

RICE *Operating Company*

112 West Taylor • Hobbs, New Mexico 88240

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

April 1, 2020

Bradford Billings

New Mexico Energy, Minerals, & Natural Resources

Oil Conservation Division, Environmental Bureau

1220 S. St. Francis Drive

Santa Fe, New Mexico 87505

RE: 2019 Annual Groundwater Report

Rice Operating Company – BD SWD System

BD Jct. B-4-2 (1R426-204): UL/B, Sec. 4, T22S, R37E

Mr. Billings:

RICE Operating Company (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 1 mile south of Eunice, New Mexico at UL/B, Sec. 4, T22S, R37E as shown on the Geographical Location Map and Area Map. Monitoring wells installed at the site confirmed groundwater is located at a depth of 92 feet below ground surface (bgs).

In 2008, ROC initiated work on the former B-4-2 junction box. The site was delineated using a backhoe to form a 30x25x12-ft deep excavation and soil samples were screened at regular intervals for both hydrocarbon and chloride. The excavated soil was blended on site and representative samples were collected from the excavation walls (4-wall comp), excavation bottom (bottom comp), and the blended excavated soil (backfill comp). Each sample was sent to a commercial laboratory for analysis of chloride and TPH, resulting in elevated concentrations. The excavation was backfilled with the blended excavated soil up to 5 ft bgs, and a 5 ft shelf was excavated to the east and west. At 5–4 ft bgs, a 40x25x1-ft thick compacted clay barrier was installed. The clay layer will provide a barrier that will inhibit the downward migration of chloride to groundwater. The remaining blended excavated soil was returned to the excavation and the site was contoured to the surrounding area.

An ICP was submitted to NMOCD on May 4th, 2015 and approved on May 7th, 2015. A total of 11 soil bores were drilled at the site on September 28th and 29th, 2015 and June 13th, 14th, 17th, 2016 and October 19th, 2016. As the bores were advanced, soil samples were collected at regular intervals and field tested for chloride and hydrocarbon. Representative samples from each bore were sent to a commercial laboratory for confirmatory analysis. Each sample was plugged with bentonite to ground surface.

A Corrective Action Plan (CAP) was submitted to the NMOCD and approved on June 30th, 2017. According to the NMOCD approved CAP, a 20-mil reinforced liner measuring 113x70-ft was installed and properly seated at a depth of 4.5 ft bgs. 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 NMOCD on November 9th, 2017. NMOCD approved and 'Soil Closure' on December 11th, 2017.

Between November 13th-15th, 2018, three monitoring wells (MW-1, MW-2, and MW-3) were installed at the site. Lithology soil samples were collected at regular intervals. The wells were developed and have been sampled quarterly since installation. Groundwater chloride concentrations have remained low in each well. The most recent sampling event resulted in a chloride concentration of 176 mg/L in MW-1, 80 mg/L in MW-2, and 236 mg/L in MW-3. BTEX concentrations have remained below detectable limit in each well since installation.

Given that BTEX concentrations have been below detectable limits since installation, ROC requests to suspend BTEX sampling in all three wells (MW-1, MW-2 and MW-3). Further, due to the current climate, and in the interest of safety, ROC proposes to reduce groundwater monitoring from quarterly to semi-annually beginning this year. This request is only temporary and regularly scheduled groundwater monitoring will commence as soon as possible.

Attached is the Appendix, which contains:

1. A Geographical Location Map.
2. A map showing well locations.
3. Monitoring well logs and photos of installation.
4. A table presenting all laboratory results and depth to groundwater for each well at the site, and a graph showing recent laboratory results.
5. The laboratory analytical results for 2019.

Rice Operating Company appreciates the opportunity to work with you on this project. Please contact me at (575) 393-9174 or Edward Hansen at (505) 920-4965 if you have any questions or wish to further discuss this site. Thank you for your time and consideration.

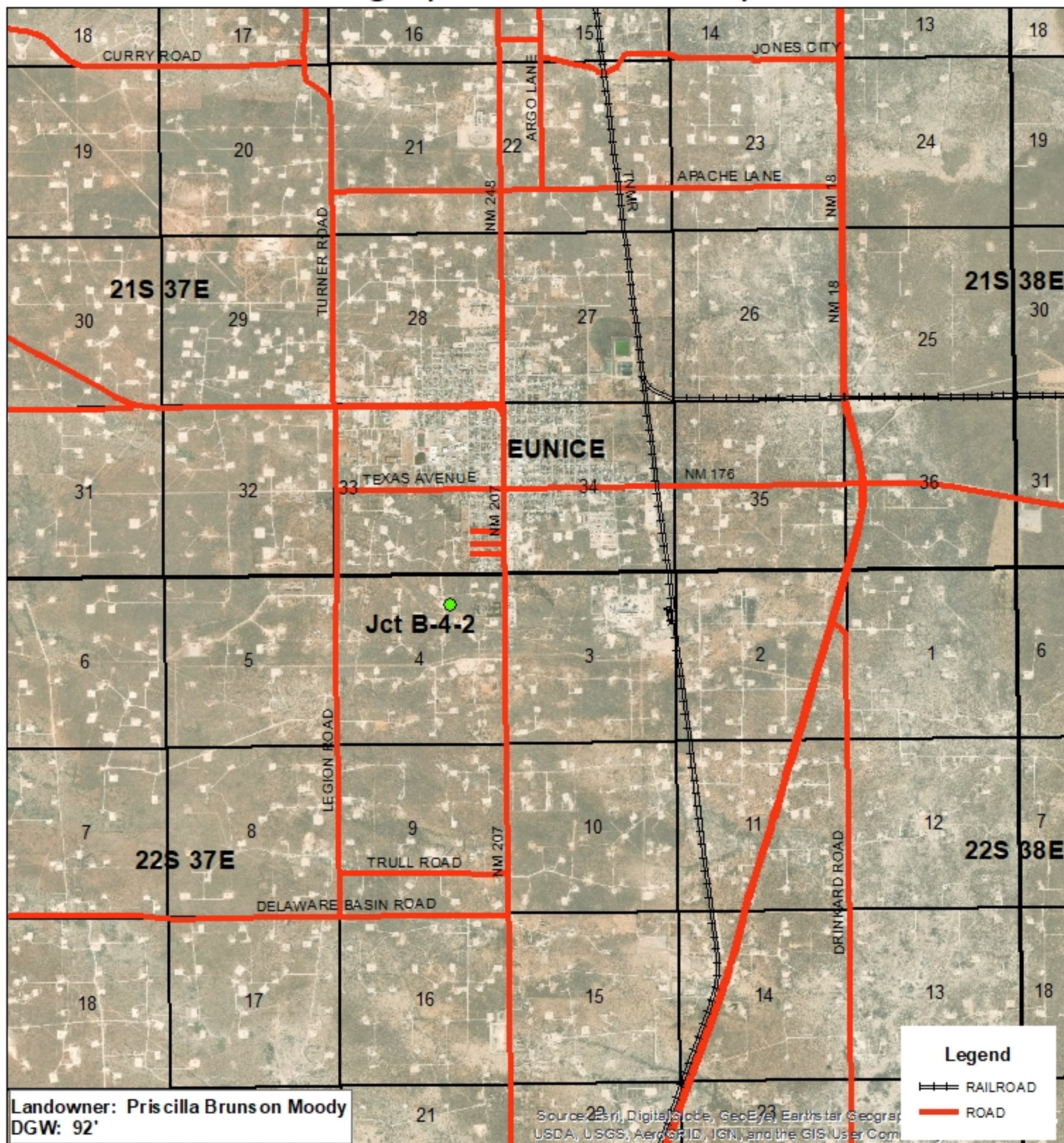
Sincerely,



Katie Davis
Environmental Manager
RICE Operating Company

appendix

Geographic Location Map



Landowner: Priscilla Bruns on Moody
DGW: 92'

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, USDA, USGS, AeroGRID, IGN, and the GIS User Community



BD
JCT B-4-2
1R426-204

UL B, SECTION 4
T-22-S, R-37-E
LEA COUNTY, NM

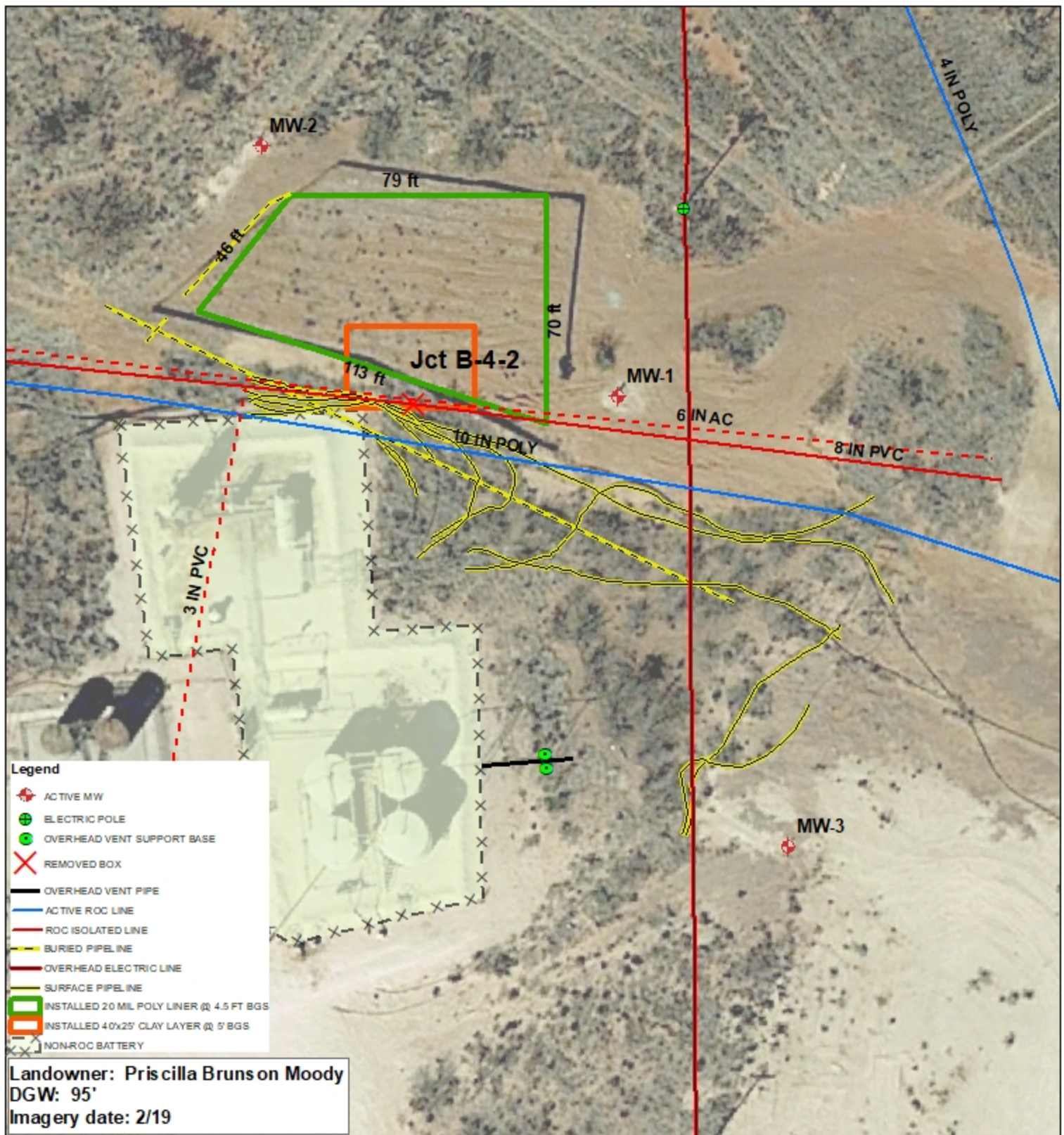
GPS: 32.424613 -103.164313
NAD 83 STATE PLANE PROJ.
NEW MEXICO EAST ZONE

0 0.5 1
Miles

Drawing date: 3/11/2015
Drafted by: S. Edwards



Monitor Well Location



BD
JCT B-4-2
 1R426-204

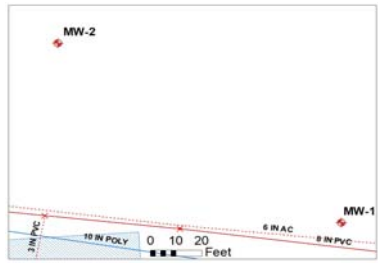

UL B, SECTION 4
 T-22-S, R-37-E
 LEA COUNTY, NM

GPS: 32.424613 -103.164313
 NAD 83 STATE PLANE PROJ.
 NEW MEXICO EAST ZONE

0 25 50
 Feet

Drawing date: 11/21/18
 Drafted by: T. Grieco



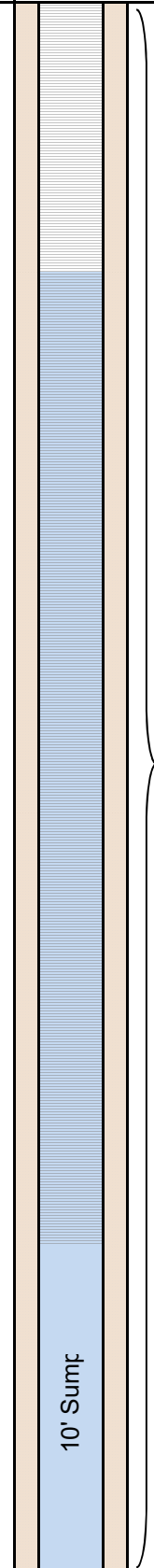
Logger:	Nick Kopiasz					
Driller:	Harrison & Cooper, Inc.					
Drilling Method:	Air rotary					
Start Date:	11/13/2018					
End Date:	11/14/2018					
Project Name: BD Jct. B-4-2			Well ID: MW-1			
Project Consultant: Tasman						
Location: Unit B, Section 4, T22S, R37E						
Lat: 32.424620			County: Lea			
Long: -103.164110 (NAD83)			State: NM			
Comments: Located approximately 45 ft east of the former junction box site. Soil samples were collected from drill cuttings at specified intervals.						
DRAFTED BY: N.Kopiasz						
TD = 137 ft GW = 92 ft						
Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				SM-red, silty sand		Concrete
SS						
				CL-red, silty clay		4 in. PVC
5 ft						
				GW-light tan, sandy dravel, caliche		Bentonite Seal
10 ft						
				SW-tan, well graded sand, caliche		
15 ft						
				SW-Same As Above (SAA)		
20 ft						
				SW-SAA		
25 ft						
				GM-light tan, gravelly silt, caliche		
30 ft						
				SM-tan, silty sand, caliche		
35 ft						

Depth (feet)	Chloride field tests	LAB	PID	Description		Lithology		Well Construction		
				SM-tan, silty sand, caliche and sandstone						
40 ft										
				SM-tan, silty sand, very fine grained sandstone						
45 ft										
				SM-SAA						
50 ft										
				SM-SAA						
55 ft										
				GM-tan, silty gravel, sandstone						Bentonite Seal
60 ft										
				SM-tan, silty sand, sandstone						
65 ft										
				SM-tan, silty sand						
70 ft										
				SM-tan, silty sand, sandstone						
75 ft										
				SM-SAA						
80 ft										
				SM-reddish tan, silty sand, sandstone						Sand Pack
85 ft										

Depth (feet)	Chloride field tests	LAB	PID	Description		Lithology		Well Construction		
				SM-reddish tan, silty sand, sandstone, moist						
90 ft										
				SM-SAA						
95 ft										
				SM-light brown, silty sand, moist						
100 ft										
				SM-SAA						
105 ft										
				SM-SAA						
110 ft										
				Not Sampled (NS)						
115 ft										
				NS						
120 ft										
				NS						
125 ft										
				NS						
130 ft										
				NS						
135 ft										

10' Sumf

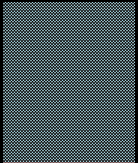
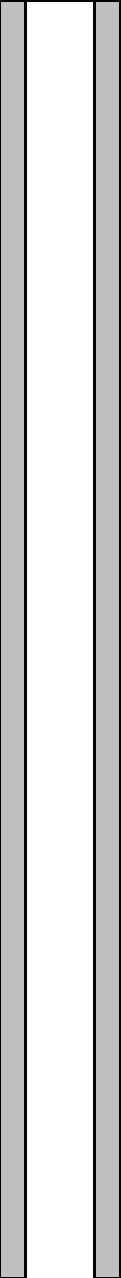


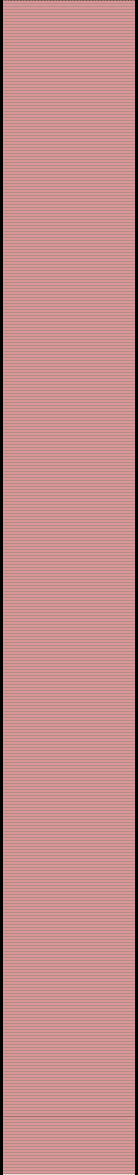
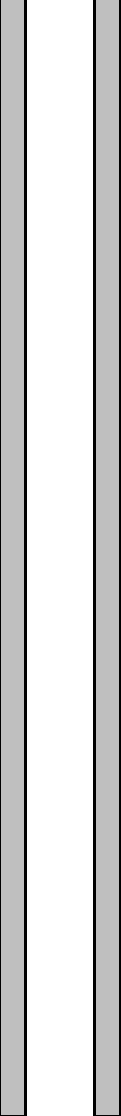


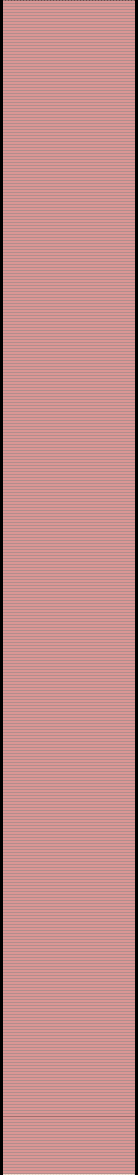
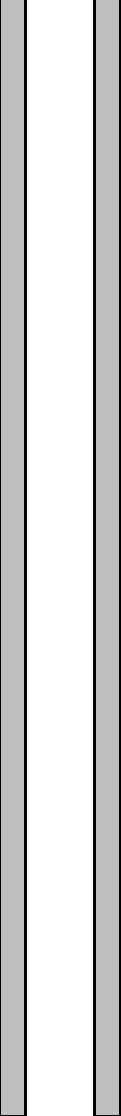


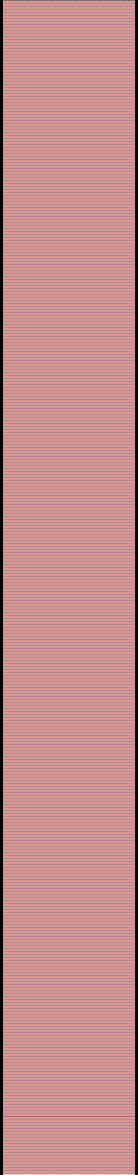
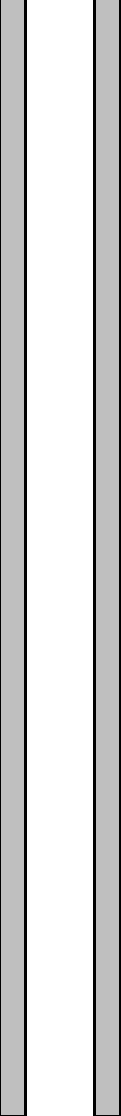


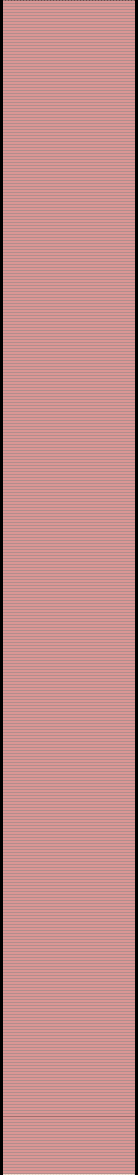
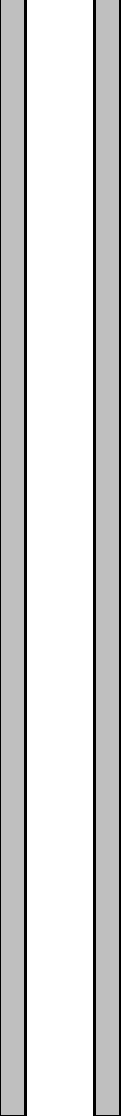


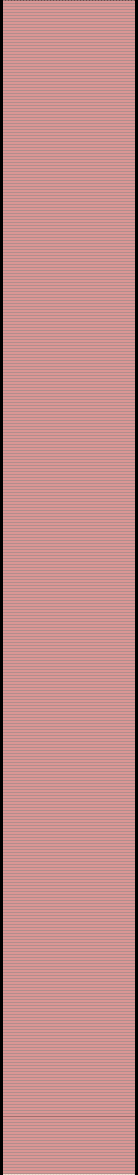
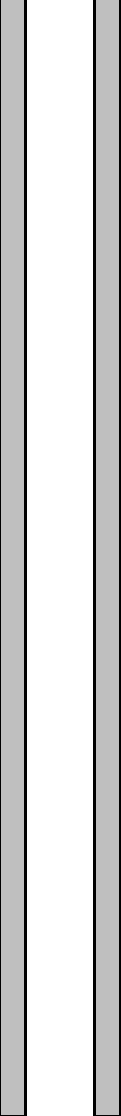


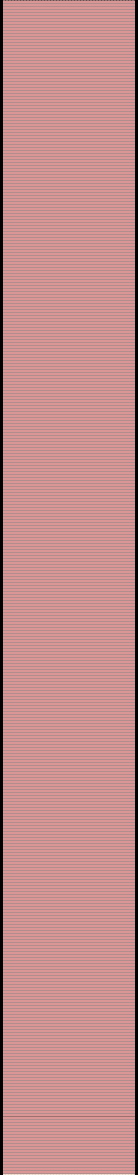
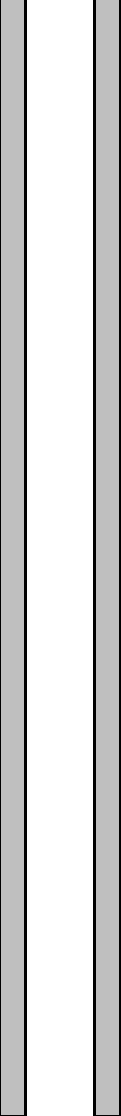


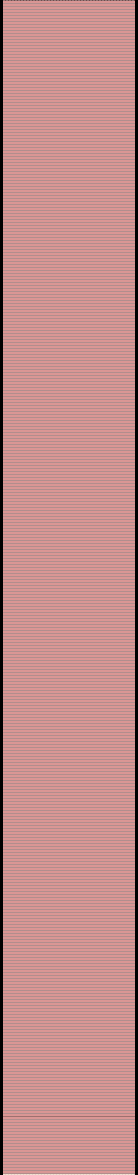
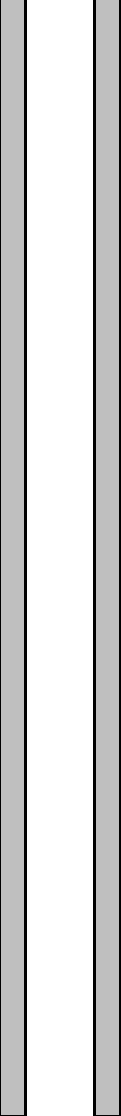


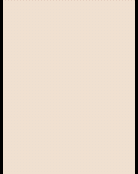
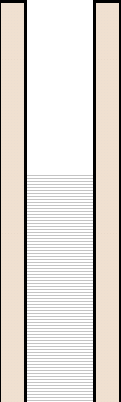


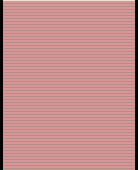
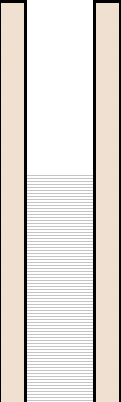


Sand
Pack

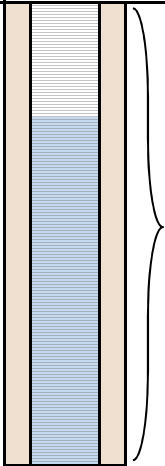


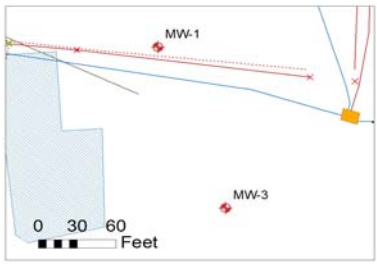

Sand
Pack

Logger:	Nick Kopiasz		
Driller:	Harrison & Cooper, Inc.		
Drilling Method:	Air Rotary		
Start Date:	11/15/2018		
End Date:	11/15/2018		
Comments: Located approximately 82 ft northwest of the former junction box site. Soil samples were collected from drill cuttings at specified intervals. <div style="display: flex; justify-content: space-around;"> DRAFTED BY: N.Kopiasz </div> <div style="display: flex; justify-content: space-around;"> TD = 100 ft GW = 93 ft </div>		Project Name: BD Jct. B-4-2 Well ID: MW-2 Project Consultant: Tasman Location: Unit B, Section 4, T22S, R37E Lat: 32.424836 County: Lea Long: -103.164463 (NAD83) State: NM	

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				SM-red, silty sand		Concrete
SS						
				CL-red, silty clay		2 in. PVC
5 ft						
				CL-Same As Above (SAA)		Bentonite Seal
10 ft						
				SW-light tan, well graded sand, caliche		
15 ft						
				GM-reddish tan, silty gravel, caliche and sandstone		
20 ft						
				GW-light tan, well graded gravels, caliche		
25 ft						
				GW-SAA		
30 ft						
				GW-SAA		
35 ft						

Depth (feet)	Chloride field tests	LAB	PID	Description		Lithology		Well Construction		
				GM-light tan, silty gravel, caliche						
40 ft										
				SM-tan, silty sand, caliche						
45 ft										
				SM-SAA						
50 ft										
				SM-tan, silty sand						
55 ft										
				SM-tan, silty sand, sandstone						
60 ft										
				SM-SAA						
65 ft										
				SM-tan, silty sand						
70 ft										
				SM-reddish tan, silty sand, sandstone						
75 ft										
				SW-reddish tan, well graded sand, sandstone						
80 ft										
				SM-reddish tan, silty sand, sandstone						
85 ft										

Depth (feet)	Chloride field tests	LAB	PID	Description		Lithology		Well Construction
				SM-reddish tan, silty sand, caliche, moist				 <p>Sand Pack</p>
90 ft								
				SM-reddish tan, silty sand, moist				
95 ft								
				SM-light brown, silty sand, moist				
100 ft								
				SM-SAA				
105 ft								
				SM-SAA				
110 ft								

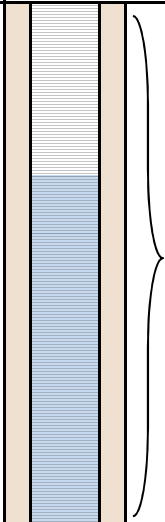
Logger:	Nick Kopiasz			
Driller:	Harrison & Cooper, Inc.			
Drilling Method:	Air Rotary		Project Name:	Well ID:
Start Date:	11/15/2018		BD Jct. B-4-2	MW-3
End Date:	11/15/2018		Project Consultant: Tasman	
Comments: Located approximately 179 ft southeast of the former junction box site. Soil samples were collected from drill cuttings at specified intervals. <div style="text-align: center;"> DRAFTED BY: N.Kopiasz TD = 101 ft GW = 89 ft </div>			Location: Unit B, Section 4, T22S, R37E Lat: 32.424236 County: Lea Long: -103.163944 (NAD83) State: NM	

Depth (feet)	Chloride field tests	LAB	PID	Description	Lithology	Well Construction
				SM-red, silty sand		Concrete
SS						
				CL-red, silty clay		
5 ft						
				SM-reddish tan, silty sand, caliche		2 in. PVC
10 ft						
				GM-reddish tan, silty gravel, caliche		
15 ft						
				SM-reddish tan, silty sand, caliche		Bentonite Seal
20 ft						
				GM-light tan, silty gravel, caliche		
25 ft						
				SM-light tan, silty sand, caliche		
30 ft						
				SM-Same As Above (SAA)		
35 ft						

Depth (feet)	Chloride field tests	LAB	PID	Description		Lithology		Well Construction		
				SM-SAA						
40 ft										
				SM-tan, silty sand, sandstone and caliche						
45 ft										
				SM-SAA						
50 ft										
				SM-light tan, silty sand, sandstone						
55 ft										
				SM-SAA						
60 ft										
				SM-tan, silty sand, sandstone and caliche						
65 ft										
				SM-tan, silty sand						
70 ft										
				SM-tan, silty sand, sandstone						
75 ft										
				SM-SAA						
80 ft										
				SM-tan, silty sand						
85 ft										

Bentonite
Seal

Sand
Pack

Depth (feet)	Chloride field tests	LAB	PID	Description		Lithology		Well Construction
				SM-tan, silty sand, moist				
90 ft								
				SW-tan, well graded sand, caliche, moist				
95 ft								
				SM-light brown, silty sand, moist				
100 ft								
				SM-SAA				
105 ft								

Rice Operating Company
BD Jct. B-4-2
Drilling Photo Log



Rice Operating Company
BD Jct. B-4-2
Drilling Photo Log



Rice Operating Company
BD Jct. B-4-2
Drilling Photo Log



Rice Operating Company
BD Jct. B-4-2
Drilling Photo Log



Rice Operating Company
BD Jct. B-4-2
Drilling Photo Log

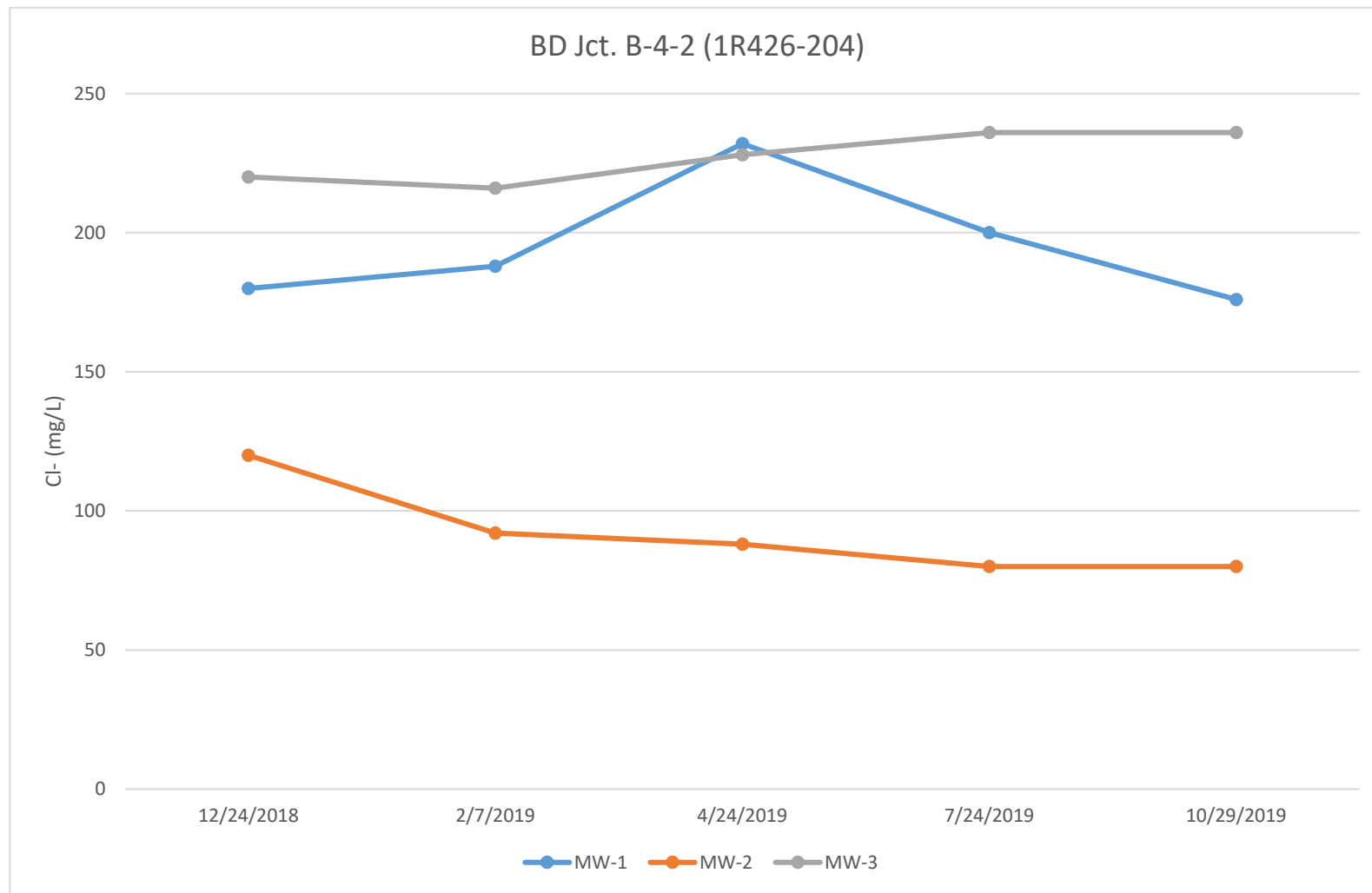


ROC - BD Jct. B-4-2 (1R426-204)
Unit Letter B, Section 4, T22S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	92.83	137.9	30	100	12/24/2018	180	759	<0.001	<0.001	<0.001	<0.003	272	Clear No odor
1	92.5	137.9	30	100	2/7/2019	188	841	<0.001	<0.001	<0.001	<0.003	349	Clear No odor
1	92.63	137.9	30	100	4/24/2019	232	866	<0.001	<0.001	<0.001	<0.003	151	Clear No odor
1	92.56	137.9	30	100	7/24/2019	200	1,030	<0.001	<0.001	<0.001	<0.003	291	Clear No odor
1	92.41	137.9	30	100	10/29/2019	176	963	<0.001	<0.001	<0.001	<0.003	253	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	93.92	100.9	1.1	5	12/24/2018	120	574	<0.001	<0.001	<0.001	<0.003	179	Clear No odor
2	93.52	100.9	1.2	5	2/7/2019	92	650	<0.001	<0.001	<0.001	<0.003	155	Clear No odor
2	93.65	100.9	1.2	5	4/24/2019	88	646	<0.001	<0.001	<0.001	<0.003	124	Clear No odor
2	93.6	100.9	1.2	5	7/24/2019	80	577	<0.001	<0.001	<0.001	<0.003	180	Clear No odor
2	93.38	100.9	1.2	5	10/29/2019	80	569	<0.001	<0.001	<0.001	<0.003	101	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	89.58	101.4	1.9	6	12/24/2018	220	807	<0.001	<0.001	<0.001	<0.003	187	Clear No odor
3	89.28	101.4	1.9	6	2/7/2019	216	916	<0.001	<0.001	<0.001	<0.003	177	Clear No odor
3	89.38	101.4	1.9	6	4/24/2019	228	906	<0.001	<0.001	<0.001	<0.003	144	Clear No odor
3	89.34	101.4	1.9	6	7/24/2019	236	915	<0.001	<0.001	<0.001	<0.003	158	Clear No odor
3	89.19	101.4	1.9	6	10/29/2019	236	900	<0.001	<0.001	<0.001	<0.003	191	Clear No odor





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

February 20, 2019

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD JUNCTION B-4-2

Enclosed are the results of analyses for samples received by the laboratory on 02/12/19 15:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/12/2019	Sampling Date:	02/07/2019
Reported:	02/20/2019	Sampling Type:	Water
Project Name:	BD JUNCTION B-4-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S-R37E-SEC2 B-LEA CTY., NM		

Sample ID: MONITOR WELL #1 (H900546-01)

BTEX 8021B		mg/L		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	02/19/2019	ND	0.024	120	0.0200	1.25	
Toluene*	<0.001	0.001	02/19/2019	ND	0.023	114	0.0200	1.65	
Ethylbenzene*	<0.001	0.001	02/19/2019	ND	0.021	104	0.0200	2.53	
Total Xylenes*	<0.003	0.003	02/19/2019	ND	0.062	103	0.0600	2.53	
Total BTEX	<0.006	0.006	02/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 71.8 % 81.3-128

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	188	4.00	02/15/2019	ND	104	104	100	3.77	

Sulfate 375.4		mg/L		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	349	50.0	02/18/2019	ND	23.3	117	20.0	0.556	

TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	841	5.00	02/15/2019	ND	516	97.9	527	2.62	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/12/2019	Sampling Date:	02/07/2019
Reported:	02/20/2019	Sampling Type:	Water
Project Name:	BD JUNCTION B-4-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S-R37E-SEC2 B-LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H900546-02)

BTEX 8021B		mg/L		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	02/19/2019	ND	0.024	120	0.0200	1.25	
Toluene*	<0.001	0.001	02/19/2019	ND	0.023	114	0.0200	1.65	
Ethylbenzene*	<0.001	0.001	02/19/2019	ND	0.021	104	0.0200	2.53	
Total Xylenes*	<0.003	0.003	02/19/2019	ND	0.062	103	0.0600	2.53	
Total BTEX	<0.006	0.006	02/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 74.2 % 81.3-128

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	92.0	4.00	02/15/2019	ND	104	104	100	3.77	

Sulfate 375.4		mg/L		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	155	25.0	02/18/2019	ND	23.3	117	20.0	0.556	

TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	650	5.00	02/15/2019	ND	516	97.9	527	2.62	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/12/2019	Sampling Date:	02/07/2019
Reported:	02/20/2019	Sampling Type:	Water
Project Name:	BD JUNCTION B-4-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S-R37E-SEC2 B-LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H900546-03)

BTX 8021B		mg/L		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	02/19/2019	ND	0.024	120	0.0200	1.25	
Toluene*	<0.001	0.001	02/19/2019	ND	0.023	114	0.0200	1.65	
Ethylbenzene*	<0.001	0.001	02/19/2019	ND	0.021	104	0.0200	2.53	
Total Xylenes*	<0.003	0.003	02/19/2019	ND	0.062	103	0.0600	2.53	
Total BTX	<0.006	0.006	02/19/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 70.7 % 81.3-128

Chloride, SM4500CI-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	216	4.00	02/15/2019	ND	104	104	100	3.77	

Sulfate 375.4		mg/L		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	177	25.0	02/18/2019	ND	23.3	117	20.0	0.556	

TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	916	5.00	02/15/2019	ND	516	97.9	527	2.62	

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

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

Project #:	Project Name:
	BD Junction B-4-2

Project Location: T22S R37E Sec2 B ~ Lea County New Mexico

Sampler Signature: Rozanne Johnson (575)631-9310

[illegible]

Relinquished by: <u>Rozanne Johnson</u>	Date: <u>2/12/2019</u>	Time: <u>15:15</u>	Received by: <u>Jamara Oldaker</u>	Date: <u>2/12/19</u>	Time: <u>15:15</u>
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)	Date:	Time:

Delivered By: (Circle One)

Sample Condition

CHECKED BY:

Sampler - UPS - Bus - Other:

	Cool	Intact
Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
No	<input type="checkbox"/>	<input type="checkbox"/>

(Initials)

70

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

REMARKS:

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



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

May 06, 2019

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD JUNCTION B-4-2

Enclosed are the results of analyses for samples received by the laboratory on 04/29/19 12:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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, flowing style.

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received:	04/29/2019	Sampling Date:	04/24/2019
Reported:	05/06/2019	Sampling Type:	Water
Project Name:	BD JUNCTION B-4-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S-R37E-SEC2 B-LEA CTY., NM		

Sample ID: MONITOR WELL #1 (H901515-01)

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	04/29/2019	ND	0.021	104	0.0200	1.10	
Toluene*	<0.001	0.001	04/29/2019	ND	0.021	107	0.0200	1.27	
Ethylbenzene*	<0.001	0.001	04/29/2019	ND	0.020	102	0.0200	0.668	
Total Xylenes*	<0.003	0.003	04/29/2019	ND	0.063	105	0.0600	1.81	
Total BTEX	<0.006	0.006	04/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 81.3-128

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	232	4.00	05/02/2019	ND	100	100	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*	151	25.0	05/03/2019	ND	23.2	116	20.0	1.74	

TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	866	5.00	05/02/2019	ND	562	107	527	15.7	

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	04/29/2019	Sampling Date:	04/24/2019
Reported:	05/06/2019	Sampling Type:	Water
Project Name:	BD JUNCTION B-4-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S-R37E-SEC2 B-LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H901515-02)

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	04/29/2019	ND	0.021	104	0.0200	1.10	
Toluene*	<0.001	0.001	04/29/2019	ND	0.021	107	0.0200	1.27	
Ethylbenzene*	<0.001	0.001	04/29/2019	ND	0.020	102	0.0200	0.668	
Total Xylenes*	<0.003	0.003	04/29/2019	ND	0.063	105	0.0600	1.81	
Total BTEX	<0.006	0.006	04/29/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 81.3-128

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	88.0	4.00	05/02/2019	ND	100	100	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*	124	25.0	05/03/2019	ND	23.2	116	20.0	1.74	

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	646	5.00	05/02/2019	ND	562	107	527	15.7		

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	04/29/2019	Sampling Date:	04/24/2019
Reported:	05/06/2019	Sampling Type:	Water
Project Name:	BD JUNCTION B-4-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S-R37E-SEC2 B-LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H901515-03)

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	04/29/2019	ND	0.021	104	0.0200	1.10		
Toluene*	<0.001	0.001	04/29/2019	ND	0.021	107	0.0200	1.27		
Ethylbenzene*	<0.001	0.001	04/29/2019	ND	0.020	102	0.0200	0.668		
Total Xylenes*	<0.003	0.003	04/29/2019	ND	0.063	105	0.0600	1.81		
Total BTEX	<0.006	0.006	04/29/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 81.3-128

Chloride, SM4500CI-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	228	4.00	05/02/2019	ND	100	100	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*	144	25.0	05/03/2019	ND	23.2	116	20.0	1.74		

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	906	5.00	05/02/2019	ND	562	107	527	15.7		

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID #

ANALYSIS REQUEST
(Circle or Specify Method No.)

[illegible][illegible]

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Rozanne Johnson	4/29/19	12:20	[Signature]	4-29-19	12:20
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)	Date:	Time:

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

REMARKS:

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

Delivered By: (Circle One)

[illegible]

CHECKED BY:

	Cool	Intact
Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
No	<input type="checkbox"/>	<input type="checkbox"/>

(Initials)

Sampler - UPS - Bus - Other:



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

August 02, 2019

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD JUNCTION B-4-2

Enclosed are the results of analyses for samples received by the laboratory on 07/29/19 13:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received:	07/29/2019	Sampling Date:	07/24/2019
Reported:	08/02/2019	Sampling Type:	Water
Project Name:	BD JUNCTION B-4-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S-R37E-SEC2 B-LEA CTY., NM		

Sample ID: MONITOR WELL #1 (H902584-01)

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	07/31/2019	ND	0.020	101	0.0200	1.45	
Toluene*	<0.001	0.001	07/31/2019	ND	0.021	103	0.0200	1.22	
Ethylbenzene*	<0.001	0.001	07/31/2019	ND	0.020	97.7	0.0200	1.68	
Total Xylenes*	<0.003	0.003	07/31/2019	ND	0.060	99.5	0.0600	2.63	
Total BTEX	<0.006	0.006	07/31/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 81.3-128

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	200	4.00	07/30/2019	ND	104	104	100	0.00	

Sulfate 375.4		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	291	50.0	07/31/2019	ND	18.7	93.6	20.0	0.107	

TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1030	5.00	08/02/2019	ND	533	101	527	2.69	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	07/29/2019	Sampling Date:	07/24/2019
Reported:	08/02/2019	Sampling Type:	Water
Project Name:	BD JUNCTION B-4-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S-R37E-SEC2 B-LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H902584-02)

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	07/31/2019	ND	0.020	101	0.0200	1.45		
Toluene*	<0.001	0.001	07/31/2019	ND	0.021	103	0.0200	1.22		
Ethylbenzene*	<0.001	0.001	07/31/2019	ND	0.020	97.7	0.0200	1.68		
Total Xylenes*	<0.003	0.003	07/31/2019	ND	0.060	99.5	0.0600	2.63		
Total BTEX	<0.006	0.006	07/31/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 81.3-128

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	80.0	4.00	07/30/2019	ND	104	104	100	0.00	

Sulfate 375.4		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	180	25.0	07/31/2019	ND	18.7	93.6	20.0	0.107	

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	577	5.00	08/02/2019	ND	533	101	527	2.69		

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	07/29/2019	Sampling Date:	07/24/2019
Reported:	08/02/2019	Sampling Type:	Water
Project Name:	BD JUNCTION B-4-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S-R37E-SEC2 B-LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H902584-03)

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	07/31/2019	ND	0.020	101	0.0200	1.45	
Toluene*	<0.001	0.001	07/31/2019	ND	0.021	103	0.0200	1.22	
Ethylbenzene*	<0.001	0.001	07/31/2019	ND	0.020	97.7	0.0200	1.68	
Total Xylenes*	<0.003	0.003	07/31/2019	ND	0.060	99.5	0.0600	2.63	
Total BTEX	<0.006	0.006	07/31/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 81.3-128

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	236	4.00	07/30/2019	ND	104	104	100	0.00	

Sulfate 375.4		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	158	25.0	07/31/2019	ND	18.7	93.6	20.0	0.107		

TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	915	5.00	08/02/2019	ND	533	101	527	2.69	

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

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

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Cardinal Laboratories, Inc.

LAB Order ID

Company Name: RICE Operating Company		BILL TO Company: PO# RICE Operating Company	
Project Manager: Katie Jones		Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240	
Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240		Phone#: (575) 393-9174	Fax#: (575)397-1471
Phone #: (575) 393-9174		Fax #: (575) 397-1471	
Project #: BD Junction B-4-2		 Sampler Signature: Rozanne Johnson (575)631-9310	
Project Location: T22S R37E Sec2 B ~ Lea County New Mexico			

(Circle or Specify Method No.)

[illegible]

Relinquished by: <i>Rozanne Johnson</i>	Date: <i>7/29/2019</i>	Time: <i>13:40</i>	Received by: <i>Jamara Okeke</i>	Date: <i>7-29-19</i>	Time: <i>13:40</i>
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)	Date:	Time:

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

REMARKS:

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

Delivered By: (Circle One)

Sample Condition

CHECKED BY:

	Cool	Intact
Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
No	<input type="checkbox"/>	<input type="checkbox"/>

(Initials)

Sampler - UPS - Bus - Other:



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

November 06, 2019

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD JUNCTION B-4-2

Enclosed are the results of analyses for samples received by the laboratory on 10/31/19 13:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is 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, flowing style.

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received:	10/31/2019	Sampling Date:	10/29/2019
Reported:	11/06/2019	Sampling Type:	Water
Project Name:	BD JUNCTION B-4-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S-R37E-SEC2 B-LEA CTY., NM		

Sample ID: MONITOR WELL #1 (H903722-01)

BTEX 8021B		mg/L		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	11/05/2019	ND	0.020	98.4	0.0200	0.744	
Toluene*	<0.001	0.001	11/05/2019	ND	0.017	84.5	0.0200	3.21	
Ethylbenzene*	<0.001	0.001	11/05/2019	ND	0.018	90.9	0.0200	3.11	
Total Xylenes*	<0.003	0.003	11/05/2019	ND	0.056	93.3	0.0600	1.61	
Total BTEX	<0.006	0.006	11/05/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 74-98

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	176	4.00	11/01/2019	ND	104	104	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*	253	50.0	11/01/2019	ND	19.9	99.4	20.0	15.8	

TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	963	5.00	11/05/2019	ND	495	93.9	527	1.68	

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	10/31/2019	Sampling Date:	10/29/2019
Reported:	11/06/2019	Sampling Type:	Water
Project Name:	BD JUNCTION B-4-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S-R37E-SEC2 B-LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H903722-02)

BTEX 8021B		mg/L		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	11/05/2019	ND	0.020	98.4	0.0200	0.744		
Toluene*	<0.001	0.001	11/05/2019	ND	0.017	84.5	0.0200	3.21		
Ethylbenzene*	<0.001	0.001	11/05/2019	ND	0.018	90.9	0.0200	3.11		
Total Xylenes*	<0.003	0.003	11/05/2019	ND	0.056	93.3	0.0600	1.61		
Total BTEX	<0.006	0.006	11/05/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 74-98

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	80.0	4.00	11/01/2019	ND	104	104	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*	101	50.0	11/01/2019	ND	19.9	99.4	20.0	15.8		

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	569	5.00	11/05/2019	ND	495	93.9	527	1.68		

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	10/31/2019	Sampling Date:	10/29/2019
Reported:	11/06/2019	Sampling Type:	Water
Project Name:	BD JUNCTION B-4-2	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S-R37E-SEC2 B-LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H903722-03)

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	11/05/2019	ND	0.020	98.4	0.0200	0.744		
Toluene*	<0.001	0.001	11/05/2019	ND	0.017	84.5	0.0200	3.21		
Ethylbenzene*	<0.001	0.001	11/05/2019	ND	0.018	90.9	0.0200	3.11		
Total Xylenes*	<0.003	0.003	11/05/2019	ND	0.056	93.3	0.0600	1.61		
Total BTEX	<0.006	0.006	11/05/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 74-98

Chloride, SM4500CI-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	236	4.00	11/01/2019	ND	104	104	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*	191	50.0	11/01/2019	ND	19.9	99.4	20.0	15.8		

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	900	5.00	11/05/2019	ND	495	93.9	527	1.68		

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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

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Celey D. Keene, Lab Director/Quality Manager

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

Cardinal Laboratories, Inc.

Company Name: RICE Operating Company		BILL TO Company: PO# RICE Operating Company	
Project Manager: Katie Jones		Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240	
Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240		Phone#: Fax#: (575) 393-9174 (575)397-1471	
Phone #: (575) 393-9174		Fax #: (575) 397-1471	
Project #:		Project Name: BD Junction B-4-2	
Project Location: T22S R37E Sec2 B ~ Lea County New Mexico		Sampler Signature: Rozanne Johnson (575)631-9310	

[illegible]

Relinquished by: <u>Rozanne Johnson</u> Date: <u>10/31/2019</u> Time: <u>13:20</u>	Received by: <u>Tamara Aldate</u> Date: <u>10-31-19</u> Time: <u>13:20</u>
Relinquished by: _____ Date: _____ Time: _____	Received By: (Laboratory Staff) _____ Date: _____ Time: _____

Delivered By: (Circle One)

[illegible]

	Cool	Intact
Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
No	<input type="checkbox"/>	<input type="checkbox"/>

CHECKED BY:

(Initials)

Sampler - UPS - Bus - Other:

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

ANALYSIS REQUEST

(Circle or Specify Method No.)

[illegible]

Phone Results	Yes	No
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100%

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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Fax Results

☐ Yes

No

Additional Fax Number:

REMARKS:

Email Results: kjones@riceswd.com

rozanne11@windstream.net