

RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240

Phone: (575) 393-9174 • Fax: (575) 397-1471

April 1, 2023

REVIEWED

By Mike Buchanan at 2:29 pm, Jun 27, 2023

Nelson Velez

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

RE: **2022 Annual Groundwater Report
Rice Operating Company – BD SWD System
BD L-36 EOL (1R426-278): UL/L, Sec. 36, T21S, R37E**

Review of the 2022 Annual Groundwater Report for ROC, BD L-36 EOL: **Content Satisfactory**

1. Continue to collect samples quarterly for groundwater.
2. Submit 2023 Annual GW Report to NMOCD no later than April 1, 2024.
3. Await determination from NMOCD on termination request.

Mr. Velez:

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 540 mg/L in MW-1, 448 mg/L in MW-2, and 488 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, while the highest concentration observed the near-source well (MW-1) resulted in a similar concentration of 780 mg/L the following quarter on August 11th, 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. ROC will continue quarterly sampling in 2023.

Attached is the Appendix, which contains:

1. A Geographic Location Map.
2. A map showing well locations.
3. A table presenting all laboratory results and depth to groundwater for each well at the site, and a graph showing recent laboratory results.
4. The laboratory analytical results for 2022.

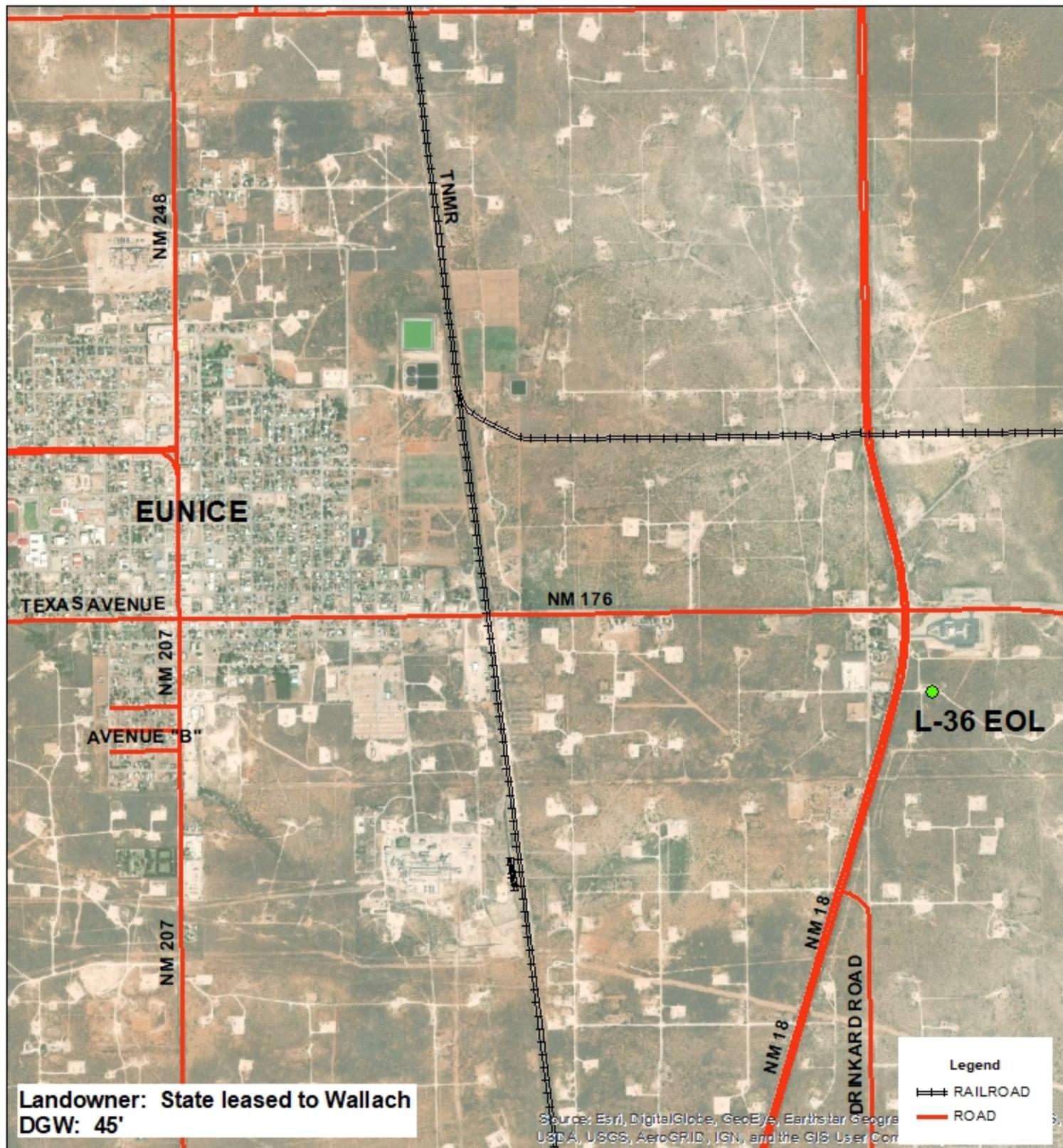
Rice Operating Company appreciates the opportunity to work with you on this project. Please contact me at (575) 393-9174 if you have any questions or wish to further discuss this site. Thank you for your time and consideration.

Sincerely,



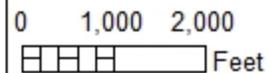
Katie Davis
Environmental Manager
RICE Operating Company (ROC)

appendix



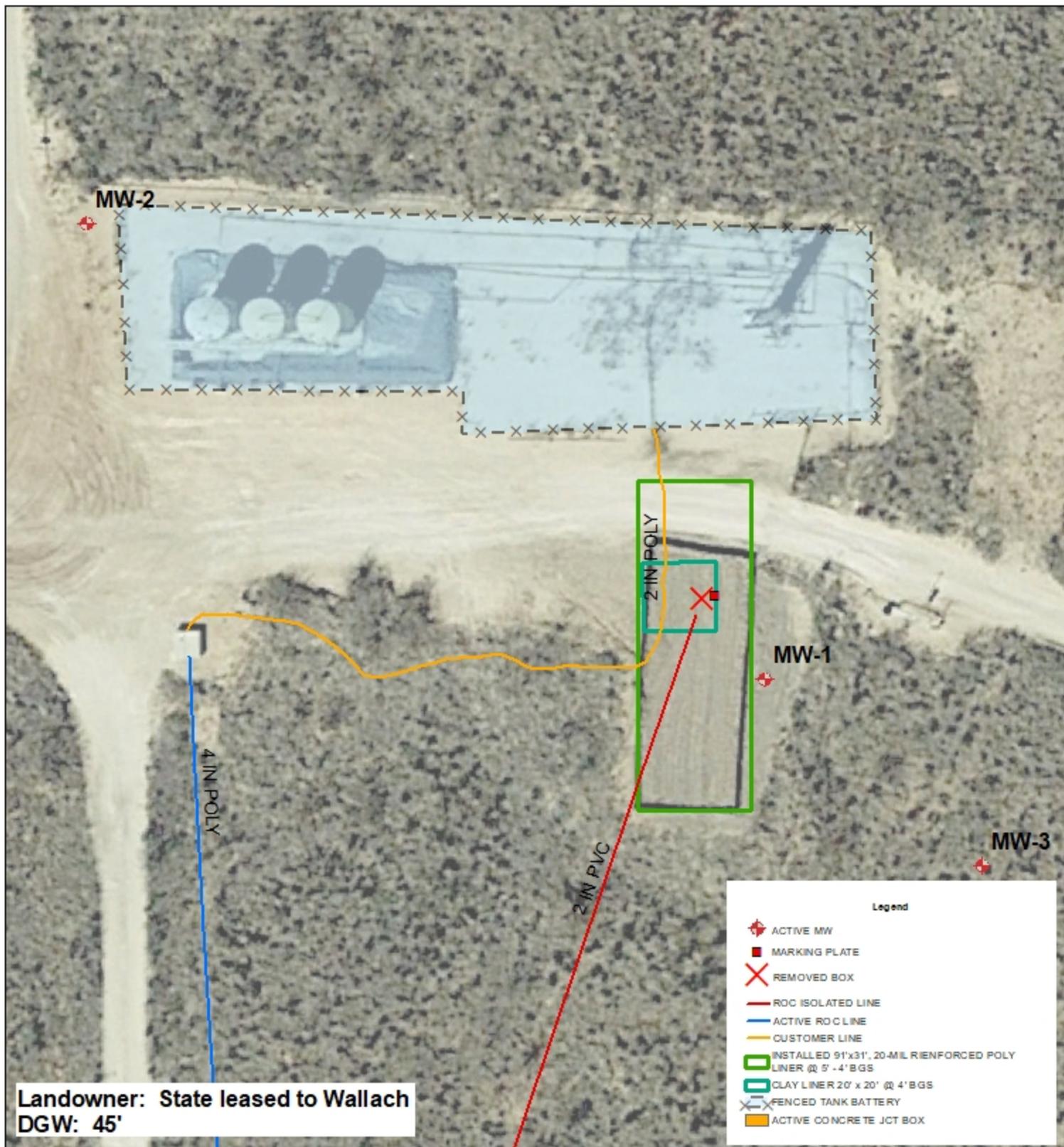
BD
L-36 EOL
 1R426-278
 UL L SECTION 36
 T-21-S R-37-E
 LEA COUNTY, NM

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



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





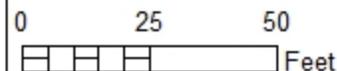
Landowner: State leased to Wallach
DGW: 45'



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



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



ROC - BD L-36 EOL (1R426-278)

Unit Letter L, Section 36, T21S, R37E

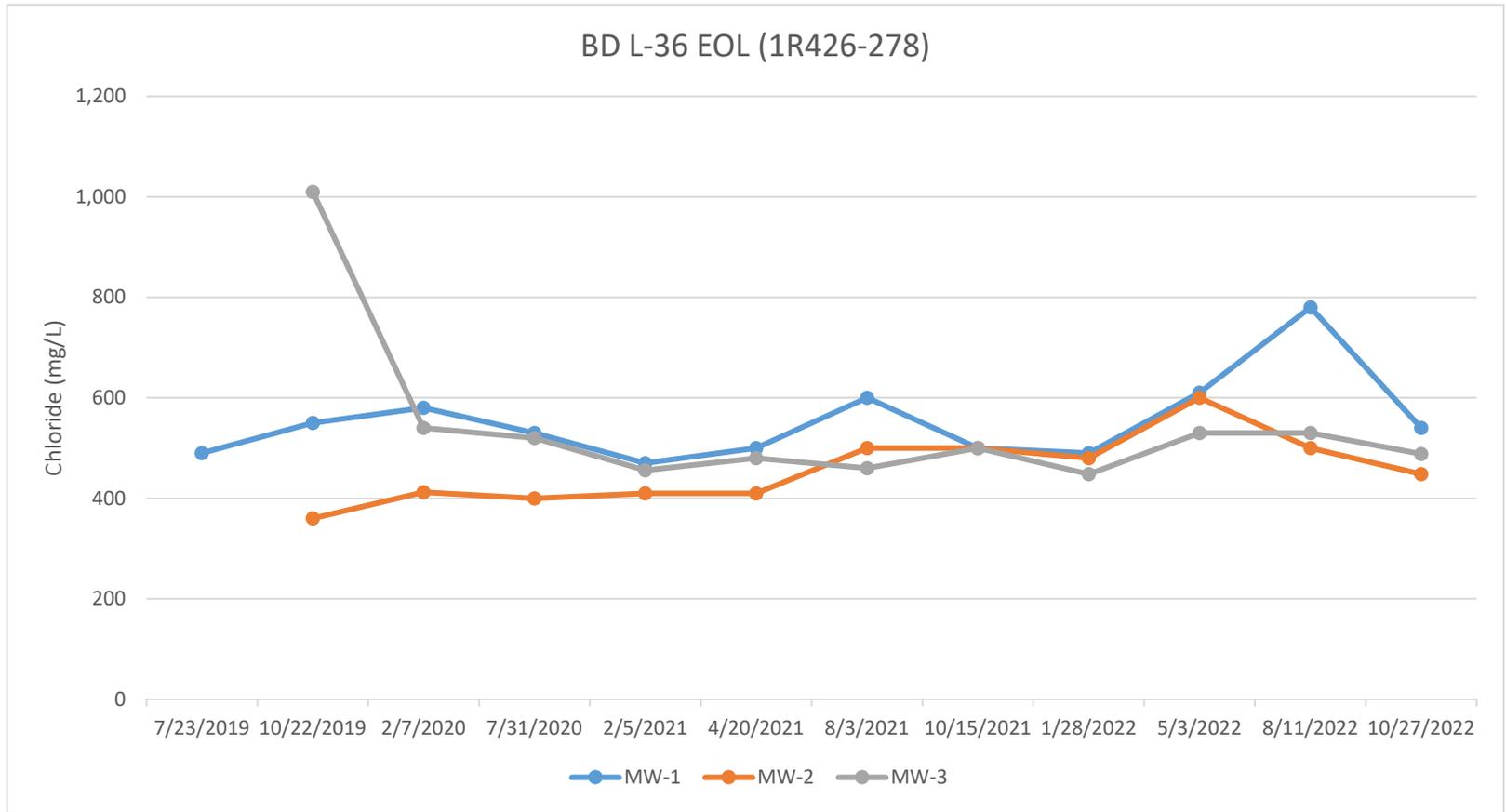
MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	45.58	88.6	28	100	7/23/2019	490	2,010	<0.001	<0.001	<0.001	<0.003	560	Clear No odor
1	45.53	88.6	28	100	10/22/2019	550	1,840	<0.001	<0.001	<0.001	<0.003	602	Clear 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

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
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

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	47.44	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

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





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

November 07, 2022

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 10/31/22 8:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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:	10/31/2022	Sampling Date:	10/27/2022
Reported:	11/07/2022	Sampling Type:	Water
Project Name:	BD L-36 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T21S R37E SEC 36 L ~ LEA COUNTY NM		

Sample ID: MONITOR WELL #1 (H225111-01)

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	11/07/2022	ND	0.019	94.7	0.0200	3.19	
Toluene*	<0.001	0.001	11/07/2022	ND	0.021	103	0.0200	2.58	
Ethylbenzene*	<0.001	0.001	11/07/2022	ND	0.020	98.7	0.0200	5.53	
Total Xylenes*	<0.003	0.003	11/07/2022	ND	0.055	91.5	0.0600	6.44	
Total BTEX	<0.006	0.006	11/07/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	540	4.00	10/31/2022	ND	104	104	100	3.92	

Sulfate 375.4		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	207	83.3	10/31/2022	ND	20.5	103	20.0	5.98	

TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1360	5.00	11/02/2022	ND	538	108	500	3.30	

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	10/31/2022	Sampling Date:	10/27/2022
Reported:	11/07/2022	Sampling Type:	Water
Project Name:	BD L-36 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T21S R37E SEC 36 L ~ LEA COUNTY NM		

Sample ID: MONITOR WELL #2 (H225111-02)

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	11/07/2022	ND	0.019	94.7	0.0200	3.19	
Toluene*	<0.001	0.001	11/07/2022	ND	0.021	103	0.0200	2.58	
Ethylbenzene*	<0.001	0.001	11/07/2022	ND	0.020	98.7	0.0200	5.53	
Total Xylenes*	<0.003	0.003	11/07/2022	ND	0.055	91.5	0.0600	6.44	
Total BTEX	<0.006	0.006	11/07/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	448	4.00	10/31/2022	ND	104	104	100	3.92	

Sulfate 375.4		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	593	250	10/31/2022	ND	20.5	103	20.0	5.98	

TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1810	5.00	11/02/2022	ND	538	108	500	3.30	

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	10/31/2022	Sampling Date:	10/27/2022
Reported:	11/07/2022	Sampling Type:	Water
Project Name:	BD L-36 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T21S R37E SEC 36 L ~ LEA COUNTY NM		

Sample ID: MONITOR WELL #3 (H225111-03)

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	11/07/2022	ND	0.019	94.7	0.0200	3.19	
Toluene*	<0.001	0.001	11/07/2022	ND	0.021	103	0.0200	2.58	
Ethylbenzene*	<0.001	0.001	11/07/2022	ND	0.020	98.7	0.0200	5.53	
Total Xylenes*	<0.003	0.003	11/07/2022	ND	0.055	91.5	0.0600	6.44	
Total BTEX	<0.006	0.006	11/07/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	488	4.00	10/31/2022	ND	104	104	100	3.92	

Sulfate 375.4		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	515	125	10/31/2022	ND	20.5	103	20.0	5.98	

TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1960	5.00	11/02/2022	ND	538	108	500	3.30	

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QR-04 The RPD for the BS/BSD was outside of historical limits.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

August 22, 2022

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 08/15/22 15:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, flowing "C" and "K".

Celey D. Keene

Lab Director/Quality Manager



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:	08/15/2022	Sampling Date:	08/11/2022
Reported:	08/22/2022	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 (H223719-01)

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	08/19/2022	ND	0.020	101	0.0200	3.84		
Toluene*	<0.001	0.001	08/19/2022	ND	0.019	95.1	0.0200	4.02		
Ethylbenzene*	<0.001	0.001	08/19/2022	ND	0.019	94.8	0.0200	5.18		
Total Xylenes*	<0.003	0.003	08/19/2022	ND	0.060	100	0.0600	6.81		
Total BTEX	<0.006	0.006	08/19/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	780	4.00	08/17/2022	ND	100	100	100	3.92		

Sulfate 375.4		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	693	125	08/17/2022	ND	22.2	111	20.0	2.93		

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	2400	5.00	08/18/2022	ND	833	83.3	1000	2.21		

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Celey D. Keene, Lab Director/Quality Manager



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:	08/15/2022	Sampling Date:	08/11/2022
Reported:	08/22/2022	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 (H223719-02)

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	08/19/2022	ND	0.020	101	0.0200	3.84		
Toluene*	<0.001	0.001	08/19/2022	ND	0.019	95.1	0.0200	4.02		
Ethylbenzene*	<0.001	0.001	08/19/2022	ND	0.019	94.8	0.0200	5.18		
Total Xylenes*	<0.003	0.003	08/19/2022	ND	0.060	100	0.0600	6.81		
Total BTEX	<0.006	0.006	08/19/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	500	4.00	08/17/2022	ND	100	100	100	3.92		

Sulfate 375.4		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	539	125	08/17/2022	ND	22.2	111	20.0	2.93		

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	1910	5.00	08/18/2022	ND	833	83.3	1000	2.21		

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Celey D. Keene, Lab Director/Quality Manager



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:	08/15/2022	Sampling Date:	08/11/2022
Reported:	08/22/2022	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 (H223719-03)

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	08/19/2022	ND	0.020	101	0.0200	3.84	
Toluene*	<0.001	0.001	08/19/2022	ND	0.019	95.1	0.0200	4.02	
Ethylbenzene*	<0.001	0.001	08/19/2022	ND	0.019	94.8	0.0200	5.18	
Total Xylenes*	<0.003	0.003	08/19/2022	ND	0.060	100	0.0600	6.81	
Total BTEX	<0.006	0.006	08/19/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	530	4.00	08/17/2022	ND	100	100	100	3.92	

Sulfate 375.4		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	509	125	08/17/2022	ND	22.2	111	20.0	2.93	

TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1970	5.00	08/18/2022	ND	833	83.3	1000	2.21	

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QR-04 The RPD for the BS/BSD was outside of historical limits.
BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

May 12, 2022

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 05/05/22 15:06.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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:	05/05/2022	Sampling Date:	05/03/2022
Reported:	05/12/2022	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 (H221895-01)

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	05/11/2022	ND	0.020	101	0.0200	1.15	
Toluene*	<0.001	0.001	05/11/2022	ND	0.020	99.0	0.0200	1.80	
Ethylbenzene*	<0.001	0.001	05/11/2022	ND	0.019	97.2	0.0200	1.32	
Total Xylenes*	<0.003	0.003	05/11/2022	ND	0.062	103	0.0600	0.785	
Total BTEX	<0.006	0.006	05/11/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	610	4.00	05/08/2022	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*	516	125	05/11/2022	ND	18.2	91.0	20.0	10.2	

TDS 160.1		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	2120	5.00	05/10/2022	ND	486	97.2	500	0.164	

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Celey D. Keene, Lab Director/Quality Manager



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:	05/05/2022	Sampling Date:	05/03/2022
Reported:	05/12/2022	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 (H221895-02)

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	05/11/2022	ND	0.020	101	0.0200	1.15		
Toluene*	<0.001	0.001	05/11/2022	ND	0.020	99.0	0.0200	1.80		
Ethylbenzene*	<0.001	0.001	05/11/2022	ND	0.019	97.2	0.0200	1.32		
Total Xylenes*	<0.003	0.003	05/11/2022	ND	0.062	103	0.0600	0.785		
Total BTEX	<0.006	0.006	05/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	600	4.00	05/08/2022	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*	560	125	05/11/2022	ND	18.2	91.0	20.0	10.2		

TDS 160.1		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	2100	5.00	05/10/2022	ND	486	97.2	500	0.164		

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Celey D. Keene, Lab Director/Quality Manager



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:	05/05/2022	Sampling Date:	05/03/2022
Reported:	05/12/2022	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 (H221895-03)

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	05/11/2022	ND	0.020	101	0.0200	1.15	
Toluene*	<0.001	0.001	05/11/2022	ND	0.020	99.0	0.0200	1.80	
Ethylbenzene*	<0.001	0.001	05/11/2022	ND	0.019	97.2	0.0200	1.32	
Total Xylenes*	<0.003	0.003	05/11/2022	ND	0.062	103	0.0600	0.785	
Total BTEX	<0.006	0.006	05/11/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	530	4.00	05/08/2022	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*	532	125	05/11/2022	ND	18.2	91.0	20.0	10.2	

TDS 160.1		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1960	5.00	05/10/2022	ND	486	97.2	500	0.164	

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Celey D. Keene, Lab Director/Quality Manager



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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

February 07, 2022

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 02/02/22 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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:	02/02/2022	Sampling Date:	01/28/2022
Reported:	02/07/2022	Sampling Type:	Water
Project Name:	BD L-36 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T21S R37E SEC 36 L ~ LEA COUNTY NM		

Sample ID: MONITOR WELL #1 (H220393-01)

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	02/04/2022	ND	0.020	102	0.0200	0.853	
Toluene*	<0.001	0.001	02/04/2022	ND	0.019	96.8	0.0200	1.65	
Ethylbenzene*	<0.001	0.001	02/04/2022	ND	0.019	95.1	0.0200	1.09	
Total Xylenes*	<0.003	0.003	02/04/2022	ND	0.060	101	0.0600	1.61	
Total BTEX	<0.006	0.006	02/04/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	490	4.00	02/02/2022	ND	100	100	100	0.00	

Sulfate 375.4		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	625	125	02/04/2022	ND	18.5	92.4	20.0	2.72	

TDS 160.1		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1930	5.00	02/03/2022	ND	519	104	500	3.07	

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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:	02/02/2022	Sampling Date:	01/28/2022
Reported:	02/07/2022	Sampling Type:	Water
Project Name:	BD L-36 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T21S R37E SEC 36 L ~ LEA COUNTY NM		

Sample ID: MONITOR WELL #2 (H220393-02)

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	02/04/2022	ND	0.020	102	0.0200	0.853	
Toluene*	<0.001	0.001	02/04/2022	ND	0.019	96.8	0.0200	1.65	
Ethylbenzene*	<0.001	0.001	02/04/2022	ND	0.019	95.1	0.0200	1.09	
Total Xylenes*	<0.003	0.003	02/04/2022	ND	0.060	101	0.0600	1.61	
Total BTEX	<0.006	0.006	02/04/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	480	4.00	02/02/2022	ND	100	100	100	0.00	

Sulfate 375.4		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	618	125	02/04/2022	ND	18.5	92.4	20.0	2.72	

TDS 160.1		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1850	5.00	02/03/2022	ND	519	104	500	3.07	

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	02/02/2022	Sampling Date:	01/28/2022
Reported:	02/07/2022	Sampling Type:	Water
Project Name:	BD L-36 EOL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T21S R37E SEC 36 L ~ LEA COUNTY NM		

Sample ID: MONITOR WELL #3 (H220393-03)

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	02/04/2022	ND	0.020	102	0.0200	0.853	
Toluene*	<0.001	0.001	02/04/2022	ND	0.019	96.8	0.0200	1.65	
Ethylbenzene*	<0.001	0.001	02/04/2022	ND	0.019	95.1	0.0200	1.09	
Total Xylenes*	<0.003	0.003	02/04/2022	ND	0.060	101	0.0600	1.61	
Total BTEX	<0.006	0.006	02/04/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	448	4.00	02/02/2022	ND	100	100	100	0.00	

Sulfate 375.4		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	640	125	02/04/2022	ND	18.5	92.4	20.0	2.72	

TDS 160.1		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1910	5.00	02/03/2022	ND	519	104	500	3.07	

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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 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 202248

CONDITIONS

Operator: RICE OPERATING COMPANY 122 W Taylor Hobbs, NM 88240	OGRID: 19174
	Action Number: 202248
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the 2022 Annual Groundwater Report for ROC, BD L-36 EOL: Content Satisfactory 1. Continue to collect samples quarterly for groundwater. 2. Submit 2023 Annual GW Report to NMOCD no later than April 1, 2024. 3. Await determination from NMOCD on termination request.	6/27/2023