

# **RICE** *Operating Company*

112 West Taylor • Hobbs, New Mexico 88240

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

**January 17, 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: CAP Report and Termination Request  
Rice Operating Company – BD SWD System  
BD C-28 EOL (Pogo Manda EOL) (1R426-219): UL/C, Sec. 28, T22S, R37E**

Mr. Velez:

RICE Operating Company (ROC) submits the following to address potential environmental concerns at the above-referenced site in the BD Saltwater 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 4 miles south of Eunice, New Mexico at UL/C, Sec. 28, T22S, R37E as shown on the Geographical Location Map and the Area Map. NM OSE records indicate that groundwater will likely be encountered at a depth of approximately 75 feet below ground surface (bgs). A junction box disclosure report was submitted to NMOCD with all the 2007 junction box closures and disclosures.

In 2007, ROC initiated work on the former C-28 EOL junction box. The site was delineated using a backhoe to form a 30x30x12-ft deep excavation and soil samples were screened at regular intervals for hydrocarbon and chloride. A 4-wall composite sample, a bottom composite sample, and a remediated soil sample were sent to a commercial laboratory for analysis. The 4-wall composite returned a chloride reading of 1,220 mg/kg, a Gasoline Range Organics (GRO) reading of non-detect, and a Diesel Range Organics (DRO) reading of non-detect. The bottom composite sample returned a chloride reading of 1,180 mg/kg, a GRO reading of non-detect, and a DRO reading of non-detect. 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 976 mg/kg, a GRO reading of non-detect, and a DRO reading of non-detect. The excavation

January 17, 2023

was backfilled with blended soil (36 cubic feet was disposed of at an OCD-approved facility), then a one-foot compacted clay liner was installed at 6 feet bgs and the remainder of the excavation was backfilled with the blended soil. Clean, imported soil was used backfill the remaining excavation and to contour the site to the surrounding area. A new water-tight junction box was installed 100 feet south of the site.

An ICP was submitted to NMOCD on June 14<sup>th</sup>, 2018 and was approved on June 26<sup>th</sup>, 2018. According to the ICP and to further investigate the depth of chloride presence, seven soil bores were drilled on August 28<sup>th</sup> and 30<sup>th</sup>, 2018, April 24<sup>th</sup>, 2019, and June 24<sup>th</sup>, 2019. Soil bore (SB-1) was drilled 20 ft east of the former junction box site and was advanced to a depth of 25 ft bgs. Soil samples were collected every 5 ft and each sample was field titrated for chloride and field screened for PIDs. The 15 ft and 25 ft samples were sent to a commercial laboratory for analysis, resulting in a chloride concentration of 1,070 mg/kg and GRO/DRO/Extended DRO (EXT-DRO) and total BTEX concentrations of non-detect in the 15 ft sample. The 25 ft sample resulted in a chloride concentration of 368 mg/kg and GRO/DRO/EXT-DRO concentrations of non-detect. Soil bore (SB-2) was drilled 20 ft north-northeast of the former junction box site and was advanced to a depth of 70 ft bgs. Soil samples were collected every 5 ft and each sample was field titrated for chloride and field screened for PIDs. The 60 ft and 70 ft samples were sent to a commercial laboratory for analysis, resulting in a chloride concentration of 1,180 mg/kg and GRO/DRO/EXT-DRO concentrations of non-detect in the 60 ft sample. The 70 ft sample resulted in a chloride concentration of 1,070 mg/kg and GRO/DRO/EXT-DRO and total BTEX concentrations of non-detect. Soil bore (SB-3) was drilled 20 ft west of the former junction box site and was advanced to a depth of 70 ft bgs. Soil samples were collected every 5 ft and each sample was field titrated for chloride and field screened for PIDs. The 45 ft and 70 ft samples were sent to a commercial laboratory for analysis, resulting in a chloride concentration of 1,780 mg/kg and GRO/DRO/EXT-DRO concentrations of non-detect in the 45 ft sample. The 70 ft sample resulted in a chloride concentration of 608 mg/kg and GRO/DRO/EXT-DRO and total BTEX concentrations of non-detect. Soil bore (SB-4) was drilled 40 ft south of the former junction box site and was advanced to a depth of 25 ft bgs. Soil samples were collected every 5 ft and each sample was field titrated for chloride and field screened for PIDs. The 15 ft and 25 ft samples were sent to a commercial laboratory for analysis, resulting in a chloride concentration of 832 mg/kg and GRO/DRO/EXT-DRO and total BTEX concentrations of non-detect in the 15 ft sample. The 25 ft sample resulted in a chloride concentration of 224 mg/kg and GRO/DRO/EXT-DRO and total BTEX concentrations of non-detect. Soil bore (SB-5) was drilled 35 ft north of the former junction box site and was advanced to a depth of 20 ft bgs. Soil samples were collected every 5 ft and each sample was field titrated for chloride and field screened for PIDs. The 15 ft and 20 ft samples were sent to a commercial laboratory for analysis, resulting in a chloride concentration of 1,300 mg/kg and GRO/DRO/EXT-DRO and total BTEX concentrations of non-detect in the 15 ft sample. The 25 ft sample resulted in a chloride concentration of 256 mg/kg and GRO/DRO/EXT-DRO and total BTEX concentrations of non-detect. Soil bore (SB-6) was drilled 30 ft west of the former junction box site and was advanced to a depth of 60 ft bgs. Soil samples were collected every 5 ft and each sample was field titrated for chloride and field screened for PIDs. The 5 ft, 10 ft, and 60 ft samples were sent to a commercial laboratory for analysis, resulting in a chloride concentration of 1,890 mg/kg and

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GRO/DRO/EXT-DRO and total BTEX concentrations of non-detect in the 5 ft sample. The 10 ft sample resulted in a chloride concentration of 7,040 mg/kg and GRO/DRO/EXT-DRO and total BTEX concentrations of non-detect. The 60 ft sample resulted in a chloride concentration of 2,960 mg/kg and GRO/DRO/EXT-DRO and total BTEX concentrations of non-detect. Soil bore (SB-7) was drilled 50 ft north of the former junction box site and was advanced to a depth of 15 ft bgs. Soil samples were collected every 5 ft and each sample was field titrated for chloride and field screened for PIDs. The 10 ft and 15 ft samples were sent to a commercial laboratory for analysis, resulting in a chloride concentration of 832 mg/kg and GRO/DRO/EXT-DRO and total BTEX concentrations of non-detect in the 10 ft sample. The 15 ft sample resulted in a chloride concentration of 400 mg/kg and GRO/DRO/EXT-DRO and total BTEX concentrations of non-detect. Each borehole was plugged with bentonite to the ground surface.

Based on the collected soil data, the site was delineated to the concentrations listed in Table 1 of 19.15.29.12 NMAC to the north, south, and east. Chloride concentrations to the west increased in SB-3 and again in SB-6. The highest chloride concentrations observed at the site were found in SB-6, which is the soil bore furthest west from the source and closest to the non-ROC facility. This suggests the soil in that area was impacted by the non-ROC facility.

To determine if the residual chloride in the vadose zone pose a threat to groundwater quality, ROC ran the U.S. Environmental Protection Agency Exposure Assessment Multimedia Model (MULTIMED Version 1.5, 2005). The model output concludes that the peak concentration of chloride in groundwater contributed by the vadose zone soils would be approximately 239 mg/L in 35 years (based on boring data) with liner installation.

### **Corrective Action Plan (CAP) Report**

A Corrective Action Plan (CAP) and Variance Request was submitted to NMOCD on January 29<sup>th</sup>, 2020 and was approved on May 3<sup>rd</sup>, 2022. The CAP proposed installing a 70x115-ft, 20-mil reinforced liner at 4-5 ft bgs.

On June 20<sup>th</sup>, 2022, ROC began excavating the site to a depth of 5 ft bgs. On June 27<sup>th</sup>, 2022, NMOCD was notified and acknowledged our intent to collect final samples. A representative 4-wall composite was collected on June 30<sup>th</sup>, 2022 and sent to a commercial laboratory for analysis. The sample resulted in a chloride concentration of 128 mg/kg, GRO/DRO/EXT-DRO concentrations below detectable limit, and a total BTEX concentration below detectable limit. Approximately 792 cubic yards of excavated soil were exported to Sundance Services. Thirteen representative samples were collected from the remaining excavated soil and were sent to the lab for analysis. Lab analysis resulted in chloride concentrations of 144 mg/kg, 144 mg/kg, 144 mg/kg, 112 mg/kg, 704 mg/kg, 496 mg/kg, 96 mg/kg, 96 mg/kg, 80 mg/kg, 256 mg/kg, 256 mg/kg, 416 mg/kg, and 144 mg/kg, respectively. GRO/DRO/EXT-DRO and total BTEX concentrations were below detectable limit in each excavated soil sample. Based on the excavated soil samples, an additional 1,020 cubic yards of excavated soil were exported to Sundance Services. The bottom of the excavation was padded with 6 inches of 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 an additional 6 inches of imported blow sand, then the excavation was

January 17, 2023

backfilled to ground surface with imported soil and the remaining excavated soil. A representative sample of the imported soil was analyzed by a commercial lab, resulting in a chloride concentration below detectable limit, GRO/DRO/EXT-DRO concentrations below detectable limit, and a total BTEX concentration below detectable limit. The backfilled site was 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 volume of water moving through the vadose zone.

**Recommendations**

ROC has completed the vadose zone remediation as approved by the NMOCD in the CAP and Variance Request. The 20-mil reinforced liner will inhibit the migration of chloride through the vadose zone to groundwater. As such, ROC respectfully requests termination of the regulatory file. ROC acknowledges they have met the requirements of 19.15.29 NMAC and a final C-141 is attached.

Please contact me at (575) 393-9174 if you have any questions or wish to discuss this site. Thank you for your time and consideration.

Sincerely,

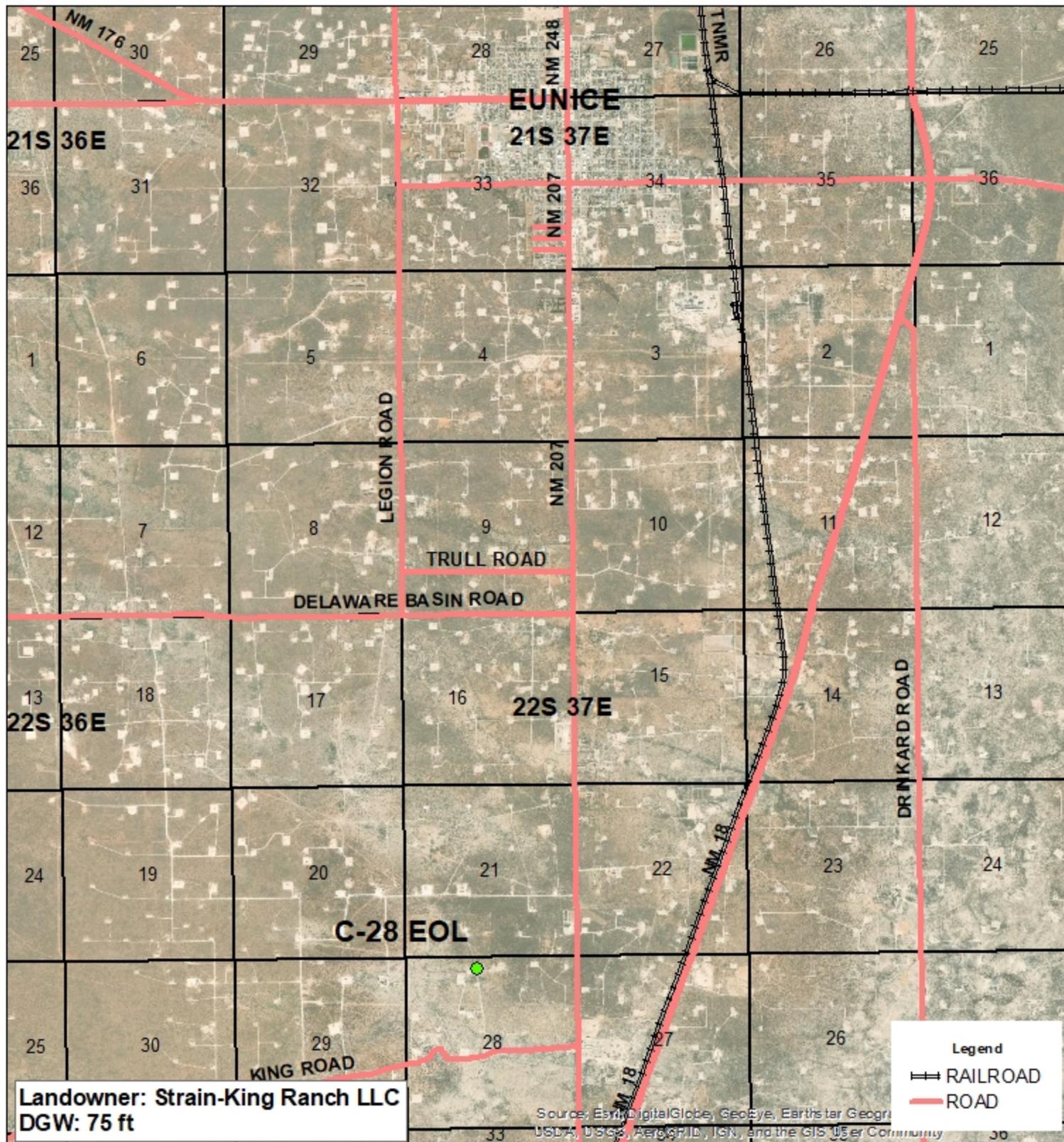


Katie Davis  
Environmental Manager  
RICE Operating Company (ROC)

appendix

# Figures

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



Landowner: Strain-King Ranch LLC  
 DGW: 75 ft

**Legend**  
 RAILROAD  
 ROAD



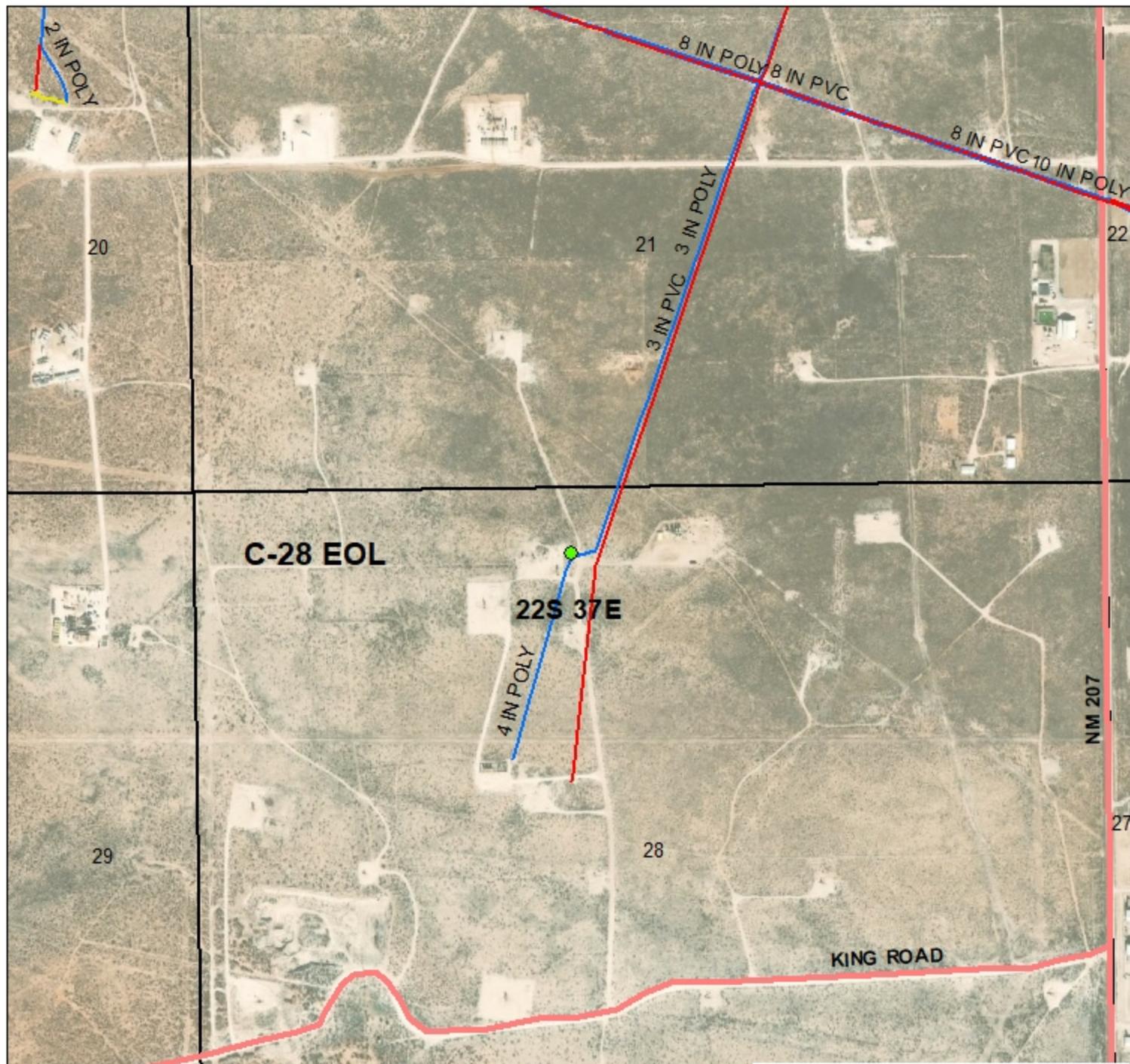
**BD**  
**C-28 EOL**  
 1R426-219  
 UL C SECTION 28  
 T-22-S R-37-E  
 LEA COUNTY, NM

GPS: 32.369055 -103.169415  
 NAD83 STATE PLANE PROJ  
 NM EAST ZONE

0 0.5 1  
 Miles

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

# Area Map



Landowner: Strain-King Ranch LLC  
 DGW: 75 ft

Source: Esri, DigitalGlobe, USDA, USGS, AeroGRID

**Legend**

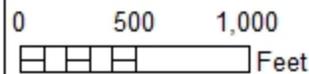
- ROC ACTIVE LINE
- ROC ISOLATED LINE LOCATED
- ROAD



**BD**  
**C-28 EOL**  
 1R426-219

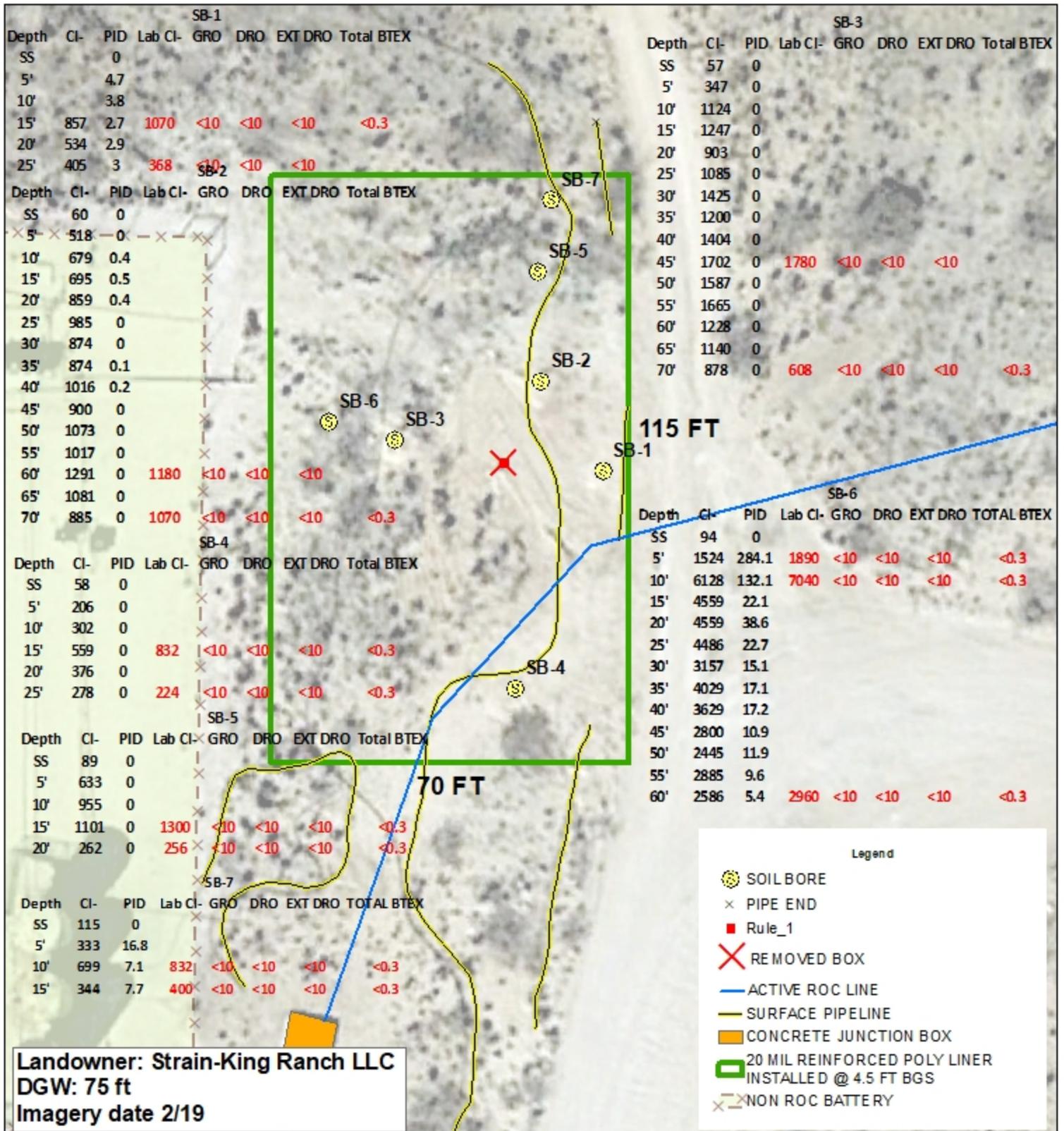
UL C SECTION 28  
 T-22-S R-37-E  
 LEA COUNTY, NM

GPS: 32.369055 - 103.169415



Drawing date: 5/30/18  
 Drafted by: T. Grieco

# Soil Bore Installation



**BD**  
**C-28 EOL**  
 1R426-219  
 UL C SECTION 28  
 T-22-S R-37-E  
 LEA COUNTY, NM

GPS: 32.369055 -103.169415  
 NAD83 STATE PLANE PROJECTION  
 NEW MEXICO EAST ZONE

0 10 20  
 Feet

GPS date: 6/1/18, 9/4/18  
 7/1/19 TG  
 Drawing date: 8/29/19  
 Drafted by: T. Grieco

# Excavation and Liner Installation

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

**BD C-28 EOL (1R426-219)  
Unit C, Section 28, T22S, R37E**



Site prior, facing south 5/27/2021



Excavating the site, facing north 6/21/2022



Exporting excavated soil, facing south 6/30/2022



Excavation completed to a depth of 5 ft bgs, facing north 7/5/2022



Padding the excavation with imported blow sand, facing north 7/5/2022



20-mil reinforced liner installed at 4.5 ft bgs, facing north 7/6/2022



Importing soil, facing west 7/7/2022



Backfilling above the 20-mil liner previously padded with imported blow sand 7/8/2022



Tilling the backfilled site, facing north 8/23/2022



Seeding backfilled site, facing northwest 8/23/2022



Installing silt net fencing, facing north 8/24/2022



Site complete with vegetation, facing south 10/12/2022



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

---

July 05, 2022

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD C-28 EOL

Enclosed are the results of analyses for samples received by the laboratory on 07/01/22 8:07.

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](http://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:	07/01/2022	Sampling Date:	06/30/2022
Reported:	07/05/2022	Sampling Type:	Soil
Project Name:	BD C-28 EOL	Sampling Condition:	Cool & Intact
Project Number:	nAPP2109853868	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: 4 - WALL COMPOSITE (H222821-01)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/05/2022	ND	2.04	102	2.00	6.63	
Toluene*	<0.050	0.050	07/05/2022	ND	2.00	99.9	2.00	7.38	
Ethylbenzene*	<0.050	0.050	07/05/2022	ND	2.00	99.8	2.00	6.83	
Total Xylenes*	<0.150	0.150	07/05/2022	ND	6.12	102	6.00	6.42	
Total BTEX	<0.300	0.300	07/05/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/01/2022	ND	400	100	400	3.92	

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	07/01/2022	ND	221	110	200	3.68	
DRO >C10-C28*	<10.0	10.0	07/01/2022	ND	220	110	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/01/2022	ND					

Surrogate: 1-Chlorooctane 87.4 % 43-149

Surrogate: 1-Chlorooctadecane 103 % 42.5-161

Cardinal Laboratories

\* = Accredited Analyte

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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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\*=Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager





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---

June 27, 2022

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD C-28 EOL

Enclosed are the results of analyses for samples received by the laboratory on 06/22/22 15:47.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
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Accreditation applies to public drinking water matrices.

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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:	06/22/2022	Sampling Date:	06/22/2022
Reported:	06/27/2022	Sampling Type:	Soil
Project Name:	BD C-28 EOL	Sampling Condition:	Cool & Intact
Project Number:	nAPP2109853868	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: ES - 01 (H222678-01)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/24/2022	ND	2.19	109	2.00	11.4	
Toluene*	<0.050	0.050	06/24/2022	ND	2.14	107	2.00	11.4	
Ethylbenzene*	<0.050	0.050	06/24/2022	ND	2.11	106	2.00	11.8	
Total Xylenes*	<0.150	0.150	06/24/2022	ND	6.58	110	6.00	11.7	
Total BTEX	<0.300	0.300	06/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	06/24/2022	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/24/2022	ND	218	109	200	2.69	
DRO >C10-C28*	<10.0	10.0	06/24/2022	ND	221	111	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	06/24/2022	ND					

Surrogate: 1-Chlorooctane 93.2 % 66.9-136

Surrogate: 1-Chlorooctadecane 109 % 59.5-142

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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  
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 Fax To: (575) 397-1471

Received:	06/22/2022	Sampling Date:	06/22/2022
Reported:	06/27/2022	Sampling Type:	Soil
Project Name:	BD C-28 EOL	Sampling Condition:	Cool & Intact
Project Number:	nAPP2109853868	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: ES - 02 (H222678-02)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/24/2022	ND	2.19	109	2.00	11.4	
Toluene*	<0.050	0.050	06/24/2022	ND	2.14	107	2.00	11.4	
Ethylbenzene*	<0.050	0.050	06/24/2022	ND	2.11	106	2.00	11.8	
Total Xylenes*	<0.150	0.150	06/24/2022	ND	6.58	110	6.00	11.7	
Total BTEX	<0.300	0.300	06/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	06/24/2022	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/24/2022	ND	218	109	200	2.69	
DRO >C10-C28*	<10.0	10.0	06/24/2022	ND	221	111	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	06/24/2022	ND					

Surrogate: 1-Chlorooctane 86.6 % 66.9-136

Surrogate: 1-Chlorooctadecane 101 % 59.5-142

Cardinal Laboratories

\*=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:	06/22/2022	Sampling Date:	06/22/2022
Reported:	06/27/2022	Sampling Type:	Soil
Project Name:	BD C-28 EOL	Sampling Condition:	Cool & Intact
Project Number:	nAPP2109853868	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: ES - 03 (H222678-03)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/24/2022	ND	2.19	109	2.00	11.4	
Toluene*	<0.050	0.050	06/24/2022	ND	2.14	107	2.00	11.4	
Ethylbenzene*	<0.050	0.050	06/24/2022	ND	2.11	106	2.00	11.8	
Total Xylenes*	<0.150	0.150	06/24/2022	ND	6.58	110	6.00	11.7	
Total BTEX	<0.300	0.300	06/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	06/24/2022	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/24/2022	ND	218	109	200	2.69	
DRO >C10-C28*	<10.0	10.0	06/24/2022	ND	221	111	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	06/24/2022	ND					

Surrogate: 1-Chlorooctane 86.9 % 66.9-136

Surrogate: 1-Chlorooctadecane 102 % 59.5-142

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\* = Accredited Analyte

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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:	06/22/2022	Sampling Date:	06/22/2022
Reported:	06/27/2022	Sampling Type:	Soil
Project Name:	BD C-28 EOL	Sampling Condition:	Cool & Intact
Project Number:	nAPP2109853868	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: ES - 04 (H222678-04)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/24/2022	ND	2.19	109	2.00	11.4	
Toluene*	<0.050	0.050	06/24/2022	ND	2.14	107	2.00	11.4	
Ethylbenzene*	<0.050	0.050	06/24/2022	ND	2.11	106	2.00	11.8	
Total Xylenes*	<0.150	0.150	06/24/2022	ND	6.58	110	6.00	11.7	
Total BTEX	<0.300	0.300	06/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	06/24/2022	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/24/2022	ND	218	109	200	2.69	
DRO >C10-C28*	<10.0	10.0	06/24/2022	ND	221	111	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	06/24/2022	ND					

Surrogate: 1-Chlorooctane 89.0 % 66.9-136

Surrogate: 1-Chlorooctadecane 103 % 59.5-142

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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:	06/22/2022	Sampling Date:	06/22/2022
Reported:	06/27/2022	Sampling Type:	Soil
Project Name:	BD C-28 EOL	Sampling Condition:	Cool & Intact
Project Number:	nAPP2109853868	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: ES - 05 (H222678-05)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/24/2022	ND	2.19	109	2.00	11.4	
Toluene*	<0.050	0.050	06/24/2022	ND	2.14	107	2.00	11.4	
Ethylbenzene*	<0.050	0.050	06/24/2022	ND	2.11	106	2.00	11.8	
Total Xylenes*	<0.150	0.150	06/24/2022	ND	6.58	110	6.00	11.7	
Total BTEX	<0.300	0.300	06/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	704	16.0	06/24/2022	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/24/2022	ND	218	109	200	2.69	
DRO >C10-C28*	<10.0	10.0	06/24/2022	ND	221	111	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	06/24/2022	ND					

Surrogate: 1-Chlorooctane 93.7 % 66.9-136

Surrogate: 1-Chlorooctadecane 110 % 59.5-142

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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:	06/22/2022	Sampling Date:	06/22/2022
Reported:	06/27/2022	Sampling Type:	Soil
Project Name:	BD C-28 EOL	Sampling Condition:	Cool & Intact
Project Number:	nAPP2109853868	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: ES - 06 (H222678-06)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/24/2022	ND	2.19	109	2.00	11.4	
Toluene*	<0.050	0.050	06/24/2022	ND	2.14	107	2.00	11.4	
Ethylbenzene*	<0.050	0.050	06/24/2022	ND	2.11	106	2.00	11.8	
Total Xylenes*	<0.150	0.150	06/24/2022	ND	6.58	110	6.00	11.7	
Total BTEX	<0.300	0.300	06/24/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	06/24/2022	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/24/2022	ND	218	109	200	2.69	
DRO >C10-C28*	<10.0	10.0	06/24/2022	ND	221	111	200	2.46	
EXT DRO >C28-C36	<10.0	10.0	06/24/2022	ND					

Surrogate: 1-Chlorooctane 88.5 % 66.9-136

Surrogate: 1-Chlorooctadecane 103 % 59.5-142

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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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June 27, 2022

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD C-28 EOL

Enclosed are the results of analyses for samples received by the laboratory on 06/23/22 15:10.

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](http://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:	06/23/2022	Sampling Date:	06/23/2022
Reported:	06/27/2022	Sampling Type:	Soil
Project Name:	BD C-28 EOL	Sampling Condition:	Cool & Intact
Project Number:	NAPP2109853868	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

**Sample ID: ES - 07 (H222699-01)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/25/2022	ND	1.97	98.4	2.00	7.17	
Toluene*	<0.050	0.050	06/25/2022	ND	1.95	97.5	2.00	6.84	
Ethylbenzene*	<0.050	0.050	06/25/2022	ND	1.89	94.5	2.00	6.94	
Total Xylenes*	<0.150	0.150	06/25/2022	ND	5.85	97.5	6.00	7.04	
Total BTEX	<0.300	0.300	06/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.4 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	06/27/2022	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2022	ND	187	93.6	200	2.08	
DRO >C10-C28*	<10.0	10.0	06/25/2022	ND	200	100	200	9.08	
EXT DRO >C28-C36	<10.0	10.0	06/25/2022	ND					

Surrogate: 1-Chlorooctane 114 % 43-149

Surrogate: 1-Chlorooctadecane 139 % 42.5-161

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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:	06/23/2022	Sampling Date:	06/23/2022
Reported:	06/27/2022	Sampling Type:	Soil
Project Name:	BD C-28 EOL	Sampling Condition:	Cool & Intact
Project Number:	NAPP2109853868	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

**Sample ID: ES - 08 (H222699-02)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/25/2022	ND	1.97	98.4	2.00	7.17	
Toluene*	<0.050	0.050	06/25/2022	ND	1.95	97.5	2.00	6.84	
Ethylbenzene*	<0.050	0.050	06/25/2022	ND	1.89	94.5	2.00	6.94	
Total Xylenes*	<0.150	0.150	06/25/2022	ND	5.85	97.5	6.00	7.04	
Total BTEX	<0.300	0.300	06/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	06/27/2022	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/24/2022	ND	207	104	200	2.08	
DRO >C10-C28*	<10.0	10.0	06/24/2022	ND	216	108	200	0.895	
EXT DRO >C28-C36	<10.0	10.0	06/24/2022	ND					

Surrogate: 1-Chlorooctane 102 % 43-149

Surrogate: 1-Chlorooctadecane 126 % 42.5-161

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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:	06/23/2022	Sampling Date:	06/23/2022
Reported:	06/27/2022	Sampling Type:	Soil
Project Name:	BD C-28 EOL	Sampling Condition:	Cool & Intact
Project Number:	NAPP2109853868	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

**Sample ID: ES - 09 (H222699-03)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/25/2022	ND	1.97	98.4	2.00	7.17	
Toluene*	<0.050	0.050	06/25/2022	ND	1.95	97.5	2.00	6.84	
Ethylbenzene*	<0.050	0.050	06/25/2022	ND	1.89	94.5	2.00	6.94	
Total Xylenes*	<0.150	0.150	06/25/2022	ND	5.85	97.5	6.00	7.04	
Total BTEX	<0.300	0.300	06/25/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.7 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	06/27/2022	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/24/2022	ND	207	104	200	2.08	
DRO >C10-C28*	<10.0	10.0	06/24/2022	ND	216	108	200	0.895	
EXT DRO >C28-C36	<10.0	10.0	06/24/2022	ND					

Surrogate: 1-Chlorooctane 111 % 43-149

Surrogate: 1-Chlorooctadecane 137 % 42.5-161

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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



# ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603  
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Rice Operating  
 Project Manager: Katie Jones / Kyle Norman  
 Address:  
 City: State: Zip:  
 Phone #: Fax #:  
 Project #: nAPP2109853868 Project Owner:  
 Project Name: BD C-28 EOL  
 Project Location:  
 Sampler Name: Miguel Cardona Jr.

**BILL TO**  
 P.O. #:  
 Company: Rice Operating  
 Attn: Katie Jones  
 Address:  
 City:  
 State: Zip:  
 Phone #:  
 Fax #:

ANALYSIS REQUEST									
Chlorides	TPH 8015 M	BTEX	Texas TPH	Complete Cations/Anions	TDS				
/	/	/							
/	/	/							
/	/	/							

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.		SAMPLING		
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	DATE	TIME	
H222699														
1	ES-07	G			/				/		6/23/22	9:00am	/	/
2	ES-08	G			/				/		6/23/22	12:00pm	/	/
3	ES-09	G			/				/		6/23/22	2:30pm	/	/

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Relinquished By: Miguel Cardona Jr.  
 Date: 6/23/22  
 Time: 1510

Received By: Tamara Oldaker  
 Date:  
 Time:

Phone Result:  Yes  No Add'l Phone #:  
 Fax Result:  Yes  No Add'l Fax #:  
 REMARKS:  
 email results:  
 kjones@riceswd.com knorman@tasman-geo.com  
 tgrieco@riceswd.com

Delivered By: (Circle One) 3.7°C C-0.5°C  
 Sampler - UPS - Bus - Other: 3.2°C #113  
 Sample Condition Cool Intact  
 Yes  No  Yes  No  
 CHECKED BY: (Initials) TO

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



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

---

June 29, 2022

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD C-28 EOL

Enclosed are the results of analyses for samples received by the laboratory on 06/24/22 15:40.

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](http://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:	06/24/2022	Sampling Date:	06/24/2022
Reported:	06/29/2022	Sampling Type:	Soil
Project Name:	BD C-28 EOL	Sampling Condition:	** (See Notes)
Project Number:	nAPP2109853868	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: ES - 10 (H222723-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/28/2022	ND	1.76	87.8	2.00	3.48	
Toluene*	<0.050	0.050	06/28/2022	ND	1.72	86.0	2.00	3.46	
Ethylbenzene*	<0.050	0.050	06/28/2022	ND	1.70	85.1	2.00	2.68	
Total Xylenes*	<0.150	0.150	06/28/2022	ND	5.20	86.6	6.00	1.47	
Total BTEX	<0.300	0.300	06/28/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 87.5 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	06/27/2022	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	06/28/2022	ND	195	97.5	200	1.97	
DRO >C10-C28*	<10.0	10.0	06/28/2022	ND	193	96.4	200	1.14	
EXT DRO >C28-C36	<10.0	10.0	06/28/2022	ND					

Surrogate: 1-Chlorooctane 90.8 % 43-149

Surrogate: 1-Chlorooctadecane 99.6 % 42.5-161

Cardinal Laboratories

\*=Accredited Analyte

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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:	06/24/2022	Sampling Date:	06/24/2022
Reported:	06/29/2022	Sampling Type:	Soil
Project Name:	BD C-28 EOL	Sampling Condition:	** (See Notes)
Project Number:	nAPP2109853868	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: ES - 11 (H222723-02)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/28/2022	ND	1.76	87.8	2.00	3.48		
Toluene*	<0.050	0.050	06/28/2022	ND	1.72	86.0	2.00	3.46		
Ethylbenzene*	<0.050	0.050	06/28/2022	ND	1.70	85.1	2.00	2.68		
Total Xylenes*	<0.150	0.150	06/28/2022	ND	5.20	86.6	6.00	1.47		
Total BTEX	<0.300	0.300	06/28/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 87.8 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	06/27/2022	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	06/27/2022	ND	208	104	200	3.75		
DRO >C10-C28*	<10.0	10.0	06/27/2022	ND	208	104	200	3.38		
EXT DRO >C28-C36	<10.0	10.0	06/27/2022	ND						

Surrogate: 1-Chlorooctane 102 % 43-149

Surrogate: 1-Chlorooctadecane 114 % 42.5-161

Cardinal Laboratories

\*=Accredited Analyte

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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:	06/24/2022	Sampling Date:	06/24/2022
Reported:	06/29/2022	Sampling Type:	Soil
Project Name:	BD C-28 EOL	Sampling Condition:	** (See Notes)
Project Number:	nAPP2109853868	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: ES - 12 (H222723-03)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/28/2022	ND	1.76	87.8	2.00	3.48	
Toluene*	<0.050	0.050	06/28/2022	ND	1.72	86.0	2.00	3.46	
Ethylbenzene*	<0.050	0.050	06/28/2022	ND	1.70	85.1	2.00	2.68	
Total Xylenes*	<0.150	0.150	06/28/2022	ND	5.20	86.6	6.00	1.47	
Total BTEX	<0.300	0.300	06/28/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.5 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	06/27/2022	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	06/27/2022	ND	208	104	200	3.75	
DRO >C10-C28*	<10.0	10.0	06/27/2022	ND	208	104	200	3.38	
EXT DRO >C28-C36	<10.0	10.0	06/27/2022	ND					

Surrogate: 1-Chlorooctane 103 % 43-149

Surrogate: 1-Chlorooctadecane 117 % 42.5-161

Cardinal Laboratories

\*=Accredited Analyte

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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:	06/24/2022	Sampling Date:	06/24/2022
Reported:	06/29/2022	Sampling Type:	Soil
Project Name:	BD C-28 EOL	Sampling Condition:	** (See Notes)
Project Number:	nAPP2109853868	Sample Received By:	Shalyn Rodriguez
Project Location:	NONE GIVEN		

**Sample ID: ES - 13 (H222723-04)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/28/2022	ND	1.76	87.8	2.00	3.48	
Toluene*	<0.050	0.050	06/28/2022	ND	1.72	86.0	2.00	3.46	
Ethylbenzene*	<0.050	0.050	06/28/2022	ND	1.70	85.1	2.00	2.68	
Total Xylenes*	<0.150	0.150	06/28/2022	ND	5.20	86.6	6.00	1.47	
Total BTEX	<0.300	0.300	06/28/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.6 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	06/27/2022	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	06/27/2022	ND	208	104	200	3.75	
DRO >C10-C28*	<10.0	10.0	06/27/2022	ND	208	104	200	3.38	
EXT DRO >C28-C36	<10.0	10.0	06/27/2022	ND					

Surrogate: 1-Chlorooctane 89.3 % 43-149

Surrogate: 1-Chlorooctadecane 100 % 42.5-161

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- 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

---

October 31, 2022

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD C-28 EOL

Enclosed are the results of analyses for samples received by the laboratory on 10/25/22 9:23.

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](http://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:	10/25/2022	Sampling Date:	10/24/2022
Reported:	10/31/2022	Sampling Type:	Soil
Project Name:	BD C-28 EOL	Sampling Condition:	Cool & Intact
Project Number:	nAPP2109853868	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

**Sample ID: IMPORTED SOIL (H225003-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/31/2022	ND	1.93	96.6	2.00	3.73	
Toluene*	<0.050	0.050	10/31/2022	ND	2.13	107	2.00	2.06	
Ethylbenzene*	<0.050	0.050	10/31/2022	ND	2.03	102	2.00	2.15	
Total Xylenes*	<0.150	0.150	10/31/2022	ND	6.16	103	6.00	2.92	
Total BTEX	<0.300	0.300	10/31/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 69.9-140

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	10/28/2022	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	10/28/2022	ND	195	97.4	200	4.35	
DRO >C10-C28*	<10.0	10.0	10/28/2022	ND	180	90.1	200	0.0649	
EXT DRO >C28-C36	<10.0	10.0	10/28/2022	ND					

Surrogate: 1-Chlorooctane 89.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 98.2 % 46.3-178

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



**From:** [Billings, Bradford, EMNRD](#)  
**To:** [Katie Jones](#); [Sanchez, Daniel J., EMNRD](#); [EMNRD-OCD-District1spills](#)  
**Cc:** ["knorman@tasman-geo.com"](#)  
**Subject:** RE: [EXTERNAL] ROC Work Schedule  
**Date:** Thursday, June 16, 2022 1:49:36 PM

---

Thank you. Please keep this communication and include in allied report(s).

Bradford Billings

---

**From:** Katie Jones <kjones@riceswd.com>  
**Sent:** Thursday, June 16, 2022 1:47 PM  
**To:** Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Sanchez, Daniel J., EMNRD <daniel.sanchez@state.nm.us>; EMNRD-OCD-District1spills <EMNRD-OCD-District1spills@state.nm.us>  
**Cc:** 'knorman@tasman-geo.com' <knorman@tasman-geo.com>  
**Subject:** [EXTERNAL] ROC Work Schedule

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

Please find attached the work schedule for next week. As field conditions may be unpredictable, please call ROC for verification of a more specific time frame for any particular site.

Thank you,

Katie Jones Davis  
Environmental Manager  
*RICE* Operating Company

**From:** [Billings, Bradford, EMNRD](#)  
**To:** [Katie Jones](#)  
**Subject:** RE: [EXTERNAL] ROC Work Schedule  
**Date:** Tuesday, June 28, 2022 8:12:24 AM

---

Hi,

Thank you for the notification. Please retain this communication and include in associated report(s).

Bradford Billings  
EMNRD/OCD

---

**From:** Katie Jones <kjones@riceswd.com>  
**Sent:** Monday, June 27, 2022 1:28 PM  
**To:** Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Sanchez, Daniel J., EMNRD <daniel.sanchez@state.nm.us>; EMNRD-OCD-District1spills <EMNRD-OCD-District1spills@state.nm.us>  
**Cc:** 'knorman@tasman-geo.com' <knorman@tasman-geo.com>  
**Subject:** [EXTERNAL] ROC Work Schedule

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

Please find attached the work schedule for this week.

The excavation is nearing completion, and ROC will collect the final 4-wall composite sample on Thursday, June 30. Please let me know if you have any questions or require any additional information.

Thank you,

Katie Jones Davis  
Environmental Manager  
*RICE* Operating Company

# Final C-141

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

Incident ID	nAPP2109853868
District RP	1R426-219
Facility ID	fEJH0936250269
Application ID	pEJH0936250359

## Closure

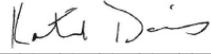
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled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

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

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

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

Printed Name: Katie Davis Title: Environmental Manager

Signature:  Date: 1/17/2023

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

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Closure Approved by:  Date: 06/29/2023

Printed Name: Nelson Velez Title: Environmental Specialist – Adv

**District I**  
 1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
 811 S. First St., Artesia, NM 88210  
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**District III**  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
 1220 S. St Francis Dr., Santa Fe, NM 87505  
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**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 176630

**CONDITIONS**

Operator: RICE OPERATING COMPANY 122 W Taylor Hobbs, NM 88240	OGRID: 19174
	Action Number: 176630
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
nvelez	Depth to water determined to be between 51-100 feet below grade. Report has met 19.15.29 NMAC. Release resolved.	6/29/2023