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

April 1, 2025

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

RE: **2024 Annual Groundwater Report**
Rice Operating Company – BD SWD System
BD L-36 EOL (1R426-278): UL/L, Sec. 36, T21S, R37E
NMOCD Incident ID: nAPP2110356466

Mr. Buchanan:

ROC is the service provider (agent) for the BD 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 miles east of Eunice, New Mexico at UL/L, Sec. 36, T21S, R37E as shown on the Geographic Location Map. Groundwater sampling at the site indicated the depth to groundwater is approximately 45 feet below ground surface (bgs).

An Investigation and Characterization Plan (ICP) was submitted to NMOCD on April 24th, 2015 and approved May 7th, 2015. The site was investigated through soil bore installation resulting in elevated chloride concentrations that decreased with depth.

A Corrective Action Plan (CAP) and Addendum was submitted and approved by NMOCD on October 30th, 2017. According to the NMOCD approved CAP, a 91x31-ft 20-mil reinforced liner was installed and properly seated at 4.5 ft bgs which covered the previously installed 20x20 ft clay liner. The site was backfilled and seeded with a blend of native vegetation. A CAP Report and Soil Closure Request detailing this work was submitted to the NMOCD on May 17th, 2018. The report also requested three monitoring wells be installed near the source, up-gradient and down-gradient of the site. NMOCD approved this report and granted 'Soil Closure' on June 20th, 2018.

On June 27th, 2019, a near-source well (MW-1) was installed approximately 40 ft southeast of the source, and lithology soil samples were collected at regular intervals. The well was developed and sampled regularly. On November 13th, 2019, an up-gradient well (MW-2) and a down-gradient well (MW-3) were installed.

The most recent sampling event resulted in a chloride concentration of 980 mg/L in MW-1, 510 mg/L in MW-2, and 500 mg/L in MW-3. BTEX concentrations have remained below detectable limit in each well since installation. The samples collected from the up-gradient well (MW-2) suggests a non-ROC, up-gradient source has contributed to the degradation of groundwater quality. The highest chloride observed in the up-gradient well (MW-2) resulted in a concentration of 600 mg/L on May 3rd, 2022. Based on the non-ROC up-gradient source contributing to the degradation of groundwater quality, ROC submitted a Termination Request to NMOCD on August 22nd, 2022. NMOCD granted approval on March 1st, 2024, citing that all revegetation activities will need to be documented and included in the revegetation report. ROC suspended groundwater monitoring from MW-1, MW-2, and MW-3. On July 9th, 2024, ROC submitted via email the soil closure documentation previously submitted to NMOCD. The submission included the CAP Report and Soil Closure Request previously submitted on May 17th, 2018, NMOCD's June 20th, 2018, approval granting soil closure, and a recent photo showing from July 9th, 2024, showing the revegetation.

Attached is the Appendix, which contains:

1. NMOCD approval of the Termination Request.
2. A Geographic Location Map.
3. An Area Map.
4. A map showing monitoring well locations and estimated groundwater gradient (generated by Peter Galusky of Terrae LLC).
5. A graph showing laboratory results, and a table presenting all laboratory results and depth to groundwater for each well at the site.
6. The laboratory analytical result for 2024.
7. Soil Closure Documentation – follow up email communication, recent photo, NMOCD approval of soil closure, and CAP Report and Soil Closure Request.

Rice Operating Company appreciates the opportunity to work with you on this project. Please contact me at (575) 393-9174 if you have any questions or wish to further discuss this site. Thank you for your time and consideration.

Sincerely,

Katie Davis

Katie Davis
Environmental Manager
RICE Operating Company (ROC)

appendix

From: OCDOnline@state.nm.us
To: Katie Jones
Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 136521
Date: Friday, March 01, 2024 2:44:13 PM

To whom it may concern (c/o Katie Davis for RICE OPERATING COMPANY),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2110356466, with the following conditions:

- **Closure Report Approved. All revegetation activities will need to be documented and included in the revegetation report. The revegetation report will need to include: An executive summary of the revegetation activities including: Seed mix, Method of seeding, dates of when the release area was reseeded, information pertinent to inspections, information about any amendments added to the soil, information on how the vegetative cover established meets the life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds per 19.15.29.13 D.(3) NMAC, and any additional information; a scaled Site Map including area that was revegetated in square feet; and pictures of the revegetated areas during reseeding activities, inspections, and final pictures when revegetation is achieved.**

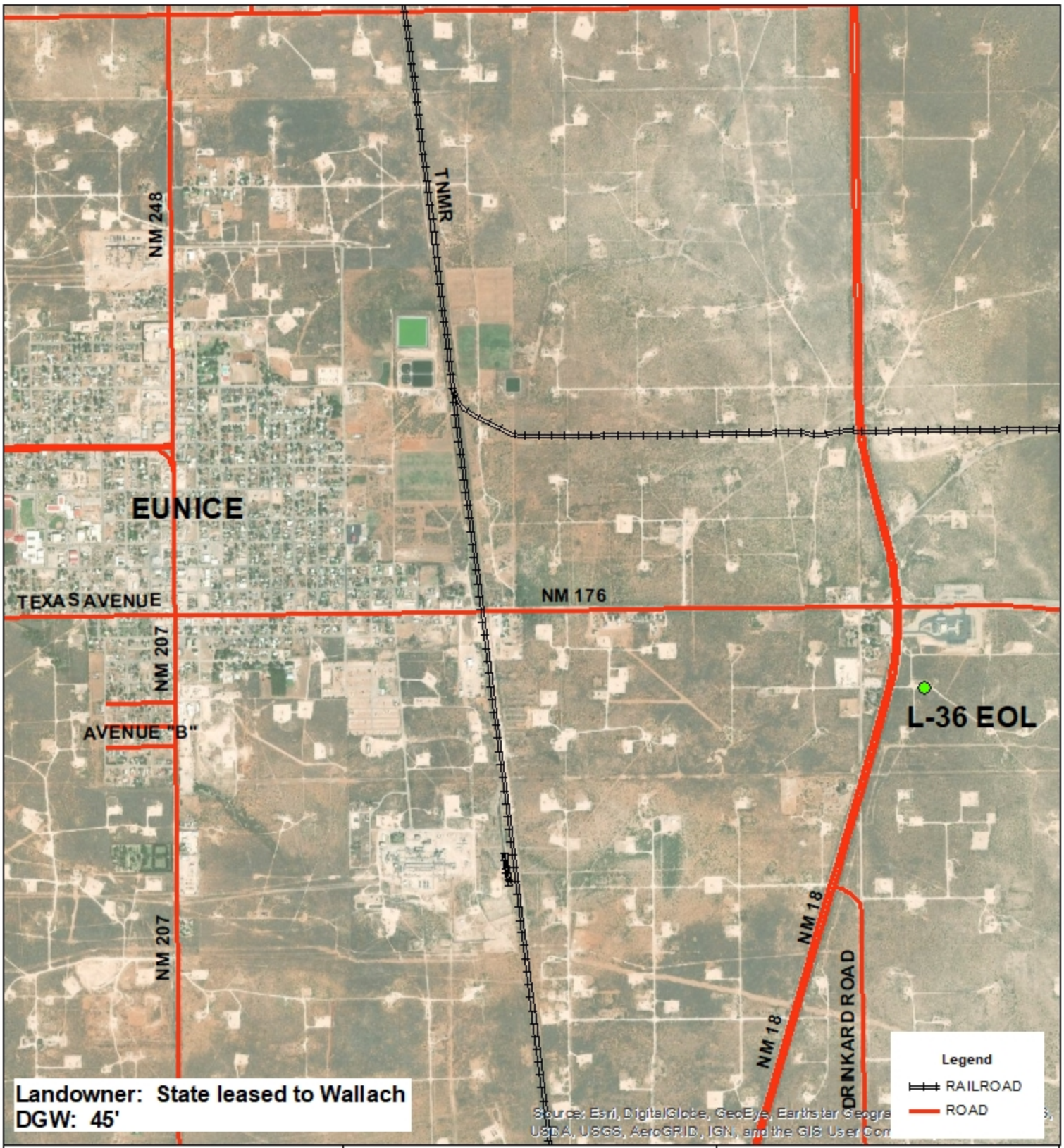
The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Michael Buchanan
Environmental Specialist
505-490-0798
Michael.Buchanan@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Geographic Location



RICE OPERATING COMPANY
ROC
SINCE 1955

BD
L-36 EOL
1R426-278

UL L SECTION 36
T-21-S R-37-E
LEA COUNTY, NM

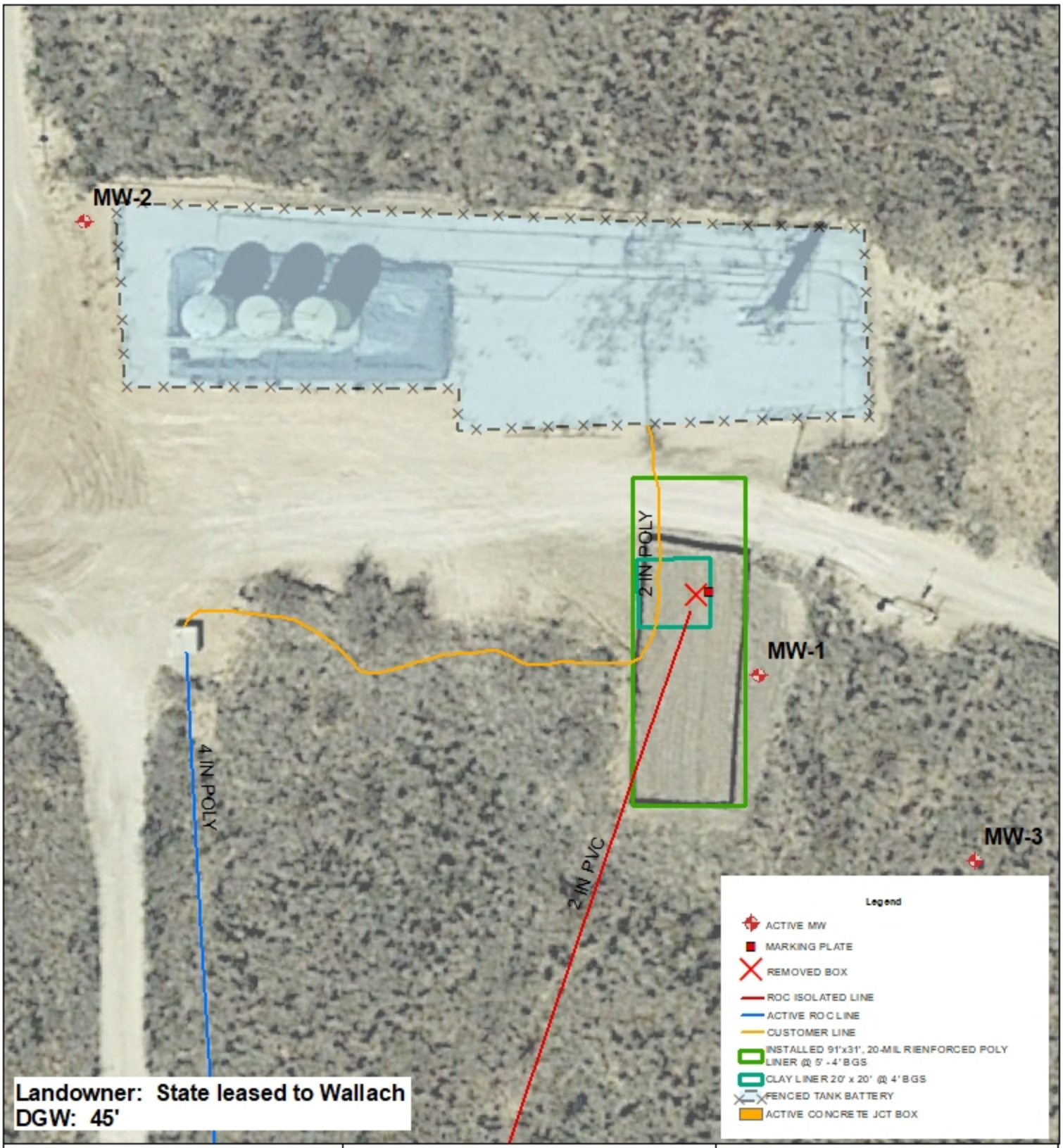
GPS: 32.431908, -103.122049
NAD 83 STATE PLANE PROJECTION
NM EAST ZONE

0 1,000 2,000
Feet

N
W E
S

GPS Date: 7/10/15 CF, 7/1/19 TG
Drawing date: 3/6/20
Drafted by: T. Grieco

Area Map



RICE OPERATING COMPANY
ROC
SINCE 1955

BD
L-36 EOL
1R426-278

UL L SECTION 36
T-21-S R-37-E
LEA COUNTY, NM

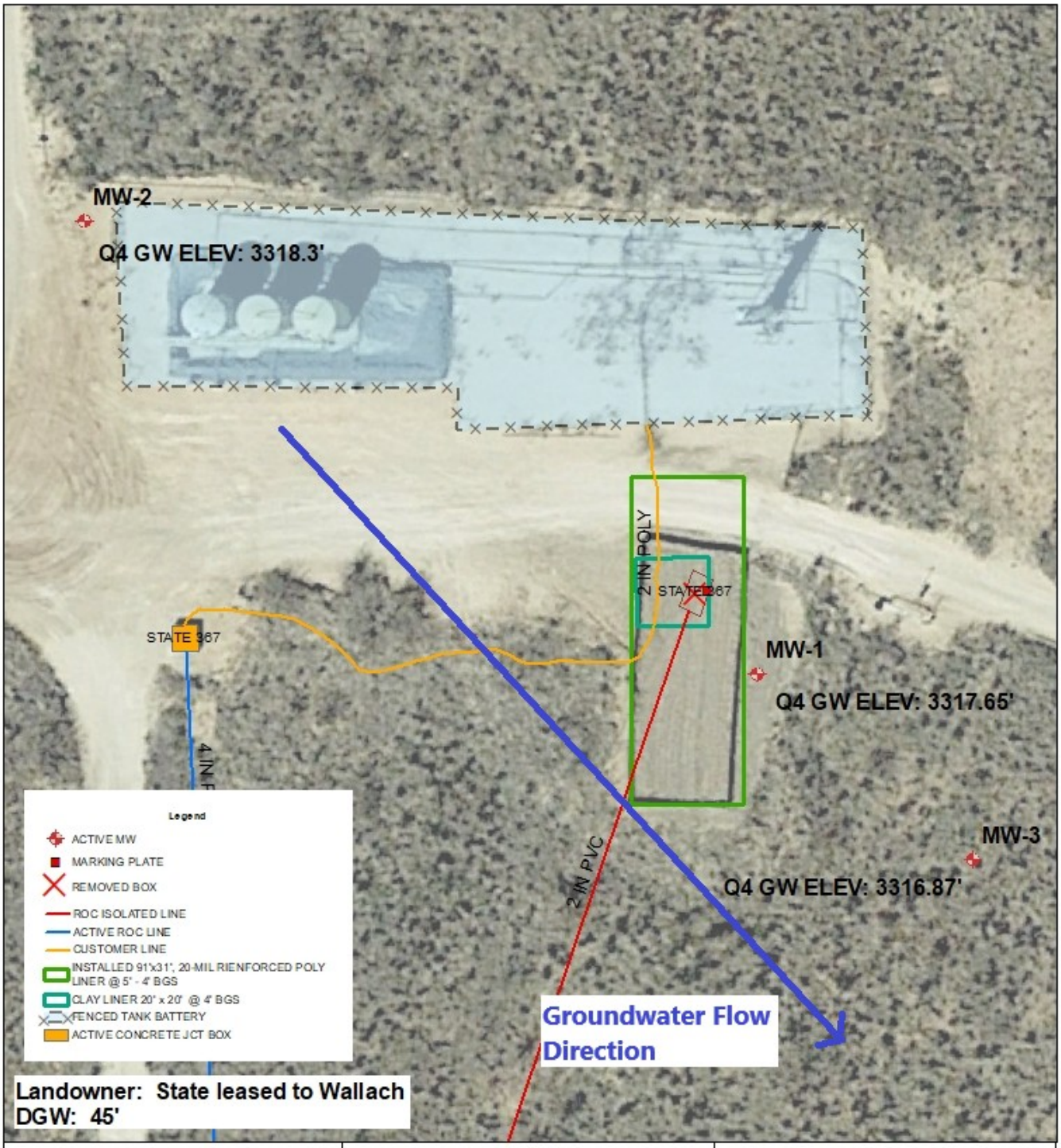
GPS: 32.431908, -103.122049
NAD 83 STATE PLANE PROJECTION
NM EAST ZONE

0 25 50
Feet

N
W E
S

GPS Date: 7/10/15 CF, 7/1/19 TG
Drawing date: 3/6/20
Drafted by: T. Grieco

Groundwater Flow Direction



RICE OPERATING COMPANY
ROC
SINCE 1955

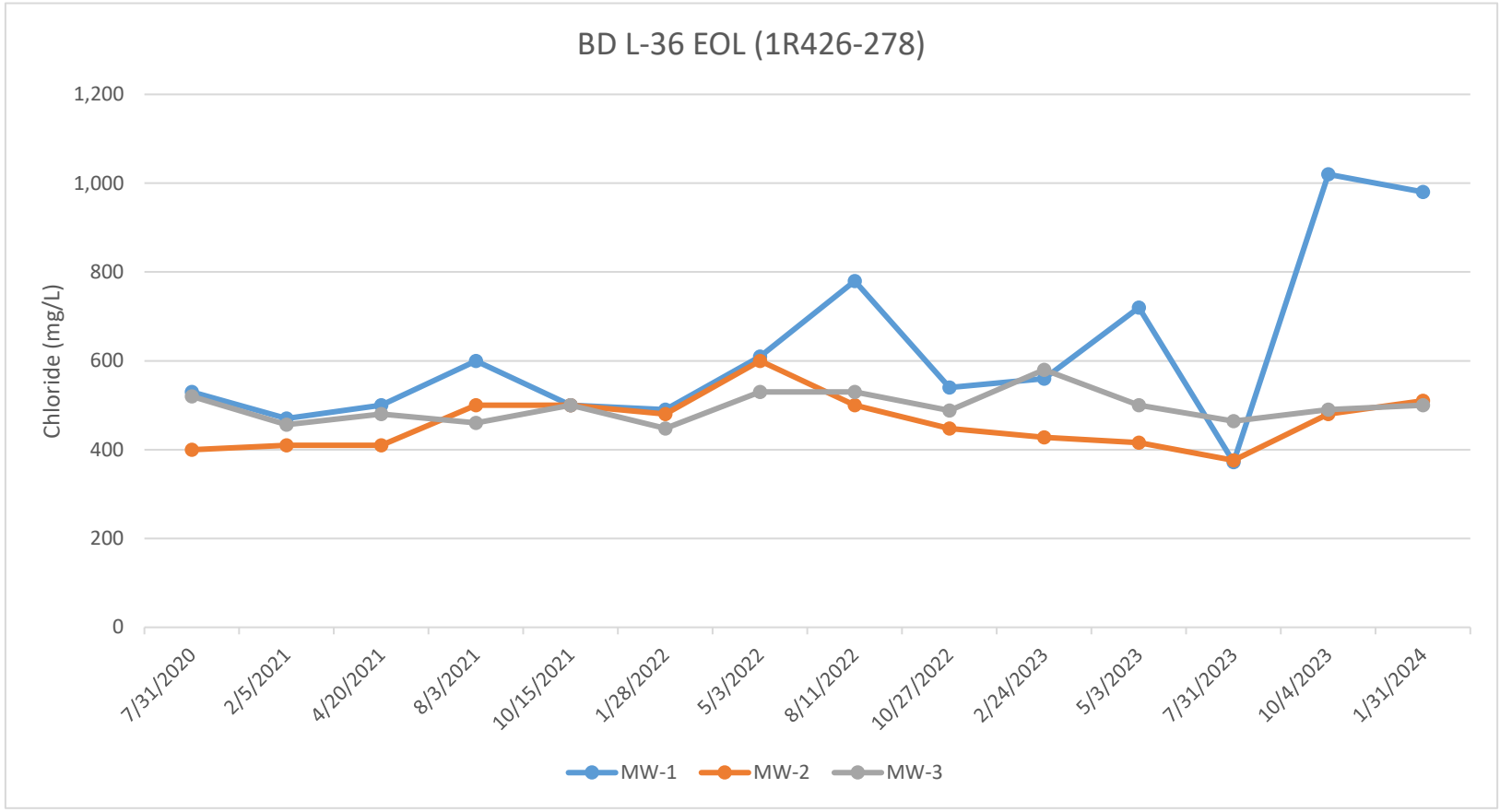
BD
L-36 EOL
1R426-278

UL L SECTION 36
T-21-S R-37-E
LEA COUNTY, NM

GPS: 32.431908, -103.122049
NAD 83 STATE PLANE PROJECTION
NM EAST ZONE

0 25 50
Feet

GPS Date: 7/10/15 CF, 7/1/19 TG
Drawing date: 2/17/25
Drafted by: T. Grieco


BD L-36 EOL (1R426-278)
Chloride (mg/L)
1,200
1,000
800
600
400
200
0
7/31/2020
2/5/2021
4/20/2021
8/3/2021
10/15/2021
1/28/2022
5/3/2022
8/11/2022
10/27/2022
2/24/2023
5/3/2023
7/31/2023
10/4/2023
1/31/2024
MW-1
MW-2
MW-3

ROC - BD L-36 EOL (1R426-278)
Unit Letter L, Section 36, T21S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	45.58	88.6	28	100	7/23/2019	490	2,010	<0.001	<0.001	<0.001	<0.003	560	Clear No odor
1	45.53	88.6	28	100	10/22/2019	550	1,840	<0.001	<0.001	<0.001	<0.003	602	Clear No odor
1	45.41	88.6	28	90	2/7/2020	580	2,180	<0.001	<0.001	<0.001	<0.003	536	Clear No odor
1	45.35	88.6	28	90	7/31/2020	530	2,080	<0.001	<0.001	<0.001	<0.003	407	Clear No odor
1	45.36	88.6	28	90	2/5/2021	470	1,930	<0.001	<0.001	<0.001	<0.003	521	Clear No odor
1	45.3	88.6	28	90	4/20/2021	500	1,990	<0.001	<0.001	<0.001	<0.003	468	Clear No odor
1	45.27	88.6	28	90	8/3/2021	600	2,160	<0.001	<0.001	<0.001	<0.003	679	Clear No odor
1	45.23	88.6	28	90	10/15/2021	500	1,960	<0.001	<0.001	<0.001	<0.003	435	Clear No odor
1	44.18	88.6	28	90	1/28/2022	490	1,930	<0.001	<0.001	<0.001	<0.003	625	Clear No odor
1	45.13	88.6	28	90	5/3/2022	610	2,120	<0.001	<0.001	<0.001	<0.003	516	Clear No odor
1	45.29	88.6	28	90	8/11/2022	780	2,400	<0.001	<0.001	<0.001	<0.003	693	Clear No odor
1	45.27	88.6	28	90	10/27/2022	540	1,360	<0.001	<0.001	<0.001	<0.003	207	Clear No odor
1	45.14	88.6	28	90	2/24/2023	560	2,010	<0.001	<0.001	<0.001	<0.003	608	Clear No odor
1	45.15	88.6	28	90	5/3/2023	720	2,270	<0.001	<0.001	<0.001	<0.003	521	Clear No odor
1	45.15	88.6	28	90	7/31/2023	372	2,040	<0.001	<0.001	<0.001	<0.003	526	Clear No odor
1	45.24	88.6	28	90	10/4/2023	1,020	2,460	<0.001	<0.001	<0.001	<0.003	497	Clear No odor
1	45.15	88.6	28	90	1/31/2024	980	2,740	<0.001	<0.001	<0.001	<0.003	586	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	47.78	63.75	2.6	10	12/16/2019	360	1,690	<0.001	<0.001	<0.001	<0.003	510	Clear No odor
2	47.72	63.75	2.6	10	2/7/2020	412	1,680	<0.001	<0.001	<0.001	<0.003	480	Clear No odor
2	47.69	63.75	2.6	10	7/31/2020	400	1,790	<0.001	<0.001	<0.001	<0.003	319	Clear No odor
2	47.73	63.75	2.6	10	2/5/2021	410	1,750	<0.001	<0.001	<0.001	<0.003	521	Clear No odor
2	47.63	63.75	2.6	10	4/20/2021	410	1,440	<0.001	<0.001	<0.001	<0.003	475	Clear No odor
2	47.62	63.75	2.6	10	8/3/2021	500	1,930	<0.001	<0.001	<0.001	<0.003	624	Clear No odor
2	47.58	63.75	2.6	10	10/15/2021	500	1,900	<0.001	<0.001	<0.001	<0.003	357	Clear No odor

ROC - BD L-36 EOL (1R426-278)
Unit Letter L, Section 36, T21S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	47.51	63.75	2.6	10	1/28/2022	480	1,850	<0.001	<0.001	<0.001	<0.003	618	Clear No odor
2	47.44	63.75	2.6	10	5/3/2022	600	2,100	<0.001	<0.001	<0.001	<0.003	560	Clear No odor
2	47.62	63.75	2.6	10	8/11/2022	500	1,910	<0.001	<0.001	<0.001	<0.003	539	Clear No odor
2	47.54	63.75	2.6	10	10/27/2022	448	1,810	<0.001	<0.001	<0.001	<0.003	593	Clear No odor
2	47.5	63.75	2.6	10	2/24/2023	428	1,740	<0.001	<0.001	<0.001	<0.003	504	Clear No odor
2	47.5	63.75	2.6	10	5/3/2023	416	1,670	<0.001	<0.001	<0.001	<0.003	456	Clear No odor
2	47.51	63.75	2.6	10	7/31/2023	376	1,550	<0.001	<0.001	<0.001	<0.003	480	Clear No odor
2	47.6	63.75	2.6	10	10/4/2023	480	1,920	<0.001	<0.001	<0.001	<0.003	627	Clear No odor
2	47.5	63.75	2.6	10	1/31/2024	510	1,520	<0.001	<0.001	<0.001	<0.003	357	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
3	43.94	63.93	3.2	10	12/16/2019	1,010	2,940	<0.001	<0.001	<0.001	<0.003	557	Clear No odor
3	43.9	63.93	3.2	10	2/7/2020	540	2,100	<0.001	<0.001	<0.001	<0.003	552	Clear No odor
3	43.88	63.93	3.2	10	7/31/2020	520	2,000	<0.001	<0.001	<0.001	<0.003	324	Clear No odor
3	43.84	63.93	3.2	12	2/5/2021	456	1,880	<0.001	<0.001	<0.001	<0.003	522	Clear No odor
3	43.78	63.93	3.2	12	4/20/2021	480	1,830	<0.001	<0.001	<0.001	<0.003	464	Clear No odor
3	43.77	63.93	3.2	12	8/3/2021	460	1,920	<0.001	<0.001	<0.001	<0.003	639	Clear No odor
3	43.72	63.93	3.2	12	10/15/2021	500	1,960	<0.001	<0.001	<0.001	<0.003	406	Clear No odor
3	43.63	63.93	3.2	12	1/28/2022	448	1,910	<0.001	<0.001	<0.001	<0.003	640	Clear No odor
3	43.59	63.93	3.3	12	5/3/2022	530	1,960	<0.001	<0.001	<0.001	<0.003	532	Clear No odor
3	43.8	63.93	3.2	12	8/11/2022	530	1,970	<0.001	<0.001	<0.001	<0.003	509	Clear No odor
3	43.78	63.93	3.2	12	10/27/2022	488	1,960	<0.001	<0.001	<0.001	<0.003	515	Clear No odor
3	43.62	63.93	3.2	10	2/24/2023	580	1,970	<0.001	<0.001	<0.001	<0.003	501	Clear No odor
3	43.62	63.93	3.2	10	5/3/2023	500	2,000	<0.001	<0.001	<0.001	<0.003	561	Clear No odor
3	43.63	63.93	3.2	10	7/31/2023	464	1,960	<0.001	<0.001	<0.001	<0.003	555	Clear No odor
3	43.72	63.93	3.2	10	10/4/2023	490	1,870	<0.001	<0.001	<0.001	<0.003	666	Clear No odor
3	43.63	63.93	3.2	10	1/31/2024	500	1,900	<0.001	<0.001	<0.001	<0.003	563	Clear No odor

CARDINAL Laboratories

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

February 07, 2024

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD L-36 EOL

Enclosed are the results of analyses for samples received by the laboratory on 02/01/24 9:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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:	02/01/2024	Sampling Date:	01/31/2024
Reported:	02/07/2024	Sampling Type:	Water
Project Name:	BD L-36 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	T21S R37E SEC 36 L ~ LEA COUNTY NM		

Sample ID: MONITOR WELL #1 (H240465-01)

BTEX 8021B mg/L Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	02/05/2024	ND	0.018	91.5	0.0200	6.48	
Toluene*	<0.001	0.001	02/05/2024	ND	0.020	99.5	0.0200	4.37	
Ethylbenzene*	<0.001	0.001	02/05/2024	ND	0.020	99.0	0.0200	4.26	
Total Xylenes*	<0.003	0.003	02/05/2024	ND	0.059	98.4	0.0600	3.73	
Total BTEX	<0.006	0.006	02/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.6 %* *77.5-125*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**980**	4.00	02/01/2024	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*	**586**	125	02/01/2024	ND	20.9	105	20.0	4.64	

TDS 160.1 mg/L Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**2740**	5.00	02/05/2024	ND	516	103	500	0.491	

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:	02/01/2024	Sampling Date:	01/31/2024
Reported:	02/07/2024	Sampling Type:	Water
Project Name:	BD L-36 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	T21S R37E SEC 36 L ~ LEA COUNTY NM		

Sample ID: MONITOR WELL #2 (H240465-02)

BTEX 8021B mg/L Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	02/05/2024	ND	0.018	91.5	0.0200	6.48	
Toluene*	<0.001	0.001	02/05/2024	ND	0.020	99.5	0.0200	4.37	
Ethylbenzene*	<0.001	0.001	02/05/2024	ND	0.020	99.0	0.0200	4.26	
Total Xylenes*	<0.003	0.003	02/05/2024	ND	0.059	98.4	0.0600	3.73	
Total BTEX	<0.006	0.006	02/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.6 %* *77.5-125*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**510**	4.00	02/01/2024	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*	**357**	125	02/01/2024	ND	20.9	105	20.0	4.64	

TDS 160.1 mg/L Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**1520**	5.00	02/05/2024	ND	516	103	500	0.491	

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:	02/01/2024	Sampling Date:	01/31/2024
Reported:	02/07/2024	Sampling Type:	Water
Project Name:	BD L-36 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	T21S R37E SEC 36 L ~ LEA COUNTY NM		

Sample ID: MONITOR WELL #3 (H240465-03)

BTEX 8021B mg/L Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	02/05/2024	ND	0.018	91.5	0.0200	6.48	
Toluene*	<0.001	0.001	02/05/2024	ND	0.020	99.5	0.0200	4.37	
Ethylbenzene*	<0.001	0.001	02/05/2024	ND	0.020	99.0	0.0200	4.26	
Total Xylenes*	<0.003	0.003	02/05/2024	ND	0.059	98.4	0.0600	3.73	
Total BTEX	<0.006	0.006	02/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.4 %* *77.5-125*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**500**	4.00	02/01/2024	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*	**563**	125	02/01/2024	ND	20.9	105	20.0	4.64	

TDS 160.1 mg/L Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**1900**	5.00	02/05/2024	ND	516	103	500	0.491	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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 # H2404465

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: BD L-36 EOL
Project Location: T21S R37E Sec36 L ~ Lea County New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL (4 - 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2024)	TIME	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	Anions (Cl, SO4, CO3, HCO3)	Cations (Ca, Mg, Na, K)	Sulfates (SO4)	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours
1	Monitor Well #1	G	5	X				4				1		1/31	12:25		X																X	X	X	
2	Monitor Well #2	G	5	X				4				1		1/31	9:15		X																X	X	X	
3	Monitor Well #3	G	5	X				4				1		1/31	10:40		X																X	X	X	

Relinquished by: Rozanne Johnson	Date: 2/1/2024	Time: 7:15	Received by:	Date: 2/1/2024	Time: 7:16
Relinquished by:	Date: 2/1/2024	Time:	Received By: (Laboratory Staff)	Date: 2-1-24	Time: 0930

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

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

Sample Condition: Cool: Yes / Intact: Yes
CHECKED BY: (Initials) SR

REMARKS:

Email Results: kjones@riceswd.com
rozanne@sdacres.com

From: Katie Jones
To: Buchanan, Michael, EMNRD
Subject: RE: [EXTERNAL] FW: The Oil Conservation Division (OCD) has approved the application, Application ID: 136521
Date: Thursday, January 23, 2025 11:20:00 AM

Good Morning Mr. Buchanan,

The CAP Report and Soil Closure Request along with the NMOCD approval received on June 20th, 2018 can be found on the NMOCD Online: Imaging database in the Administrative/Environmental Order search category when searched by the NMOCD case number 1R426-278. The most recent photo has not been uploaded. I will be happy to upload that photo and the older reports, if necessary. Please let me know what is best for you.

Thank you,

Katie Davis
Environmental Manager
Rice Operating Company

From: Katie Jones
Sent: Tuesday, January 7, 2025 3:09 PM
To: Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>
Subject: FW: [EXTERNAL] FW: The Oil Conservation Division (OCD) has approved the application, Application ID: 136521

Good afternoon Mr. Buchanan,

The BD L-36 EOL (nAPP2110356466, 1R426-278) was granted 'Soil Closure' on June 20th, 2018. I've attached the CAP Report and Soil Closure Request, along with the approval received from NMOCD. Also included in the attachment is a photo showing recovered vegetation. I believe the soil closure approval received from NMOCD will meet the requirements of 19.15.29.12 D.(3). As such, ROC is requesting Termination or similar closure status. Upon NMOCD approval, the monitoring wells will be plugged and abandoned using a cement grout with 1 to 3% bentonite and a 3-ft cap of cement at the surface. Please let me know if you have any questions or require any additional information.

Thank you,

Katie Davis
Environmental Manager
RICE Operating Company

From: Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>
Sent: Tuesday, August 13, 2024 9:06 AM

To: Katie Jones <kjones@riceswd.com>
Subject: RE: [EXTERNAL] FW: The Oil Conservation Division (OCD) has approved the application, Application ID: 136521

Good morning, Katie

I will be taking a look at these, and if all requirements are met, I will draft the letter of approval for closure. There is currently only one individual working on groundwater incidents and submissions, so I apologize it is taking so long. Thank you for the additional information, I appreciate it.

Mike

From: Katie Jones <kjones@riceswd.com>
Sent: Monday, August 12, 2024 2:08 PM
To: Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>
Subject: [EXTERNAL] FW: The Oil Conservation Division (OCD) has approved the application, Application ID: 136521

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Hello Mr. Buchanan,

Just following up on the BD L-36 EOL (nAPP2110356466, 1R426-278) update submitted on July 9, 2024 (below). Please let me know if you have any questions or require any additional information.

Thank you,

Katie Davis
Environmental Manager
RICE Operating Company

From: Katie Jones
Sent: Tuesday, July 9, 2024 3:13 PM
To: Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>
Subject: RE: The Oil Conservation Division (OCD) has approved the application, Application ID: 136521

Good afternoon Mr. Buchanan,

The BD L-36 EOL (nAPP2110356466, 1R426-278) was granted 'Soil Closure' on June 20th, 2018. I've attached the CAP Report and Soil Closure Request, along with the approval received from NMOCD. Also included in the attachment is a recent photo showing recovered vegetation. I believe the soil closure approval previously received from NMOCD will meet the requirements of 19.15.29.12 D.(3). Upon NMOCD approval, the monitoring

wells will be plugged and abandoned using a cement grout with 1 to 3% bentonite and a 3-ft cap of cement at the surface. Please let me know if you have any questions or require any additional information.

Thank you,

Katie Davis
Environmental Manager
RICE Operating Company

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Friday, March 1, 2024 2:44 PM
To: Katie Jones <kjones@riceswd.com>
Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 136521

To whom it may concern (c/o Katie Davis for RICE OPERATING COMPANY),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2110356466, with the following conditions:

- **Closure Report Approved. All revegetation activities will need to be documented and included in the revegetation report. The revegetation report will need to include: An executive summary of the revegetation activities including: Seed mix, Method of seeding, dates of when the release area was reseeded, information pertinent to inspections, information about any amendments added to the soil, information on how the vegetative cover established meets the life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds per 19.15.29.13 D.(3) NMAC, and any additional information; a scaled Site Map including area that was revegetated in square feet; and pictures of the revegetated areas during reseeding activities, inspections, and final pictures when revegetation is achieved.**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Michael Buchanan
Environmental Specialist
505-490-0798
Michael.Buchanan@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

BD L-36 EOL (nAPP2110356466, 1R426-278)
Unit L, Section 36, T21S, R37E

Facing North 7/9/2024

From: Billings, Bradford, EMNRD
To: Katie Jones; Edward Hansen; Yu, Olivia, EMNRD; Hernandez, Christina, EMNRD
Subject: CAP and Soil Closure Request for ROC BD-SWD System, BD L-36 EOL (1R 426-278)
Date: Wednesday, June 20, 2018 1:21:04 PM

June 20, 2018

Katie Jones – ROC
Ed Hansen – Basin

Re: Corrective Action Plan (CAP) and Soil Closure Request for ROC-BD SWD System, BD L-36 EOL (1R 426-278)

Following submitted report, data review and discussions, the following:

As has been mentioned, this is not a typical CAP and is considered to be a work plan for ground water delineation. Also, as has been noted in other Oil Conservation Division (OCD) responses recently, please be sure and include extended range (GRO, DRO and MRO) for TPH analysis.

OCD agrees that required soil remediation work based on previous approvals has been met and as such no additional soil remediation is required. This does not mean site/location is closed.

OCD also approves the nominal ground water investigation plan with the following conditions:

1. Please insure that top of casing for monitor wells is surveyed to the nearest 100^{th} of a foot.
2. Monitor wells will be placed as per State Engineer protocol. OCD prefers, at minimum, that ten (10) feet of screen be placed into water table and five foot of screen be located above air/water interface. OCD can discuss this with ROC/Basin if needed. Ground water to be sampled for Chloride, and at least initially for BTEX, benzene and TPH.
3. OCD requests that proposed monitor well identified as MW-1 be located as near as practicable to the ESE edge of the larger soil excavation area. In general, moving the proposed location to the East to as near the edge of previous soil excavation as can be done.

OCD appreciates all efforts to this time by ROC and Basin for this circumstance.

If there are any questions please contact this office.

Please keep this electronic communication as NO paper copy will follow.

Sincerely,

Bradford Billings
EMNRD/OCD

Santa Fe

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

Basin Environmental Service Technologies
Effective Solutions
PO Box 2948 | Hobbs, NM 88241 | Phone 575.393.2967

May 17, 2018

Bradford Billings
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) Report and Soil Closure Request**
Rice Operating Company – BD SWD System
BD L-36 EOL (1R426-278): UL/L, Sec. 36, T21S, R37E

Mr. Billings:

RICE Operating Company (ROC) has retained Basin Environmental Service Technologies (Basin) to address potential environmental concerns at the above-referenced site in the BD Salt Water Disposal (SWD) system. ROC is the service provider (agent) for the BD 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 miles east of Eunice, New Mexico at UL/L, Sec. 36, T21S, R37E as shown on the Geographical Location Map and Area Map. NM OSE records indicate that groundwater will likely be encountered at a depth of approximately 47 feet below ground surface (bgs).

In 2010, ROC initiated work on the former L-36 EOL junction box. The site was delineated using a backhoe to form a 20 ft x 20 ft x 12 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, a 4-wall composite sample and a bottom composite sample were sent to a commercial laboratory for analysis. The 4-wall composite returned a chloride reading of 896 mg/kg, a Gasoline Range Organics (GRO) reading non-detect and a Diesel Range Organics (DRO) reading of 330 mg/kg. The bottom composite sample returned a chloride reading of 3,280 mg/kg, a GRO reading of non-detect and a DRO reading of 242 mg/kg. The excavated soil was blended on site and a representative sample was sent to a commercial laboratory for analysis. The sample returned a chloride reading of 560 mg/kg, a GRO reading of non-detect and a DRO reading of 69.5 mg/kg. The blended backfill was returned to the excavation up to 5 ft bgs. At 5 – 4 ft bgs, a 1 ft thick clay barrier was installed. The clay layer will provide a barrier that will inhibit the downward migration of chlorides to groundwater. The remaining blended backfill soil was returned to the excavation,

May 17, 2018

and clean, imported soil was used to backfill the excavation to the ground surface and to contour the site to the surrounding area. On April 29th, 2010, the site was seeded with a blend of native vegetation.

To further investigate the depth of chloride presence, a soil bore was installed on June 11th, 2010. The soil bore was installed 10 ft north of the former junction box site and was advanced to a depth of 39 ft bgs. Soil samples were collected every 3 ft between 15 and 39 ft and each sample was field titrated for chlorides and field screened for PIDs. The 36 ft and 39 ft sample were sent to a commercial laboratory for analysis, resulting in a 36 ft chloride concentration of 3,680 mg/kg and GRO and DRO concentrations of non-detect. The 39 ft sample resulted in a chloride concentration of 3,360 mg/kg and GRO and DRO concentrations of non-detect. The entire borehole was plugged with bentonite to the ground surface.

NMOCD was notified of potential groundwater impact on October 5th, 2010. A junction box disclosure report was submitted to NMOCD with all the 2010 junction box closures and disclosures.

Investigation and Characterization Plan (ICP)
An ICP was submitted on April 24th, 2015, and approved on May 7th, 2015. A total of 3 soil bores were installed at the site on May 20th, 21st and July 10th, 2015. As the bores were advanced, soil samples were taken every 3 ft and field tested for chlorides and hydrocarbons. Representative samples from each bore were taken to a commercial laboratory for confirmatory analysis. SB-2 returned a laboratory chloride reading of 5,280 mg/kg at 33 ft bgs, which decreased to 4,160 mg/kg at 42 ft bgs. SB-3 returned laboratory chloride readings of 7,040 mg/kg at 24 ft bgs and decreased to 4,240 mg/kg at 39 ft bgs. SB-4 returned a laboratory chloride reading of 304 mg/kg at 12 ft bgs, which decreased to 128 mg/kg at 15 ft bgs. GRO and DRO readings at all depth in all bores were non-detect, with the exception of DRO at 33 ft in SB-2, which resulted in a concentration of 72.7 mg/kg. The northern edge of the site is defined by SB-4 with chloride concentrations decreasing to 128 mg/kg at 15 ft bgs. The eastern edge is defined by the 5 ft east vertical with a chloride concentration of 84 mg/kg at 12 ft bgs. The western edge is defined by the 15 ft west vertical with a chloride concentration of 119 mg/kg at 12 ft bgs. The 10 ft south vertical defined the southern edge of the site with a chloride concentration of 178 mg/kg.

Corrective Action Plan
A CAP was submitted on February 9th, 2017, which recommended the installation of a 42 ft x 31 ft, 20-mil reinforced poly liner at 5-3.5 ft bgs depending on the depth of the existing clay liner. NMOCD responded on February 23rd, 2017, requesting additional data to the south of the site.

Additional Investigation
In accordance with the request from OCD, three additional soil bores (SB-5, SB-6 and SB-7) were installed at the site on September 18th and September 21st, 2017. As the bores were

May 17, 2018

advanced, soil samples were taken every 3 ft and field tested for chlorides and hydrocarbons. Representative samples from each bore were taken to a commercial laboratory for confirmatory analysis. SB-5 returned a laboratory chloride reading of 1,260 mg/kg at 33 ft bgs, which decreased to 1,040 mg/kg at 42 ft bgs. SB-6 returned laboratory chloride readings of 1,100 mg/kg at 24 ft bgs and decreased to 384 mg/kg at 42 ft bgs. SB-7 returned a laboratory chloride reading of 752 mg/kg at 36 ft bgs, which decreased to 32 mg/kg at 42 ft bgs. (The sample at 42 ft bgs in SB-7 originally resulted in a chloride concentration of 928 mg/Kg from the laboratory. Since this relatively high concentration did not coincide with the field chloride test result for that sample and the lower chloride results at 36 ft and 39 ft bgs, ROC ordered a re-analysis of the sample. ROC believes that there was some human error with the sample originally.) GRO and DRO readings at all depth in all bores were non-detect. Each bore was plugged with bentonite to ground surface.

Corrective Action Plan Addendum

Based on the additional soil data, Basin recommended that ROC install a **91** ft x 31 ft (rather than a 42 ft x 31 ft), 20-mil reinforced poly liner at 5 – 3.5 ft bgs, depending on the actual depth of the existing clay liner. The liner will inhibit the downward migration of residual constituents through the vadose zone, and will cover the existing 20x20-ft clay liner. The soils placed above the liner will have a laboratory chloride reading no greater than 500 mg/kg and a field PID measurement below 100 ppm. Excavated soils was evaluated for use as backfill and any soils that do not meet requirements was properly disposed of at a NMOCD approved facility. The excavation was backfilled to ground surface and contoured to the surrounding location.

The soils over and surrounding the site was prepared with soil amendments as necessary and seeded with a native vegetative mix. 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.

CAP Report and Soil Closure Request

According to the Corrective Action Plan (CAP) and CAP Addendum, which was approved by the NMOCD on the October 30th, 2017, ROC installed a 20-mil reinforced poly liner across the site with the dimensions of 91 x 31 ft at a depth of 4.5 ft bgs, which covered the previously installed 20 x 20 ft clay liner. A total of 852 cubic yards of excavated soil were taken to a NMOCD approved facility for disposal. The bottom of the excavation was padded with 6 inches imported blow sand and a 20-mil reinforced liner was installed and properly seated at 4.5 ft bgs. The top of the liner was padded with 6 inches of imported blow sand, and the excavation was backfilled to ground surface with imported top soil. A sample of the imported blow sand and a sample of the imported top soil were sent to a commercial laboratory for analysis of chloride and returned a result of 16 mg/kg and 32 mg/kg, respectively. The soil samples were also analyzed for GRO and DRO resulting in <10 mg/Kg for all samples. The backfilled site was then seeded with a blend of native vegetation. Vegetation above the liner will also provide a natural infiltration barrier for the site, since plants capture water through their roots thereby reducing the

May 17, 2018

volume of water moving through the vadose zone. Documentation of this work is included in the Appendix.

Groundwater Monitoring Plan

In order to determine what affect the residual chlorides may have had on the groundwater quality below the site, BEST recommends that ROC install a near-source monitor well (MW-1) located approximately 45 feet down-gradient of the former junction box. To determine if there is an up-gradient source of contaminates coming onto the site, MW-2 will be installed approximately 75 feet up-gradient of the former junction box. Also, an additional monitoring well (MW-3) will be installed approximately 100 feet down-gradient of the former junction box (see Proposed Monitoring Wells). Additional monitoring wells may be required to fully delineate groundwater quality. The monitor wells will be installed to NMOCD and EPA standards and then sampled quarterly. Once groundwater quality has been determined, ROC will either submit a groundwater remedy to NMOCD to address groundwater quality at the site or submit a termination request for site closure.

ROC has completed the vadose zone remediation as approved by NMOCD in the CAP. The 20-mil reinforced liner will inhibit the further migration of chlorides through the vadose zone in to groundwater. Therefore, ROC requests "Soil Closure" or similar closure status.

Basin appreciates the opportunity to work with you on this project. Please call Katie Jones Davis at (575) 393-9174 or me if you have any questions or wish to discuss the site.

Sincerely,

Edward J. Hansen

Edward J. Hansen
Senior Hydrologist
Basin Environmental Service Technologies

Attachments:

- Geographical Location Map
- Area Map
- Installed Liner Plat
- Proposed Monitoring Wells Plat
- Appendix – Liner Installation Documentation

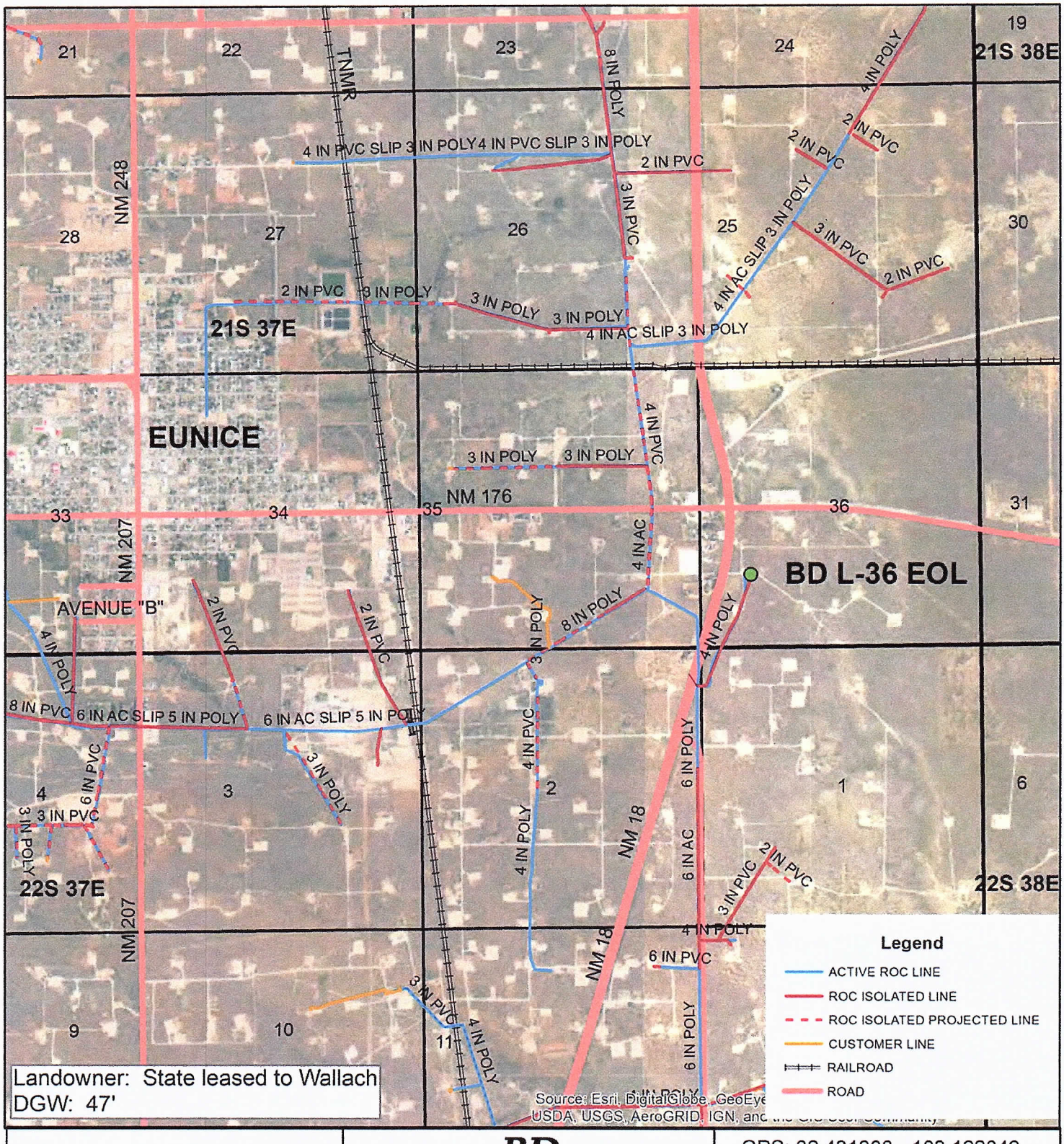
Figures

Basin Environmental Service Technologies (BEST)

P.O. Box 2948, Hobbs, NM 88241

Phone: 575-393-2967

Geographical Location Map



Basin Environmental Service Technologies
Effective Solutions

BD
L-36 EOL
1R426-278

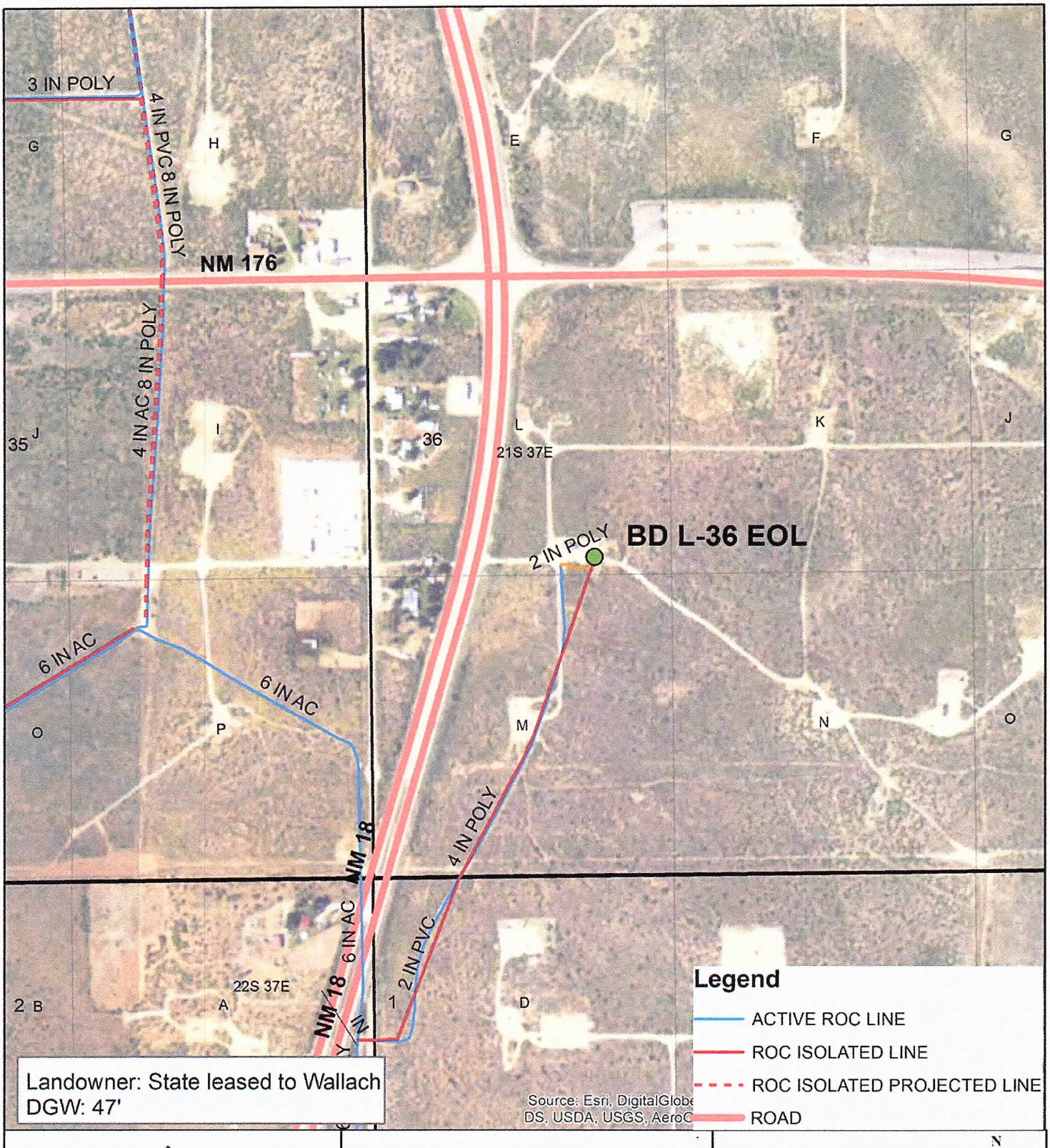
UL L SECTION 36
T-21-S R-37-E
LEA COUNTY, NM

GPS: 32.431908, -103.122049

0 0.5 1 Miles

Drawing date: 10/16/17
Drafted by: T. Grieco

Area Map



Basin Environmental Service Technologies
Effective Solutions

BD L-36 EOL

1R426-278

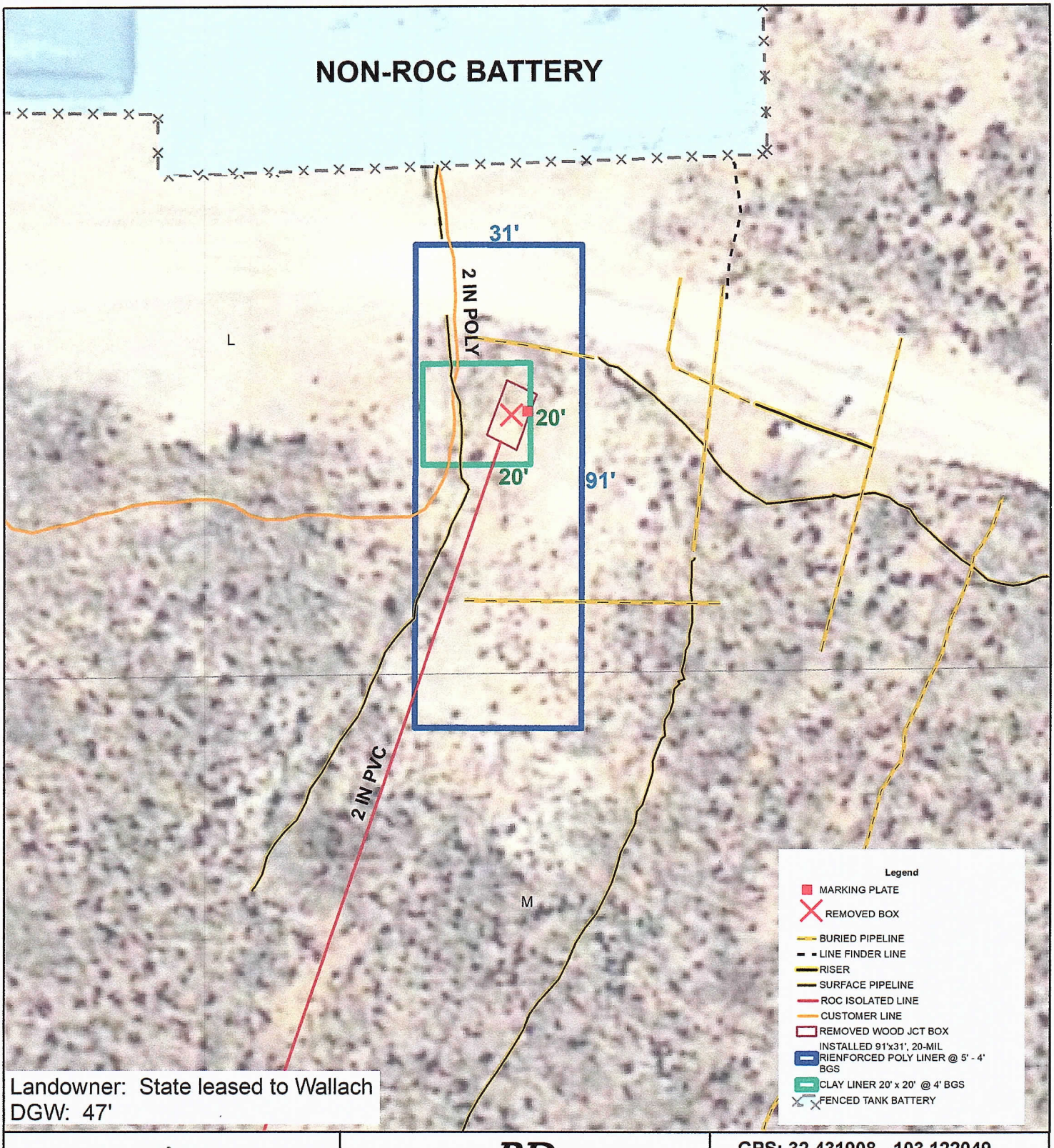
UL L SECTION 36
T-21-S R-37-E
LEA COUNTY, NM

N
W E
S

0 500 1,000
Feet

Drawing date: 10/16/17
Drafted by: T. Grieco

Liner Installation



Basin Environmental Service Technologies
Effective Solutions

BD
L-36 EOL
1R426-278

UL L SECTION 36
T-21-S R-37-E
LEA COUNTY, NM

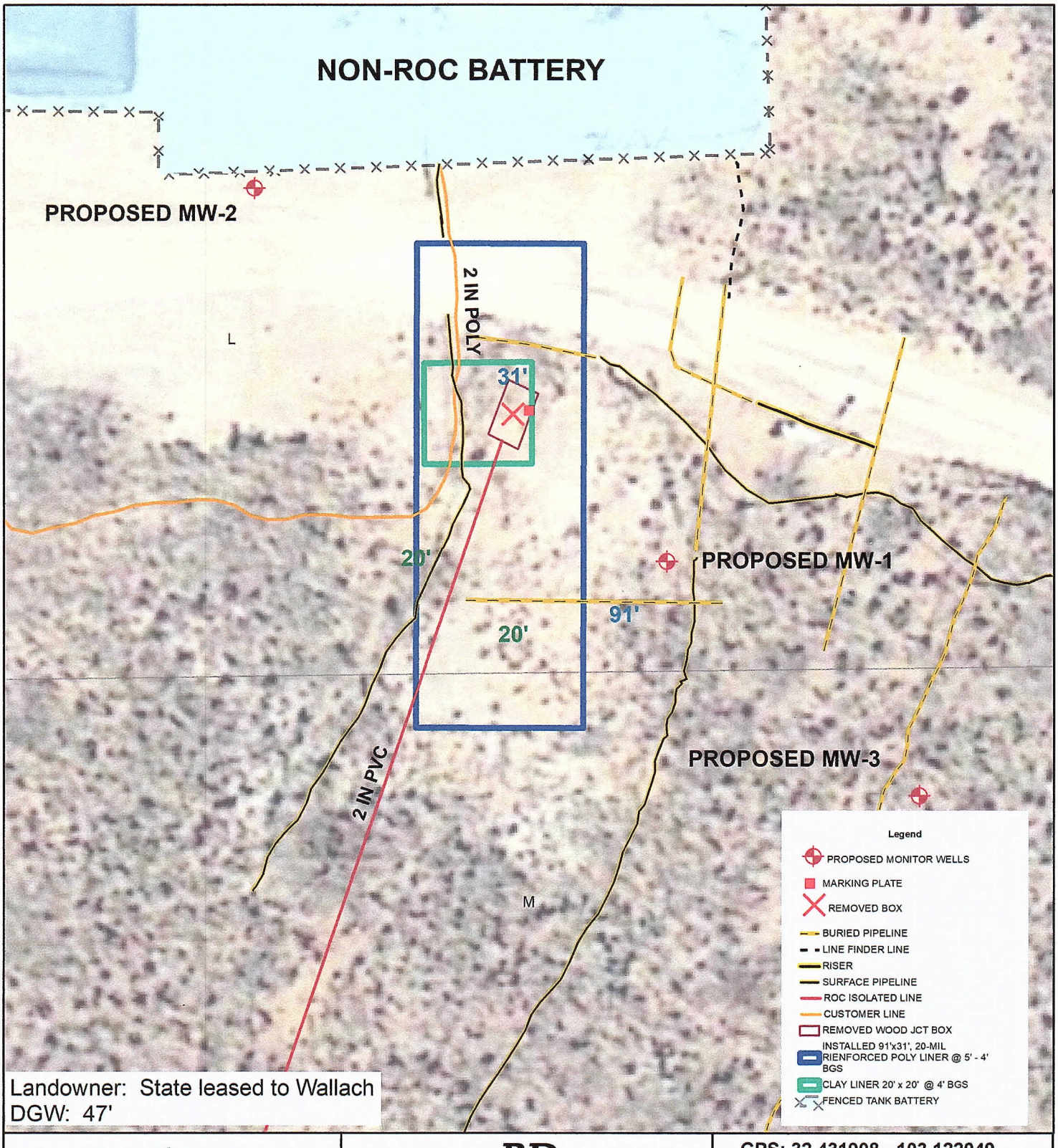
GPS: 32.431908, -103.122049

0 10 20
Feet

GPS Date: 7/10/15 CF
Drawing date: 4/20/18
Drafted by: T. Grieco

N
W E
S

Proposed Monitor Wells



Basin Environmental Service Technologies
Effective Solutions

BD
L-36 EOL
1R426-278

UL L SECTION 36
T-21-S R-37-E
LEA COUNTY, NM

GPS: 32.431908, -103.122049

0 10 20 Feet

GPS Date: 7/10/15 CF
Drawing date: 4/18/18
Drafted by: T. Grieco

N W E S

Appendix

Basin Environmental Service Technologies (BEST)

P.O. Box 2948, Hobbs, NM 88241

Phone: 575-393-2967

BD L-36 EOL

Unit L, Section 36, T21S, R37E

Spotting lines with hydrovac, facing southwest 12/13/2017

Excavating the site to 5 ft bgs, facing north 12/18/2017

Exporting excavated soil, facing northeast 12/19/2017

Importing blow sand, facing south 12/19/2017

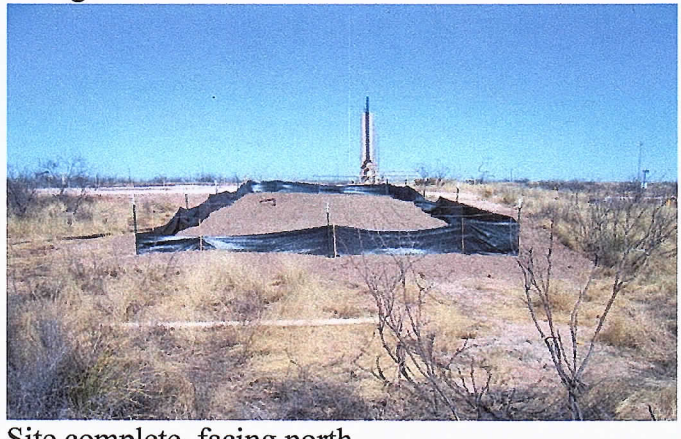
Installing 20-mil, reinforced liner at 4.5 ft bgs, facing north 12/19/2017

Padding the 20-mil, reinforced liner with imported soil, facing northeast 12/19/2017

Backfilling and contouring the site with imported soil, facing west 12/27/2017

Tilling and seeding backfilled site, facing southwest 12/28/2017

Seeding site, completing silt net fencing, facing northeast 12/28/2017



Site complete, facing north

CARDINAL Laboratories

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

December 28, 2017

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD L-36 EOL

Enclosed are the results of analyses for samples received by the laboratory on 12/19/17 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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:	12/19/2017	Sampling Date:	12/19/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	BD L-36 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: IMPORTED BACKFILL (H703512-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	12/21/2017	ND	432	108	400	3.77	

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	12/27/2017	ND	213	107	200	0.274	
DRO >C10-C28*	<10.0	10.0	12/27/2017	ND	208	104	200	0.493	

Surrogate: 1-Chlorooctane	*107 %*	*28.3-164*
Surrogate: 1-Chlorooctadecane	*102 %*	*34.7-157*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Rice	**BILL TO**	
Project Manager:	Katie Jones	P.O. #:	
Address:		Company:	
City:	State: Zip:	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:	BD L-36 EOL	State: Zip:	
Project Location:		Phone #:	
Sampler Name:	Tony Grecco	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											
H703512 1	Imported Backfill	G	1			✓					✓		12/19/17	11 AM	✓	✓											

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: 12/19/17	Received By:	
	Time: 4:30		
Relinquished By:	Date:	Received By:	
	Time:		

Delivered By: (Circle One) 5.0°
Sampler - UPS - Bus - Other: Corrected 5.2°

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

CHECKED BY: (Initials) TG-HJS

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

REMARKS:
Send results to
Katie Jones kjones@mcsud.com
Kyle Norman
Tony Grecco tgrecco@basinenv.com

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CARDINAL Laboratories

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

December 29, 2017

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD L-36 EOL

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 16:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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:	12/20/2017	Sampling Date:	12/20/2017
Reported:	12/29/2017	Sampling Type:	Soil
Project Name:	BD L-36 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BACKFILL FROM PIT (H703561-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	12/27/2017	ND	416	104	400	3.77	

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	12/27/2017	ND	204	102	200	6.53	
DRO >C10-C28*	<10.0	10.0	12/27/2017	ND	188	94.1	200	2.22	

Surrogate: 1-Chlorooctane	*86.9 %*	*28.3-164*
Surrogate: 1-Chlorooctadecane	*85.3 %*	*34.7-157*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Rice	**BILL TO**
Project Manager: Katie Jones	P.O. #:
Address:	Company:
City: State: Zip:	Attn:
Phone #: Fax #:	Address:
Project #: Project Owner:	City:
Project Name:	State: Zip:
Project Location: BD L-36 EOL	Phone #:
Sampler Name: Tony Greco	Fax #:

FOR LAB USE ONLY 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	Chloride	TPH
H1C3564 1	~~Backfill from Pit~~ Backfill from Pit	G	1			✓					✓		12/20/17	11AM	✓	✓

(MATRIX: GROUNDWATER, WASTEWATER, SOIL, OIL, SLUDGE, OTHER; PRESERV.: ACID/BASE, ICE / COOL, OTHER; SAMPLING: DATE, TIME; ANALYSIS REQUEST: Chloride, TPH)

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages including without limitation business interruptions loss of use or loss of profits incurred by client its subsidiaries affiliates or successors arising out of or related to the performance of services hereunder by Cardinal regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: [signature] Date: 12/20/17 Time: 4:00 Received By: Brandi Aldaker

Relinquished By: Date: Time: Received By:

Delivered By: (Circle One) Sampler - UPS - Bus - Other: 5.4°c Rwo 5.65°c #75 corrected

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

CHECKED BY: (Initials)

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS: email to kjones@riceswd.com tgreco@basinenv.com Kyle Norman

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

RICE OPERATING COMPANY
ROC
SINCE 1955

112 West Taylor
Hobbs, NM 88240
Phone: (575) 393-9174
Fax: (575) 397-1471

VEGETATION FORM

1. General Information

Site name: BD L-36 EOL						
U/L	Section	Township	Range	County	Latitude	Longitude
L	36	21S	37E	Lea	32.431908	-103.122049
Contact Name: Katie Jones Davis						
Email: kjones@riceswd.com						
Site size: 2,500 square feet						

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 and blow sand									
Soil prep methods:	Rip		Depth (in)		Disc	X	Depth (in)	3	Rollerpack				
Date completed: 12/27/2017													

3. Bioremediation

Fertilizer		Hay		Other	
Type:		Describe:		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	X	Prescribed Mix		Seed Mix Name: 5 lbs Lea County Mix & 50 lbs Winter Wheat Seed Mix				Date:	12/28/2017
Method: broadcast with seeder									
Soil conditions during seed:	Dry	X	Damp		Wet				
Observations: Seed was tilled 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: Katie Jones Davis	Title: Environmental Manager	Date: 12/28/2017
Signature:		

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Operator: RICE OPERATING COMPANY PO Box 5630 Hobbs, NM 88241	OGRID: 19174
	Action Number: 447171
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
jburdine	Revegetation report approved, remediation complete.	7/22/2025