RICE Operating Company

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

April 1, 2020

Bradford Billings

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

RE: 2019 Annual Groundwater Report Rice Operating Company – Hobbs SWD System Hobbs K-29 EOL Boot (1R428-50): UL/K, Sec. 29, T18S, R38E

Mr. Billings:

ROC is the service provider (agent) for the Hobbs 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. The system is now abandoned.

The site is located approximately 2.37 miles west of Hobbs, New Mexico at UL/K, Sec. 29, T18S, R38E as shown on the Geographical Location Map. NM OSE records indicate that groundwater will likely be encountered at a depth of approximately 67 feet.

An Investigation and Characterization Plan (ICP) was submitted to NMOCD on April 4th, 2008 and approved on May 21st, 2008. According to the ICP, the site was investigated through vertical and soil bore installation resulting in elevated chloride concentrations that decreased with depth. Based on the investigation, two monitoring wells were installed to determine groundwater quality and the wells have been sampled quarterly since installation.

A Corrective Action Plan (CAP) was submitted and approved by NMOCD on February 5th, 2015. According to the NMOCD approved CAP, a 63x53-ft 20-mil reinforced liner was installed and properly seated at 4 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 the NMOCD on September 8th, 2015. The report also requested an additional monitoring well (MW-3) be installed down-gradient of the site. NMOCD approved this report and granted 'Soil Closure' on September 15th, 2015. On October 2nd, 2015, the down-gradient well (MW-3) was installed, and lithology soil samples were collected at regular intervals.

The well was developed and sampled in conjunction with the quarterly monitoring well sampling.

ROC submitted the 2018 Annual Report and Addendum with a request to plug and abandon MW-1 and replace it with a 4-inch well to be used for groundwater recovery. NMOCD

approved the request on September 5th, 2019. On November 12th, 2019, the well was plugged using a cement grout with 1-3% bentonite and a three ft cap of cement at the surface. A 4-inch well (MW-1R) was installed approximately 10 ft southeast of the former well and lithology samples were collected at regular intervals. The log and photos are included in the appendix.

The well was developed and sampled in conjunction with the quarterly sampling, resulting in an initial chloride concentration of 200 mg/L in MW-1R. This is a decrease from an average concentration of 640 mg/L from the first three quarters of 2019. Chloride concentrations have remained below WQCC standards in MW-2 and MW-3 throughout 2019. BTEX concentrations have remained below detectable limits since the wells were installed.

Given that BTEX concentrations have been below detectable limits since installation, ROC requests to suspend BTEX sampling in all three wells (MW-1R, MW-2 and MW-3). Further, due to the current climate, and in the interest of safety, ROC is proposing to reduce groundwater monitoring from quarterly to semi-annually for the remainder of 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. MW-1R log 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,

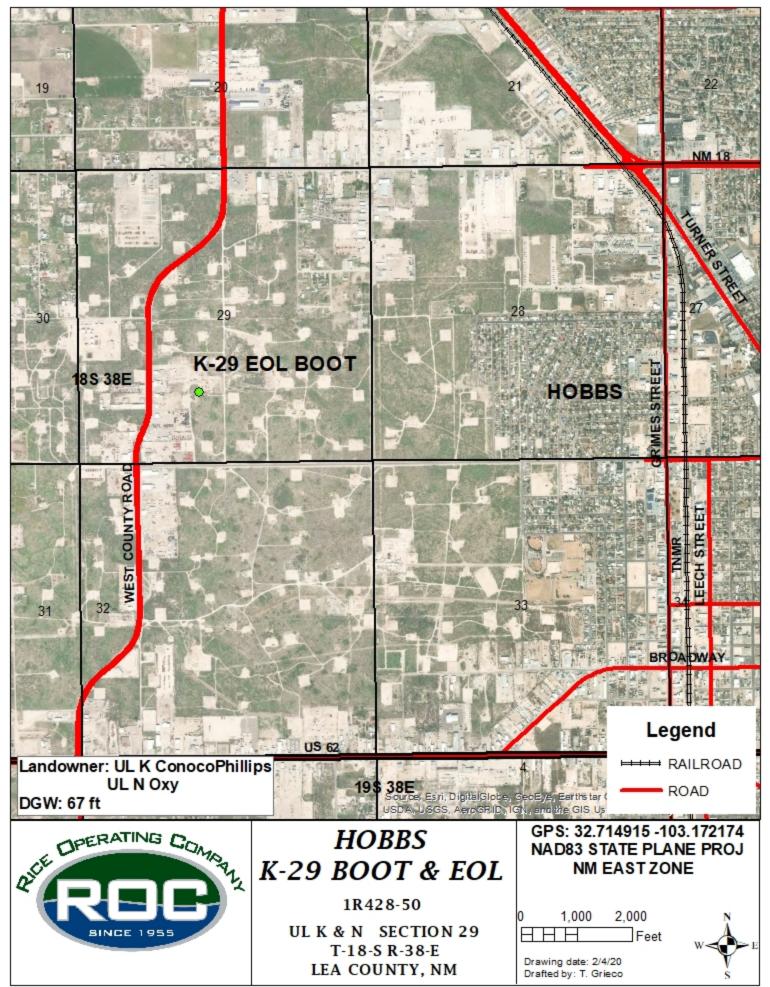
Katil Davis

Katie Davis Environmental Manager RICE Operating Company (ROC)

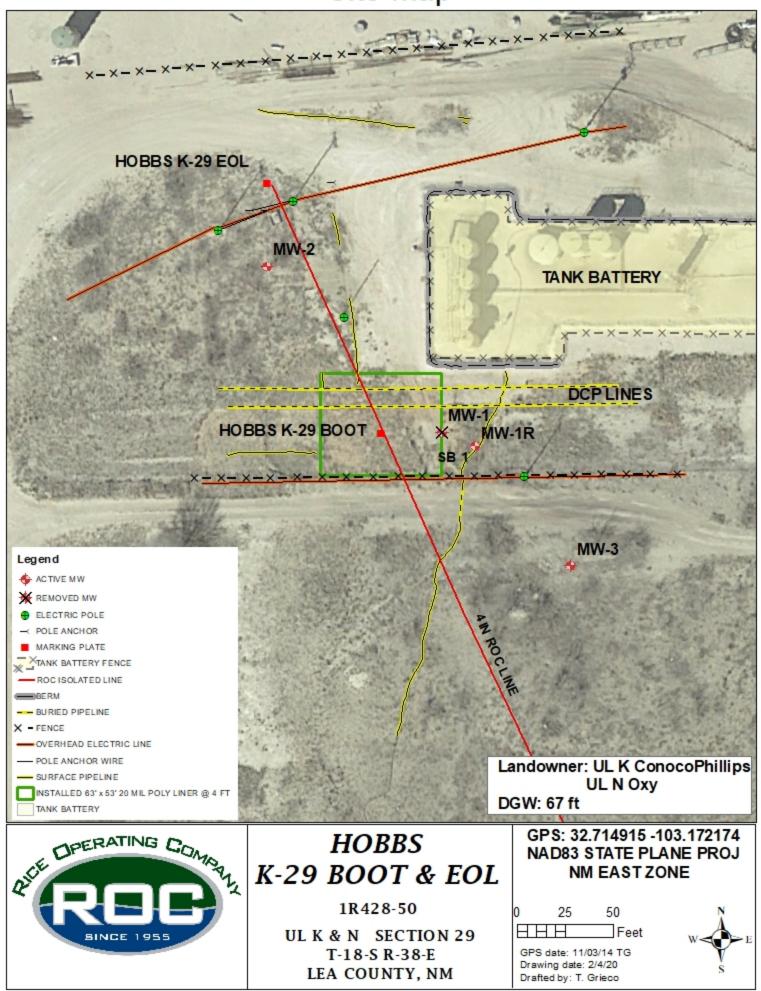
Cc – Edward J. Hansen (ROC)

appendix

Geographical Location Map



Site Map



Start Date End Date Comme	Driller: HCI Drilling Drilling Method: 6" Air Rotary Start Date: 11/12/2019 End Date: 11/12/2019 Comments: Soil samples were collected f MW-1R was drilled approximately 40 feet DRAFTED BY TD = 111' Depth Chloride LAB PID					Company: Rice Operating Company Project Name: Well ID: Hobbs K-29 Boot & EOL MW-1R Project Consultant: Tasman Location: Unit K, Section 29, T18S, R38E Lat: 32.714718 County: Long: -103.171978 State:					
-					Description	Lithology Well Construction					
(feet) SS	field te N/A		(mg/kg)	(ppm) N/A							
					GW-light tan, well graded gravels of weathered caliche		Concrete				
5 ft	N/A			N/A	GW-Same As Above (SAA)						
10 ft	ft N/A		/A N/A		SW-tan, coarse to pebble size caliche						
					with fine sands						
15 ft	N/A	N/A N/A		N/A	SW-SAA	-	4 in. PVC				
20 ft	N/A			N/A	SW-SAA	-	Bentonite				
25 ft	N/A			N/A	SP-tan, poorly graded fine sands		Seal				
30 ft	N/A			N/A	SP-SAA						
35 ft	N/A			N/A	SP-reddish tan, poorly graded fine sands						
40 ft	N/A			N/A	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
					SP-SAA						

DepthChlorideLABPID(feet)field tests(mg/kg)(ppm)			Description	Lithology	Well Construction
45 ft	N/A	N/A	SW-reddish tan, well graded mechanically weathered sandstone		
50 ft	N/A	N/A	SW-SAA		Bentonite
55 ft	N/A	N/A	SW-SAA		
60 ft	N/A	N/A	SW-SAA		
65 ft	N/A	N/A	SP-reddish tan, poorly graded fine sands		
70 ft	N/A	N/A	SP-SAA		
75 ft	N/A	N/A	SW-reddish tan, well graded mechanically weathered sandstone		Sand
80 ft	N/A	N/A	SW-SAA		
85 ft	N/A	N/A	SW-SAA		
90 ft	N/A	N/A	SP-reddish tan, poorly graded fine sands, occasional coarse grains of mechanically weathered sandstone		
95 ft	N/A	N/A	SP-SAA		

Depth (feet)	Chloride field tests	LAB (mg/kg)	PID (ppm)	Description	Lithology	Well Construction
100 ft	N/A		N/A			
				SP-SAA		
105 ft	N/A		N/A			Sand
				SP-SAA		Pack
						10' S
110 ft	N/A		N/A			
				SP-SAA		









MW	Depth to	Total	Well	Volume	Sample	Cl	TDS	Benzene	Toluene	Ethyl	Total	Sulfate	Comments
	Water	Depth	Volume	Purged	Date					Benzene	Xylenes		
1	62.34	73.6	1.8	6	7/14/2009	520	1,310	<0.001	<0.001	<0.001	<0.003	57	Silt to clear Slight odor
1	62.43	73.6	1.8	6	10/27/2009	332	757	0.001	<0.001	0.002	<0.003	59.5	Silt to clear Slight odor
1	62.72	73.62	1.7	6	3/15/2010	476	1,170	<0.001	<0.001	<0.001	<0.003	71.5	Silt to clear Slight odor
1	62.81	73.62	1.7	6	6/4/2010	432	1,320	<0.001	<0.001	<0.001	<0.003	78	Silt to clear Slight odor
1	62.56	73.62	1.8	6	8/30/2010	540	1,400	<0.001	<0.001	<0.001	<0.003	51.7	Silt to clear Slight odor
1	62.91	73.62	1.7	6	12/10/2010	560	1,280	<0.001	<0.001	<0.001	<0.003	67.9	Silt to clear Slight odor
1	63.05	73.62	1.7	6	3/23/2011	610	1,620	<0.001	<0.001	<0.001	<0.003	76.9	Silt to clear Slight odor
1	63.22	73.62	1.7	6	6/20/2011	540	1,280	<0.001	<0.001	<0.001	<0.003	71.9	Silt to clear Slight odor
1	63.44	73.62	1.6	6	9/20/2011	610	1,470	<0.001	<0.001	<0.001	<0.003	82.1	Silt to clear Slight odor
1	63.62	73.62	1.6	6	12/15/2011	540	1,320	<0.001	<0.001	<0.001	<0.003	87.2	Silt to clear Slight odor
1	63.78	73.62	1.6	6	3/13/2012	570	1,360	0.003	<0.001	<0.001	<0.003	74.2	Silt to clear Slight odor
1	63.93	73.62	1.6	6	6/11/2012	500	1,410	<0.001	<0.001	<0.001	<0.003	85.5	Silt to clear Slight odor
1	64.14	73.62	1.5	6	9/6/2012	500	1,280	<0.001	<0.001	<0.001	<0.003	77.6	Silt to clear Slight odor
1	64.3	73.62	1.5	6	11/29/2012	550	1,340	<0.001	<0.001	<0.001	<0.003	71.5	Silt to clear Slight odor
1	64.48	73.62	1.5	6	3/7/2013	492	1,220	<0.001	<0.001	<0.001	<0.003	88	Silt to clear Slight odor
1	64.69	73.62	1.4	6	6/24/2013	344	1,060	<0.001	< 0.001	< 0.001	< 0.003	63	Silt to clear Slight odor
1	64.95	73.62	1.4	8	9/16/2013	336	987	<0.001	<0.001	<0.001	<0.003	88	Silt to clear Slight odor
1	65.15	73.62	1.4	6	12/12/2013	352	1,130	<0.001	<0.001	<0.001	<0.003	194	Silt to clear Slight odor
1	65.29	73.62	1.3	6	3/19/2014	352	1,080	<0.001	<0.001	<0.001	<0.003	112	Silt to clear Slight odor
1	65.49	73.62	1.3	6	6/16/2014	264	864	<0.001	< 0.001	< 0.001	< 0.003	64.2	Silt to clear Slight odor
1	65.78	73.62	1.3	6	9/10/2014	352	1,150	<0.001	< 0.001	< 0.001	< 0.003	250	Silt to clear Slight odor
1	65.63	73.62	1.3	6	12/17/2014	300	904	<0.001	<0.001	<0.001	<0.003	158	Silt to clear Slight odor
1	65.78	73.62	1.3	6	3/17/2015	264	904	<0.001	<0.001	< 0.001	< 0.003	73	Silt to clear Slight odor
1	65.88	73.62	1.2	6	6/16/2015	320	1,020	<0.001	<0.001	<0.001	<0.003	86	Silt to clear Slight odor
1	65.93	73.65	1.2	6	9/17/2015	316	1,050	<0.001	<0.001	<0.001	<0.003	144	Silt to clear Slight odor
1	65.65	73.65	1.2	6	12/1/2015	252	764	<0.001	< 0.001	< 0.001	<0.003	79.9	Silt to clear Slight odor
1	65.9	73.65	1.2	6	3/28/2016	416	1,120	<0.001	< 0.001	< 0.001	<0.003	58.7	Silt to clear Slight odor
1	66.05	73.65	1.2	6	6/23/2016	490	1,430	<0.001	<0.001	< 0.001	<0.003	62.4	Silt to clear Slight odor
1	65.93	73.65	1.2	6	9/26/2016	640	1,940	<0.001	<0.001	<0.001	<0.003	73	Silt to clear Slight odor

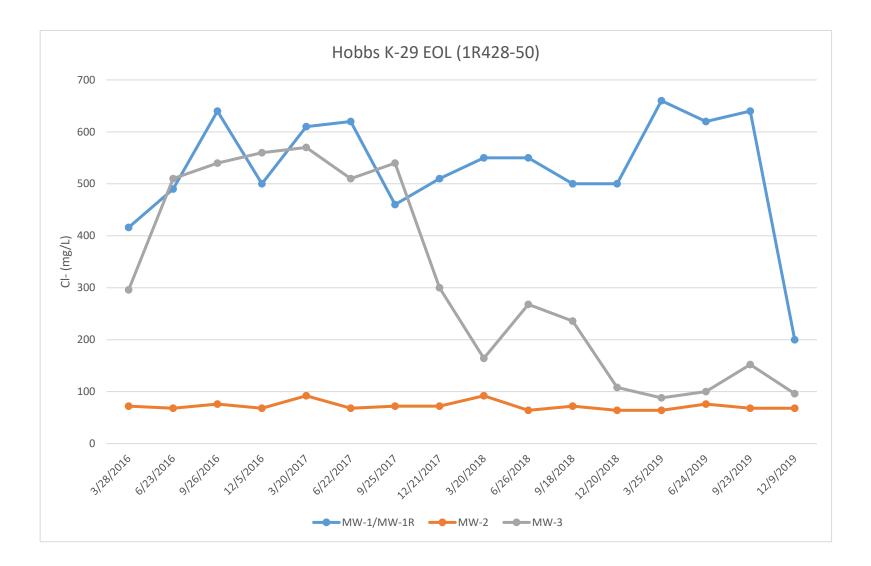
MW	Depth to	Total	Well	Volume	Sample	CI	TDS	Benzene	Toluene	Ethyl	Total	Sulfato	Comments
	Water	Depth	Volume	Purged	Date	C	103	Delizene	Toluelle	Benzene	Xylenes	Sunate	comments
1	65.67	73.65	1.3	6	12/5/2016	500	1,420	<0.001	<0.001	<0.001	<0.003	72	Silt to clear Slight odor
1	65.91	73.65	1.2	6	3/20/2017	610	1,520	<0.001	<0.001	<0.001	<0.003	78	Silt to clear Slight odor
1	66.26	73.65	1.2	6	6/22/2017	620	1,690	<0.001	<0.001	<0.001	<0.003	81	Silt to clear Slight odor
1	66.28	73.65	1.2	6	9/25/2017	460	1,780	<0.001	<0.001	<0.001	<0.003	74	Silt to clear Slight odor
1	66.32	73.65	1.2	6	12/21/2017	510	1,290	<0.001	<0.001	<0.001	<0.003	80	Silt to clear Slight odor
1	66.46	73.62	1.1	6	3/20/2018	550	1,410	<0.001	<0.001	<0.001	<0.003	70.9	Silt to clear Slight odor
1	66.62	73.62	1.1	6	6/26/2018	550	1,380	<0.001	<0.001	<0.001	<0.003	67.8	Silt to clear Slight odor
1	66.77	73.62	1.1	6	9/18/2018	500	1,240	<0.001	<0.001	<0.001	<0.003	71.6	Silt to clear Slight odor
1	66.81	73.62	1.1	6	12/20/2018	500	1,310	<0.001	<0.001	<0.001	<0.003	89.8	Silt to clear Slight odor
1	66.94	73.65	1.1	6	3/25/2019	660	1,620	<0.001	<0.001	<0.001	<0.003	67	Silt to clear Slight odor
1	67.08	73.65	1	6	6/24/2019	620	1,610	<0.001	<0.001	<0.001	<0.003	66	Silt to clear Slight odor
1	67.15	73.65	1	6	9/23/2019	640	1,670	<0.001	<0.001	<0.001	<0.003	62	Silt to clear Slight odor
1R	67.46	112.8	29	100	12/9/2019	200	730	<0.001	<0.001	<0.001	<0.003	70.7	Silt to clear Slight odor

MW	Depth to	Total	Well	Volume	Sample	Cl	TDS	Benzene	Toluene	Ethyl	Total	Sulfate	Comments
	Water	Depth	Volume	Purged	Date	CI	105	Denzene	Tolucile	Benzene	Xylenes	Sunate	connents
2	63.67	77.41	2.2	8	3/13/2012	68	522	<0.001	<0.001	<0.001	<0.003	83.2	Silt to clear Slight odor
2	63.87	77.41	2.2	8	6/11/2012	68	474	<0.001	<0.001	< 0.001	<0.003	86.4	Silt to clear Slight odor
2	64.02	77.41	2.1	8	9/6/2012	64	500	<0.001	<0.001	<0.001	<0.003	88.2	Silt to clear Slight odor
2	64.22	77.41	2.1	8	11/29/2012	68	521	<0.001	<0.001	< 0.001	<0.003	88.5	Silt to clear Slight odor
2	64.41	77.41	2.1	8	3/7/2013	72	478	<0.001	<0.001	< 0.001	<0.003	95	Silt to clear Slight odor
2	64.65	77.41	2	8	6/24/2013	68	504	<0.001	<0.001	<0.001	<0.003	83	Silt to clear Slight odor
2	64.86	77.41	2	8	9/16/2013	64	485	<0.001	<0.001	<0.001	<0.003	75.3	Silt to clear Slight odor
2	65.04	77.41	2	8	12/12/2013	64	473	<0.001	<0.001	<0.001	<0.003	93.4	Silt to clear Slight odor
2	65.24	77.41	1.9	8	3/19/2014	68	426	<0.001	<0.001	<0.001	<0.003	88.2	Silt to clear Slight odor
2	65.51	77.41	1.9	8	6/16/2014	68	572	<0.001	<0.001	<0.001	<0.003	82.5	Silt to clear Slight odor
2	65.74	77.41	1.9	8	9/10/2014	64	512	<0.001	<0.001	<0.001	<0.003	98.1	Silt to clear Slight odor
2	65.57	77.41	1.9	8	12/17/2014	68	482	<0.001	<0.001	< 0.001	<0.003	87	Silt to clear Slight odor

MW	Depth to	Total	Well	Volume	Sample	Cl	TDC	Donzono	Taluana	Ethyl	Total	Culfata	Commonte
	Water	Depth	Volume	Purged	Date	C	TDS	Benzene	Toluene	Benzene	Xylenes	Sulfate	Comments
2	65.72	77.41	1.9	8	3/17/2015	52	452	< 0.001	<0.001	< 0.001	<0.003	77	Silt to clear Slight odor
2	65.84	77.41	1.9	8	6/16/2015	72	518	<0.001	<0.001	<0.001	<0.003	70	Silt to clear Slight odor
2	65.88	77.41	1.9	8	9/17/2015	72	546	<0.001	<0.001	<0.001	<0.003	63.3	Silt to clear Slight odor
2	65.57	77.41	1.9	8	12/1/2015	72	558	<0.001	<0.001	<0.001	<0.003	87	Silt to clear Slight odor
2	65.84	77.41	1.9	8	3/28/2016	68	556	<0.001	<0.001	<0.001	<0.003	76.8	Silt to clear Slight odor
2	65.96	77.41	1.8	8	6/23/2016	76	506	<0.001	<0.001	<0.001	<0.003	110	Silt to clear Slight odor
2	65.86	77.41	1.8	8	9/26/2016	68	544	<0.001	<0.001	<0.001	<0.003	95	Silt to clear Slight odor
2	65.6	77.41	1.9	8	12/5/2016	92	560	<0.001	<0.001	<0.001	<0.003	107	Silt to clear Slight odor
2	65.84	77.41	1.9	8	3/20/2017	68	540	<0.001	<0.001	<0.001	<0.003	72	Silt to clear Slight odor
2	66.18	77.41	1.8	8	6/22/2017	72	532	<0.001	<0.001	<0.001	<0.003	82	Silt to clear Slight odor
2	66.21	77.41	1.8	8	9/25/2017	72	714	<0.001	<0.001	<0.001	<0.003	92	Silt to clear Slight odor
2	66.28	77.41	1.8	8	12/21/2017	92	526	<0.001	<0.001	<0.001	<0.003	98	Silt to clear Slight odor
2	66.41	77.41	1.8	8	3/20/2018	64	404	<0.001	<0.001	<0.001	<0.003	94.7	Silt to clear Slight odor
2	66.55	77.41	1.7	8	6/26/2018	72	638	<0.001	<0.001	<0.001	<0.003	71.6	Silt to clear Slight odor
2	66.71	77.41	1.7	8	9/18/2018	64	520	<0.001	<0.001	<0.001	<0.003	86.2	Silt to clear Slight odor
2	66.74	77.41	1.7	8	12/20/2018	64	510	<0.001	<0.001	<0.001	<0.003	121	Silt to clear Slight odor
2	66.89	77.41	1.7	8	3/25/2019	76	543	<0.001	<0.001	<0.001	<0.003	94	Silt to clear Slight odor
2	67.02	77.41	1.7	8	6/24/2019	68	603	<0.001	<0.001	<0.001	<0.003	34	Silt to clear Slight odor
2	67.09	77.41	1.7	8	9/23/2019	68	496	<0.001	<0.001	<0.001	<0.003	103	Silt to clear Slight odor
2	67.28	77.41	1.6	8	12/9/2019	72	561	<0.001	<0.001	<0.001	<0.003	85	Silt to clear Slight odor

мw	Depth to	Total	Well	Volume	Sample	CL	TDS	Benzene	Toluene	Ethyl	Total	Sulfato	Comments	
	Water	Depth	Volume	Purged	Date	U	103	Delizelle	Toluelle	Benzene	Xylenes	Sunate	comments	
3	64.23	110.2	29.9	120	12/1/2015	220	784	<0.001	<0.001	<0.001	<0.003	65	Silt to clear Slight odor	
3	64.18	110.2	30	100	3/28/2016	296	960	<0.001	<0.001	<0.001	<0.003	65	Silt to clear Slight odor	
3	64.6	110.2	30	100	6/23/2016	510	1,240	<0.001	<0.001	<0.001	<0.003	62	Silt to clear Slight odor	
3	64.45	110.2	30	100	9/26/2016	540	1,600	<0.001	<0.001	<0.001	<0.003	67	Silt to clear Slight odor	
3	64.18	110.2	30	100	12/5/2016	560	1,400	<0.001	<0.001	<0.001	<0.003	71	Silt to clear Slight odor	

MW	Depth to	Total	Well	Volume	Sample	Cl	TDS	Benzene	Toluene	Ethyl	Total	Sulfate	Comments
	Water	Depth	Volume	Purged	Date	C	103	Delizene	Toluelle	Benzene	Xylenes	Sunate	Comments
3	64.5	110.2	30	100	3/20/2017	570	1,520	<0.001	<0.001	<0.001	<0.003	96	Silt to clear Slight odor
3	64.83	110.2	30	100	6/22/2017	510	1,560	<0.001	<0.001	<0.001	<0.003	78	Silt to clear Slight odor
3	64.85	110.2	30	100	9/25/2017	540	1,800	<0.001	<0.001	<0.001	<0.003	71	Silt to clear Slight odor
3	64.88	110.2	30	100	12/21/2017	300	980	<0.001	<0.001	<0.001	<0.003	45	Silt to clear Slight odor
3	65.02	110.2	29.4	100	3/20/2018	164	662	<0.001	<0.001	<0.001	<0.003	77.2	Silt to clear Slight odor
3	65.11	110.2	29.3	100	6/26/2018	268	984	<0.001	<0.001	<0.001	<0.003	130	Silt to clear Slight odor
3	65.26	110.2	29.2	100	9/18/2018	236	584	<0.001	<0.001	<0.001	<0.003	91.1	Silt to clear Slight odor
3	65.28	110.2	29.2	100	12/20/2018	108	474	<0.001	<0.001	<0.001	<0.003	60.9	Silt to clear Slight odor
3	65.49	110.2	29	100	3/25/2019	88	614	<0.001	<0.001	<0.001	<0.003	88	Silt to clear Slight odor
3	65.63	110.2	29	100	6/24/2019	100	627	<0.001	<0.001	<0.001	<0.003	55	Silt to clear Slight odor
3	65.7	110.2	29	100	9/23/2019	152	634	<0.001	<0.001	<0.001	<0.003	92	Silt to clear Slight odor
3	65.88	110.2	29	100	12/9/2019	96	628	<0.001	<0.001	<0.001	<0.003	58	Silt to clear Slight odor





April 03, 2019

KATIE JONES Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: HOBBS K-29 BOOT

Enclosed are the results of analyses for samples received by the laboratory on 03/26/19 13:50.

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/ga/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	03/26/2019	Sampling Date:	03/25/2019
Reported:	04/03/2019	Sampling Type:	Water
Project Name:	HOBBS K-29 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T18S-R38E-SEC29 K-LEA CTY., NM		

Sample ID: MONITOR WELL # 1 (H901130-01)

	` .	. ,							
BTEX 8021B	mg/	L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.001	0.001	03/28/2019	ND	0.022	109	0.0200	5.98	
Toluene*	<0.001	0.001	03/28/2019	ND	0.020	101	0.0200	2.19	
Ethylbenzene*	<0.001	0.001	03/28/2019	ND	0.020	100	0.0200	7.43	
Total Xylenes*	<0.003	0.003	03/28/2019	ND	0.061	102	0.0600	0.670	
Total BTEX	<0.006	0.006	03/28/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	86.2 9	% 81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	660	4.00	03/27/2019	ND	104	104	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	67.1	10.0	04/03/2019	ND	24.0	120	20.0	12.2	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1620	5.00	04/01/2019	ND	470	89.2	527	1.68	

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PLEASE NOTE: Liability and Damages. Cardinal's liability and clent's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, whother bits ubsidiaries, affiliates or successor arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Keine



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

Received:	03/26/2019	Sampling Date:	03/25/2019
Reported:	04/03/2019	Sampling Type:	Water
Project Name:	HOBBS K-29 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T18S-R38E-SEC29 K-LEA CTY., NM		

Sample ID: MONITOR WELL # 2 (H901130-02)

BTEX 8021B	mg/	L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.001	0.001	03/28/2019	ND	0.022	109	0.0200	5.98	
Toluene*	<0.001	0.001	03/28/2019	ND	0.020	101	0.0200	2.19	
Ethylbenzene*	<0.001	0.001	03/28/2019	ND	0.020	100	0.0200	7.43	
Total Xylenes*	<0.003	0.003	03/28/2019	ND	0.061	102	0.0600	0.670	
Total BTEX	<0.006	0.006	03/28/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.7 9	81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	76.0	4.00	03/27/2019	ND	104	104	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	94.2	25.0	04/03/2019	ND	24.0	120	20.0	12.2	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	543	5.00	04/01/2019	ND	470	89.2	527	1.68	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	03/26/2019	Sampling Date:	03/25/2019
Reported:	04/03/2019	Sampling Type:	Water
Project Name:	HOBBS K-29 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T18S-R38E-SEC29 K-LEA CTY., NM		

Sample ID: MONITOR WELL # 3 (H901130-03)

BTEX 8021B	mg/	L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	03/28/2019	ND	0.022	109	0.0200	5.98	
Toluene*	<0.001	0.001	03/28/2019	ND	0.020	101	0.0200	2.19	
Ethylbenzene*	<0.001	0.001	03/28/2019	ND	0.020	100	0.0200	7.43	
Total Xylenes*	<0.003	0.003	03/28/2019	ND	0.061	102	0.0600	0.670	
Total BTEX	<0.006	0.006	03/28/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	97.8 9	81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	88.0	4.00	03/27/2019	ND	104	104	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	88.2	25.0	04/03/2019	ND	24.0	120	20.0	12.2	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	614	5.00	04/01/2019	ND	470	89.2	527	1.68	

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Celeg D. Keine

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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Celeg D. Keine

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LAB #		du	RS			\square	\square	2				Γī			2		TPH 418.1/TX1005 / TX1005 Extended (C35)	1	As B	ž	tiles		()	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625		Pesticides 8081A/608			Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3) Sulfates	Solids		Turn Around Time ~ 24 Hours
	FIELD CODE	C)0	INE		()	1	11	10/			HDF	i l	6	/	8021B/602	B/60	IXI		Ag .	les	Vola	ides	()	826	ii. Vo	/608	081/	F	nter	W	SC	ved	1	d Tin
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ONLY		(G)rab or (C)omp	# CONTAINERS	WATER	SOIL	AIR SLUDGE	11	HCL (2 40ml VOA)	HNO ₃ NaHSO,	H2SO4	ICE (1-1Liter HDPE)	NONE (1-1	DATE (2019)	₩ '	MTBE 8	BTEX 8021B/602	1 41	1 82	P N	2	TCLP Semi Volatiles	TCLP Pesticides	\Box	WIS	WS	PCB's 8082/608	ticide	BOD, TSS, pH	Moisture Content	suo	Anions ((Sulfates	Total Dissolved	Chlorides	n Ar
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July 02, 2019

KATIE JONES Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: HOBBS K-29 BOOT

Enclosed are the results of analyses for samples received by the laboratory on 06/26/19 16:55.

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/ga/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	06/26/2019	Sampling Date:	06/24/2019
Reported:	07/02/2019	Sampling Type:	Water
Project Name:	HOBBS K-29 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Celey D. Keene
Project Location:	T18S-R38E-SEC29 K-LEA CTY., NM		

Sample ID: MONITOR WELL # 1 (H902197-01)

BTEX 8021B	`mg/	Γ.	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
Analyte						,			Qualifier
Benzene*	<0.001	0.001	07/01/2019	ND	0.020	102	0.0200	1.69	
Toluene*	< 0.001	0.001	07/01/2019	ND	0.021	103	0.0200	1.23	
Ethylbenzene*	< 0.001	0.001	07/01/2019	ND	0.020	97.6	0.0200	0.593	
Total Xylenes*	<0.003	0.003	07/01/2019	ND	0.059	98.7	0.0600	0.864	
Total BTEX	<0.006	0.006	07/01/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 9	% 81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	620	4.00	06/28/2019	ND	100	100	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	66.4	10.0	06/29/2019	ND	21.6	108	20.0	5.76	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1610	5.00	06/28/2019	ND	525	99.6	527	2.99	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/26/2019	Sampling Date:	06/24/2019
Reported:	07/02/2019	Sampling Type:	Water
Project Name:	HOBBS K-29 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Celey D. Keene
Project Location:	T18S-R38E-SEC29 K-LEA CTY., NM		

Sample ID: MONITOR WELL # 2 (H902197-02)

•	•								
BTEX 8021B	mg/	L	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	07/01/2019	ND	0.020	102	0.0200	1.69	
Toluene*	<0.001	0.001	07/01/2019	ND	0.021	103	0.0200	1.23	
Ethylbenzene*	<0.001	0.001	07/01/2019	ND	0.020	97.6	0.0200	0.593	
Total Xylenes*	<0.003	0.003	07/01/2019	ND	0.059	98.7	0.0600	0.864	
Total BTEX	<0.006	0.006	07/01/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 %	6 81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	68.0	4.00	06/28/2019	ND	100	100	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	34.4	10.0	06/29/2019	ND	21.6	108	20.0	5.76	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	603	5.00	06/28/2019	ND	525	99.6	527	2.99	

Cardinal Laboratories

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/26/2019	Sampling Date:	06/24/2019
Reported:	07/02/2019	Sampling Type:	Water
Project Name:	HOBBS K-29 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Celey D. Keene
Project Location:	T18S-R38E-SEC29 K-LEA CTY., NM		

Sample ID: MONITOR WELL # 3 (H902197-03)

•	•	•							
BTEX 8021B	mg/	L	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.001	0.001	07/01/2019	ND	0.020	102	0.0200	1.69	
Toluene*	< 0.001	0.001	07/01/2019	ND	0.021	103	0.0200	1.23	
Ethylbenzene*	< 0.001	0.001	07/01/2019	ND	0.020	97.6	0.0200	0.593	
Total Xylenes*	<0.003	0.003	07/01/2019	ND	0.059	98.7	0.0600	0.864	
Total BTEX	<0.006	0.006	07/01/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	106 9	81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	100	4.00	06/28/2019	ND	100	100	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	55.8	10.0	06/29/2019	ND	21.6	108	20.0	5.76	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	627	5.00	06/28/2019	ND	525	99.6	527	2.99	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

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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Celeg D. Keine

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October 01, 2019

KATIE JONES Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: HOBBS K-29 BOOT

Enclosed are the results of analyses for samples received by the laboratory on 09/25/19 14:55.

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/ga/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	09/25/2019	Sampling Date:	09/23/2019
Reported:	10/01/2019	Sampling Type:	Water
Project Name:	HOBBS K-29 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T18S-R38E-SEC29 K-LEA CTY., NM		

Sample ID: MONITOR WELL # 1 (H903306-01)

BTEX 8021B	` mg/	Ĺ	Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	09/27/2019	ND	0.020	98.4	0.0200	0.209	
Toluene*	<0.001	0.001	09/27/2019	ND	0.019	95.5	0.0200	1.14	
Ethylbenzene*	<0.001	0.001	09/27/2019	ND	0.019	93.9	0.0200	1.57	
Total Xylenes*	<0.003	0.003	09/27/2019	ND	0.056	94.1	0.0600	2.12	
Total BTEX	<0.006	0.006	09/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	88.3 9	81.3-12	8						
Chloride, SM4500Cl-B	M4500CI-B mg/L		Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	640	4.00	09/27/2019	ND	104	104	100	3.77	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	62.5	10.0	09/30/2019	ND	20.8	104	20.0	2.56	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1670	5.00	10/01/2019	ND	545	103	527	1.92	

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Celeg D. Keine



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

Received:	09/25/2019	Sampling Date:	09/23/2019
Reported:	10/01/2019	Sampling Type:	Water
Project Name:	HOBBS K-29 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T18S-R38E-SEC29 K-LEA CTY., NM		

Sample ID: MONITOR WELL # 2 (H903306-02)

BTEX 8021B	mg/	L	Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	09/27/2019	ND	0.020	98.4	0.0200	0.209	
Toluene*	<0.001	0.001	09/27/2019	ND	0.019	95.5	0.0200	1.14	
Ethylbenzene*	<0.001	0.001	09/27/2019	ND	0.019	93.9	0.0200	1.57	
Total Xylenes*	<0.003	0.003	09/27/2019	ND	0.056	94.1	0.0600	2.12	
Total BTEX	<0.006	0.006	09/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	85.4 9	81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	68.0	4.00	09/27/2019	ND	104	104	100	3.77	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	103	25.0	09/30/2019	ND	20.8	104	20.0	2.56	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	496	5.00	09/30/2019	ND	545	103	527	1.92	

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Celeg D. Keine



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

Received:	09/25/2019	Sampling Date:	09/23/2019
Reported:	10/01/2019	Sampling Type:	Water
Project Name:	HOBBS K-29 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T18S-R38E-SEC29 K-LEA CTY., NM		

Sample ID: MONITOR WELL # 3 (H903306-03)

	•								
BTEX 8021B	mg/	L	Analyze	d By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	09/27/2019	ND	0.020	98.4	0.0200	0.209	
Toluene*	<0.001	0.001	09/27/2019	ND	0.019	95.5	0.0200	1.14	
Ethylbenzene*	<0.001	0.001	09/27/2019	ND	0.019	93.9	0.0200	1.57	
Total Xylenes*	<0.003	0.003	09/27/2019	ND	0.056	94.1	0.0600	2.12	
Total BTEX	<0.006	0.006	09/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	86.7 9	% 81.3-12	8						
Chloride, SM4500Cl-B	de, SM4500Cl-B mg/L		Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	152	4.00	09/27/2019	ND	104	104	100	3.77	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	92.5	25.0	09/30/2019	ND	20.8	104	20.0	2.56	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	634	5.00	09/30/2019	ND	545	103	527	1.92	

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

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December 16, 2019

KATIE JONES Rice Operating Company 112 W. Taylor Hobbs, NM 88240

RE: HOBBS K-29 BOOT

Enclosed are the results of analyses for samples received by the laboratory on 12/10/19 14:40.

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/ga/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	12/10/2019	Sampling Date:	12/09/2019
Reported:	12/16/2019	Sampling Type:	Water
Project Name:	HOBBS K-29 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T18S-R38E-SEC29 K-LEA CTY., NM		

Sample ID: MONITOR WELL # 1R (H904130-01)

	• • •	,							
BTEX 8021B	mg/	L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	12/11/2019	ND	0.022	109	0.0200	1.83	
Toluene*	<0.001	0.001	12/11/2019	ND	0.022	109	0.0200	1.64	
Ethylbenzene*	<0.001	0.001	12/11/2019	ND	0.022	108	0.0200	1.13	
Total Xylenes*	<0.003	0.003	12/11/2019	ND	0.063	105	0.0600	0.783	
Total BTEX	<0.006	0.006	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 %	6 58.2-13	3						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	200	4.00	12/11/2019	ND	100	100	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	70.7	10.0	12/12/2019	ND	21.3	106	20.0	11.9	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	730	5.00	12/13/2019	ND	585	111	527	3.05	

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	12/10/2019	Sampling Date:	12/09/2019
Reported:	12/16/2019	Sampling Type:	Water
Project Name:	HOBBS K-29 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T18S-R38E-SEC29 K-LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H904130-02)

mg/	L	Analyze	d By: MS					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<0.001	0.001	12/11/2019	ND	0.022	109	0.0200	1.83	
<0.001	0.001	12/11/2019	ND	0.022	109	0.0200	1.64	
<0.001	0.001	12/11/2019	ND	0.022	108	0.0200	1.13	
<0.003	0.003	12/11/2019	ND	0.063	105	0.0600	0.783	
<0.006	0.006	12/11/2019	ND					
104 9	58.2-13	3						
mg/	L	Analyze	d By: AC					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
72.0	4.00	12/11/2019	ND	100	100	100	0.00	
mg/	L	Analyze	d By: AC					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
84.5	25.0	12/12/2019	ND	21.3	106	20.0	11.9	
mg/	L	Analyze	d By: AC					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
	Result <0.001 <0.001 <0.003 <0.006 <i>104 %</i> mg/ Result 72.0 mg/ Result 84.5	<0.001 0.001 0.001 0.001 0.003 0.003 0.006 104 % 58.2-13 mg/L Result	Result Reporting Limit Analyzed <0.001	Result Reporting Limit Analyzed Method Blank <0.001	Result Reporting Limit Analyzed Method Blank BS <0.001	Result Reporting Limit Analyzed Method Blank BS % Recovery <0.001	Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC <0.001	Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD <0.001

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	12/10/2019	Sampling Date:	12/10/2019
Reported:	12/16/2019	Sampling Type:	Water
Project Name:	HOBBS K-29 BOOT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T18S-R38E-SEC29 K-LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H904130-03)

BTEX 8021B	mg/	L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	12/11/2019	ND	0.022	109	0.0200	1.83	
Toluene*	<0.001	0.001	12/11/2019	ND	0.022	109	0.0200	1.64	
Ethylbenzene*	<0.001	0.001	12/11/2019	ND	0.022	108	0.0200	1.13	
Total Xylenes*	<0.003	0.003	12/11/2019	ND	0.063	105	0.0600	0.783	
Total BTEX	<0.006	0.006	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	100 %	6 58.2-13	3						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	96.0	4.00	12/11/2019	ND	100	100	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	57.9	10.0	12/12/2019	ND	21.3	106	20.0	11.9	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	628	5.00	12/13/2019	ND	585	111	527	3.05	

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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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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

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Project Location: T18S-R38E	-Sec29 K ~ Lea County - New	Mexic	0	1		pler S			Roz	inde	e Johr	ison	(575)63	1-9310	1		5 Exten		Pb Se	Cr Pb Se					2					10	(2)			s
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LAB #	FIELD CODE	(G)rab or (C)omp	CONTAINERS	WATER		AIR	IDGE	HCL (2 40ml VOA)	03	NaHSO₄	04	NONE	DATE (2019)		8021B/R02	BTEX 80218/602	TPH 418.1/TX1005 / TX1005 Extended (C35)	PAH 8270C	Metals Ag As B	TCLP Volatiles	TCLP Semi Volatiles	Pesticides		GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	re Content	CI SO4 CO	S	Total Dissolved Solids	es	Turn Around Time ~ 2
1904130		0	0 #	AN N	SOIL	AIR		HCI	HNO ₃	Nat	H2SO4	L UON	DAT	TIME	MTBE	TEX	Hd	AH	otal	CLP	CLP	CLP	RCI	CŴ	CM	CB's	estici	, al	OIStu	nions	Sulfates	otal D	Chlorides	In A
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