats & Sudan Mix Warm Season		Date:	8/6/2014	
Broadcast	Push Broadcasting Seeder				Method:	With Broadcast Seeder			
Soil conditions during seed:	Dry	X	Damp		Wet				
Observations:	The seed and amendments were raked into the soil.								

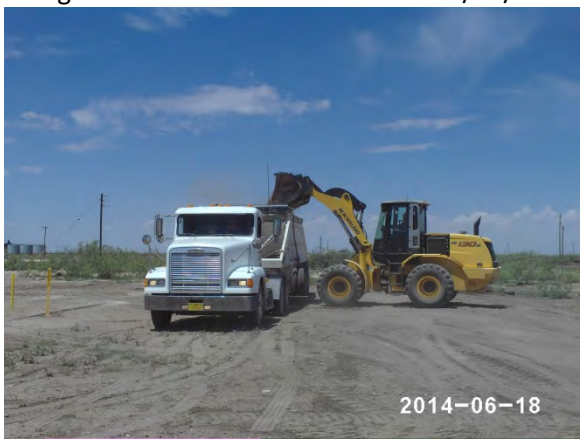
5. Certification I hereby certify that the information in this form and attachments is true and complete to the best of my knowledge and belief.

Name:	Chris Flores	Title:	Environmental Tech	Date:	8/6/2014
Signature:					

Vacuum Jct. C-31 (1R425-84)
Unit Letter C, Section 31, T17S, R35E

Site prior to excavation,
facing west 10/24/2013

Excavating the site,
Facing east 6/17/2014



Exporting the spoil pile,
Facing west 6/18/2014

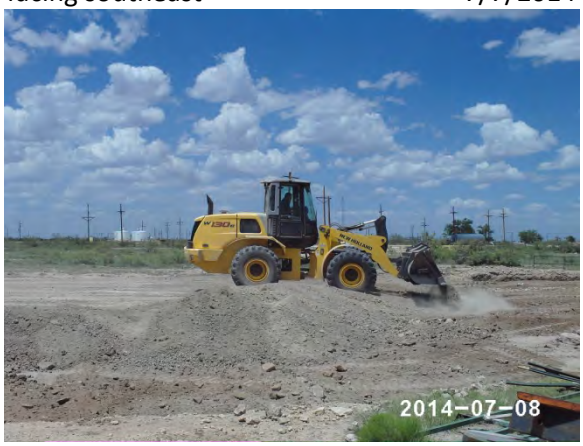
Modified 84x132 ft final excavation,
facing southeast 6/27/2014

Importing soil,
facing north 6/30/2014

Padding 6' of soil,
facing east 6/30/2014

20-mil poly liner installed at 3 ft bgs,
facing southeast 7/7/2014

Padding above the liner,
facing northeast 7/8/2014



Backfilling the excavation,
facing north 7/8/2014

Seeding location,
facing southeast 8/6/2014

Laying amendments,
facing south 8/6/2014

Site complete,
facing southwest 8/6/2014

NMOCD Response/Results from Meeting

OCD/RECS Meeting

September 18, 2014 Santa Fe, NM
AGENDA/NOTES 9:30 AM

ROC

A. Termination Requests

1. EME H-24 EOL (1R427-361): CAP Report and Termination Request submitted 4/7/2014.
   OCD approves the closure request for EME H-24 EOL, 1R427-361

2. Vacuum State H-35 EOL (1R425-46): CAP Report and Termination Request submitted 5/21/2014.
   OCD approves the Termination request for Vacuum State H - 35 EOL, 1R425-46

3. Vacuum G-28 vent (1R425-65): CAP Reort and Termination Request submitted 7/22/2014.
   OCD approves the Termination request for Vacuum G - 28 Vent, 1R425-65

4. BD N-32 vent (1R426-153): Termination Request submitted 8/20/2014.
   OCD approves the closure request for BD N - 32, 1R426-153

B. Soil Closure

1. BD F-29 (1R426-16) & F-29-1 (1R426-15) : Initial CAP Report and Soil Closure Request submitted 7/23/2014.
   OCD approves SOIL CLOSURE request for BD - F - 29 (1R426 - 16)
   OCD approves SOIL CLOSURE request for BD F - 29 - 1 (1R426 - 15)

2. BD Jct. N-20 (1R426-215) : Initial CAP Report and Soil Closure Request submitted 8/1/2014.
   OCD approves SOIL CLOSURE for BD Jct. N - 20 (1R426 - 215)

3. Vacuum N-6-1 (1R0479) : Vadose zone CAP Report and Soil Closure Request submitted 8/12/2014.
OCD approves SOIL CLOSURE for Vacuum N - 6 -1 (1R426 - 479)

4. Vacuum Jct. C-31 (1R425-84) : Initial CAP Report and Soil Closure Request submitted 8/15/2014.
OCD approves SOIL CLOSURE for Vacuum Jct. C - 31 (1R425 - 84)

C. CAP

1. EME Jct. F-32 (1R427-407): ICP Report & CAP submitted 6/26/2014.
OCD approved, at time of meeting, CAP for EME Jct. F - 32 (1R427 - 407)

2. EME N-28 EOL (1R427-410): Approval to commence soil excavation received 8/28/14. Official OCD approval not on OCD website.
OCD approved CAP EME N - 28 (1R - 427 - 410). Previously approval given verbally.

3. EME C-33 EOL (1R427-405): Approval to commence soil excavation received 8/28/2014. Official OCD approval not on OCD website.
OCD approves CAP for EME C - 33 EOL (1R427 - 405)

4. EME Jct. E-2 (1R427-165): Proposed CAP plat.
OCD approved CAP for EME Jct. E - 2 (1R427 - 165), verbal approval give at time of Meeting.

5. EME O-3 EOL (1R427-289): Proposed CAP plat.
OCD approved CAP for EME O - 3 EOL (1R427 - 289), verbal approval give at time of Meeting.

RECS

A. Termination Requests

1. Apache Walter Lynch tank battery (1R-2498): Termination Request submitted 9/4/2014.
Signed at time of Meeting. OCD requested a copy of signed C - 141.

Notes

Final C-141 and Current Photos

RICE Operating Company
112 West Taylor, Hobbs, NM 88240
Phone 575.393.9174

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1R425-84
Facility ID	
Application ID	pEJH1015950954

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Katie Jones Davis Title: Environmental Manager

Signature: Katie Jones Davis Date: 1/20/2020

email: kjones@riceswd.com Telephone: 575-393-9174

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Jennifer Nobui Date: 05/03/2022

Printed Name: Jennifer Nobui Title: Environmental Specialist A

Vacuum Jct. C-31 (1R425-84)
Unit C, Section 31, T17S, R35E

Facing east 6/11/2019

Facing south 6/11/2019

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 90561

CONDITIONS

Operator: RICE OPERATING COMPANY 122 W Taylor Hobbs, NM 88240	OGRID: 19174
	Action Number: 90561
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Termination Request Approved 1/31/2022. Incident #nAPP2110348221 Closed.	5/3/2022