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,

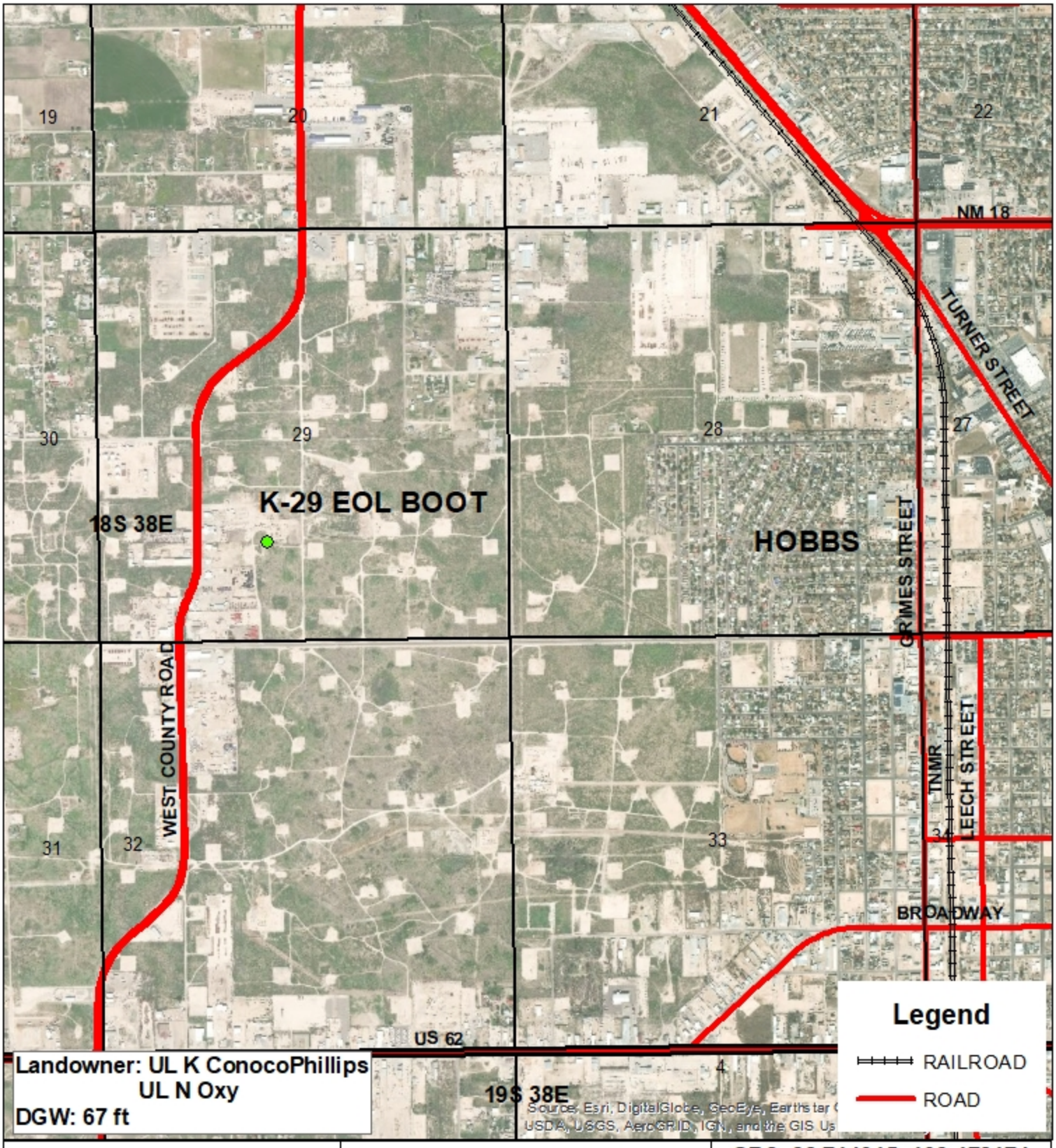
Katie Davis

Katie Davis
Environmental Manager
RICE Operating Company (ROC)

Cc – Edward J. Hansen (ROC)

appendix

Geographical Location Map



RICE OPERATING COMPANY
ROC
SINCE 1955

HOBBS
K-29 BOOT & EOL

1R428-50

UL K & N SECTION 29
T-18-S R-38-E
LEA COUNTY, NM

GPS: 32.714915 -103.172174
NAD83 STATE PLANE PROJ
NM EAST ZONE

0 1,000 2,000
Feet

Drawing date: 2/4/20
Drafted by: T. Grieco

N
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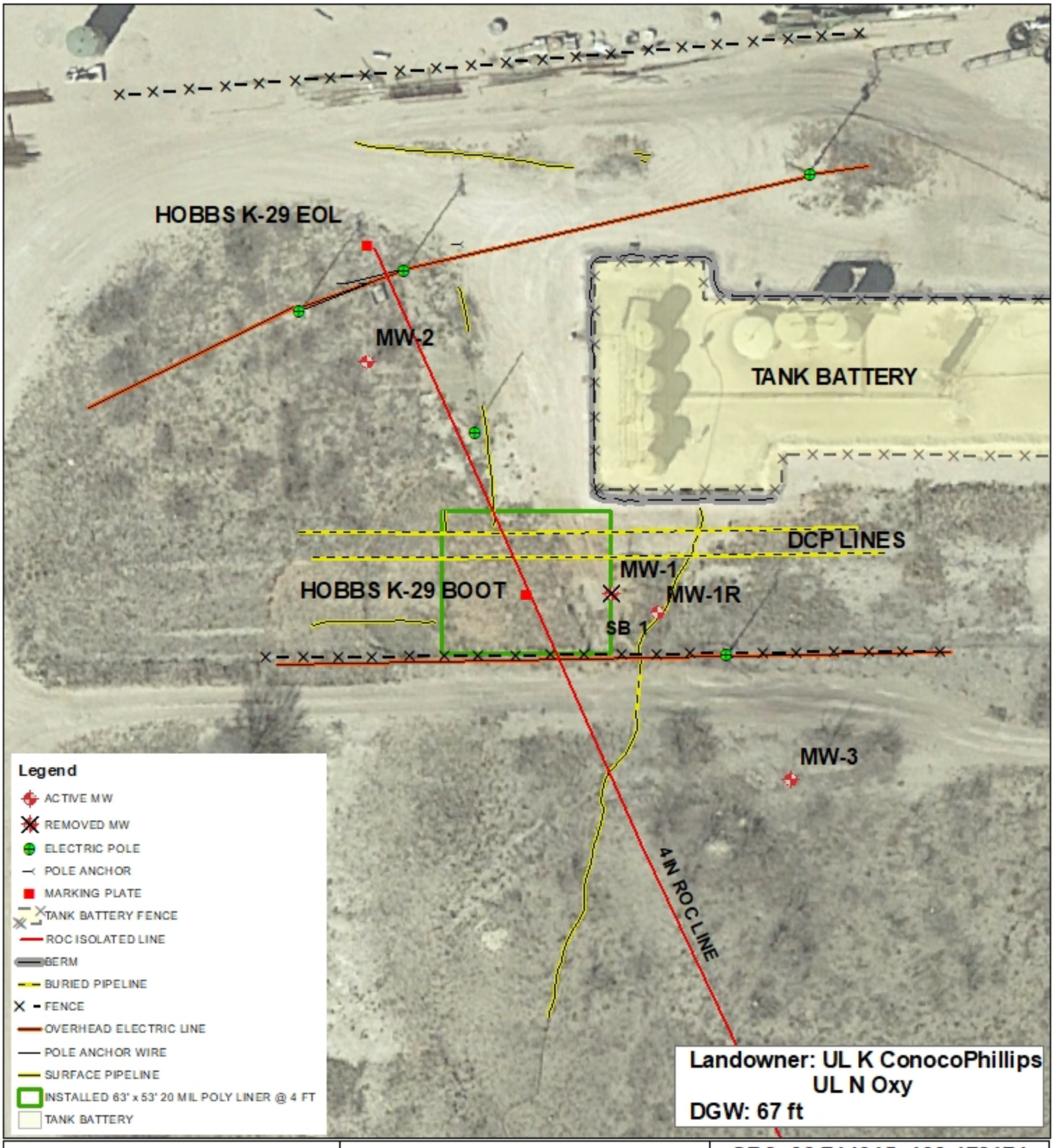
Site Map



RICE OPERATING COMPANY
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SINCE 1955

HOBBS K-29 BOOT & EOL

1R428-50

UL K & N SECTION 29
T-18-S R-38-E
LEA COUNTY, NM

GPS: 32.714915 -103.172174
NAD83 STATE PLANE PROJ
NM EAST ZONE

0 25 50
Feet

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W E
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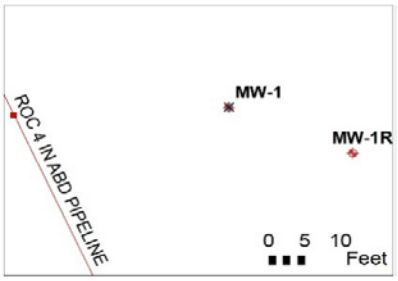
GPS date: 11/03/14 TG
Drawing date: 2/4/20
Drafted by: T. Grieco

Logger:	Nick Kopiasz		TASMAN GEOSCIENCES
Driller:	HCI Drilling		**Company:** Rice Operating Company
Drilling Method:	6" Air Rotary		**Project Name:** Hobbs K-29 Boot & EOL **Well ID:** MW-1R
Start Date:	11/12/2019		**Project Consultant: Tasman**
End Date:	11/12/2019		

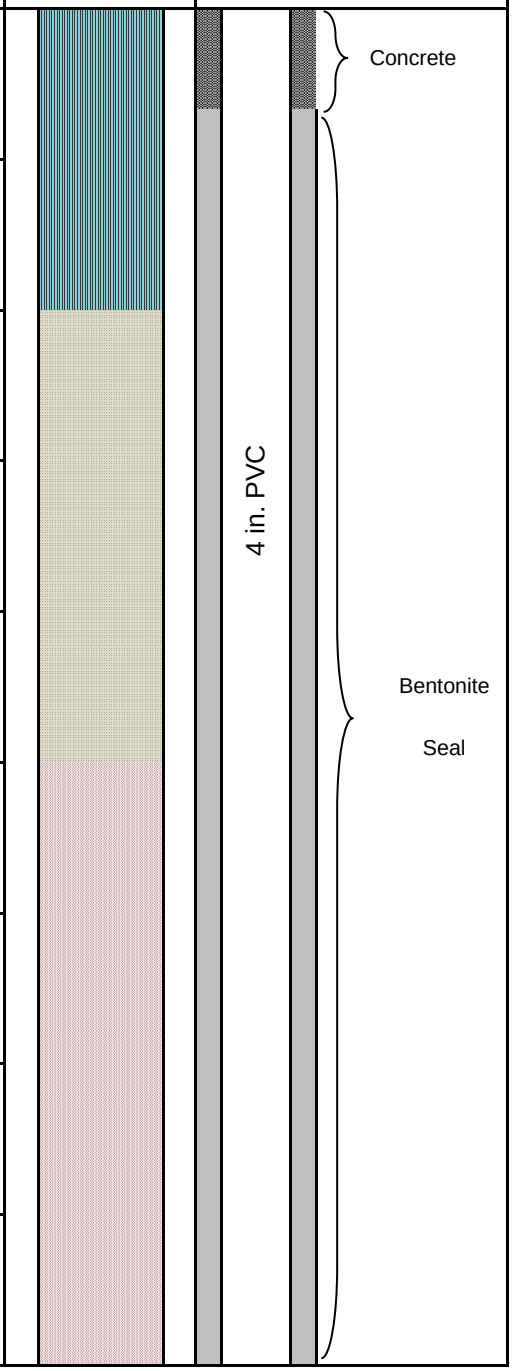
Comments: Soil samples were collected from drill cuttings at specified intervals. MW-1R was drilled approximately 40 feet east southeast of release area.

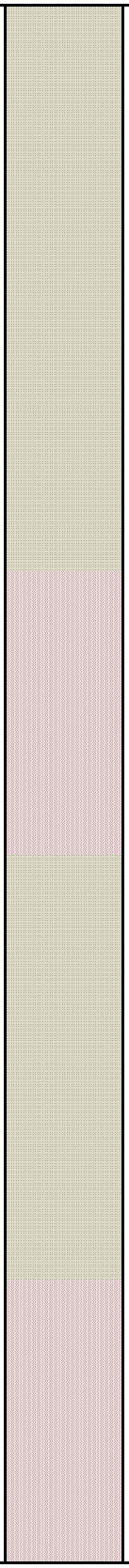
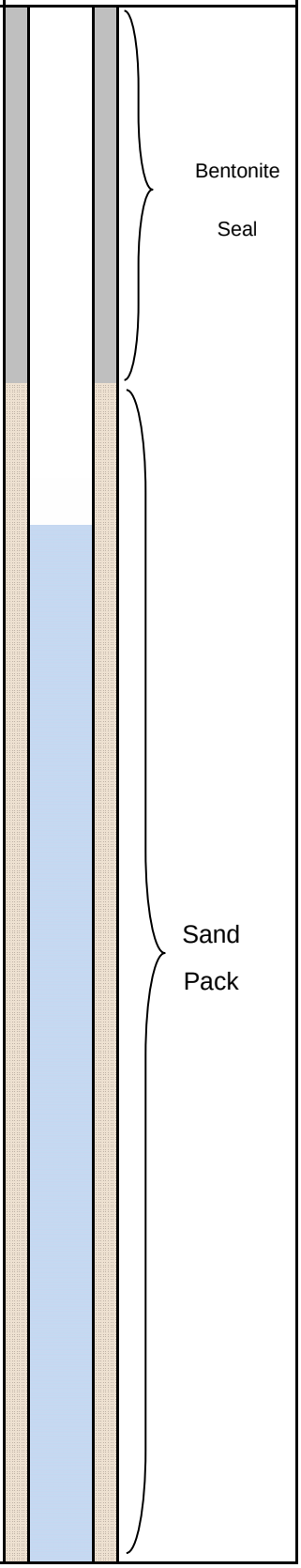
DRAFTED BY: Nick Kopiasz

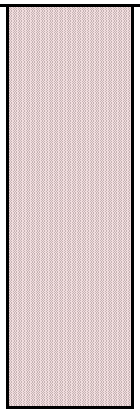
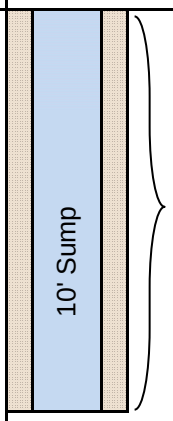
TD = 111' GW = 64'

Location:
Unit K, Section 29, T18S, R38E
Lat: 32.714718 **County:** Lea
Long: -103.171978 **State:** NM

Depth (feet)	Chloride field tests	LAB (mg/kg)	PID (ppm)	Description
SS	N/A		N/A	GW-light tan, well graded gravels of weathered caliche
5 ft	N/A		N/A	GW-Same As Above (SAA)
10 ft	N/A		N/A	SW-tan, coarse to pebble size caliche with fine sands
15 ft	N/A		N/A	SW-SAA
20 ft	N/A		N/A	SW-SAA
25 ft	N/A		N/A	SP-tan, poorly graded fine sands
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



Depth (feet)	Chloride field tests	LAB (mg/kg)	PID (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		
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		
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**	SP-SAA		
110 ft	**N/A**		**N/A**	SP-SAA		

Hobbs K-29 EOL (1R428-50)
Unit Letter K, Section 29, T18S, R38E

ROC - Hobbs K-29 EOL (1R428-50)
Unit Letter K, Section 29, T18S, R38E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
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

ROC - Hobbs K-29 EOL (1R428-50)
Unit Letter K, Section 29, T18S, R38E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	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 Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
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

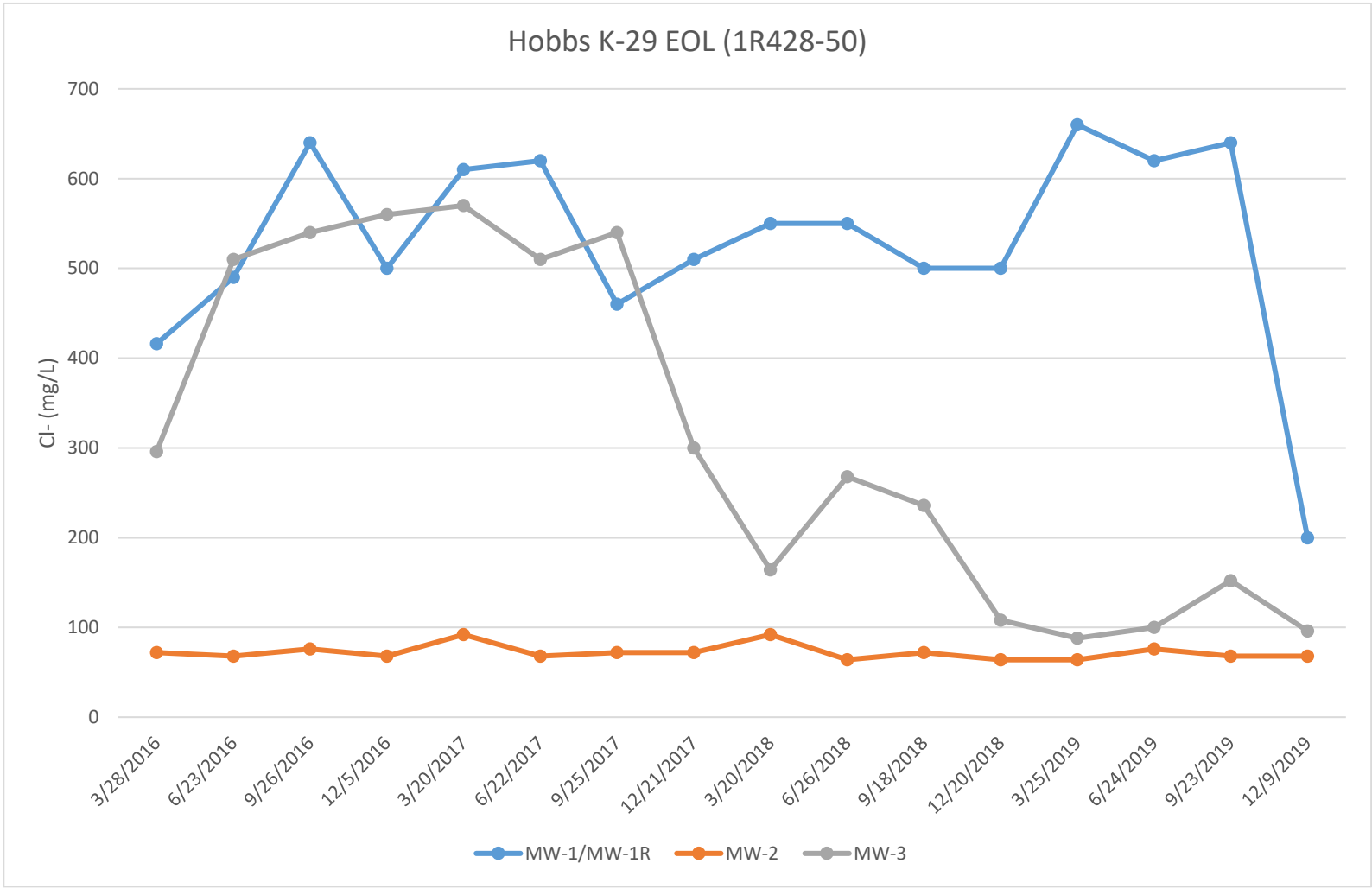
ROC - Hobbs K-29 EOL (1R428-50)
Unit Letter K, Section 29, T18S, R38E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total 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

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	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

ROC - Hobbs K-29 EOL (1R428-50)
Unit Letter K, Section 29, T18S, R38E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	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


Hobbs K-29 EOL (1R428-50)
Cl- (mg/L)
700
600
500
400
300
200
100
0
3/28/2016
6/23/2016
9/26/2016
12/5/2016
3/20/2017
6/22/2017
9/25/2017
12/21/2017
3/20/2018
6/26/2018
9/18/2018
12/20/2018
3/25/2019
6/24/2019
9/23/2019
12/9/2019
MW-1/MW-1R
MW-2
MW-3

CARDINAL Laboratories

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

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/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	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 Analyzed 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 %* *81.3-128*

Chloride, SM4500Cl-B mg/L Analyzed 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 Analyzed 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 Analyzed 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	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	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 Analyzed 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 %* *81.3-128*

Chloride, SM4500Cl-B mg/L Analyzed 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 Analyzed 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 Analyzed 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

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	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 Analyzed 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 %* *81.3-128*

Chloride, SM4500Cl-B mg/L Analyzed 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 Analyzed 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 Analyzed 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	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

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: Hobbs K-29 Boot
Project Location: T18S-R38E-Sec29 K ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310 rozanne11@windstream.net

LAB # (LAB USE ONLY)	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL (2 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2019)	TIME
H901130															
1	Monitor Well #1	G	3	X				2				1		3/25	10:40
2	Monitor Well #2	G	3	X				2				1		3/25	9:20
3	Monitor Well #3	G	3	X				2				1		3/25	13:15

ANALYSIS REQUEST (Circle or Specify Method No.)	
MTBE 8021B/602	
BTEX 8021B/602	X
TPH 418.1/TX1005 / TX1005 Extended (C35)	
PAH 8270C	
Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	
TCLP Metals Ag As Ba Cd Cr Pb Se Hg	
TCLP Volatiles	
TCLP Semi Volatiles	
TCLP Pesticides	
RCI	
GC/MS Vol. 8260B/624	
GC/MS Semi. Vol. 8270C/625	
PCB's 8082/608	
Pesticides 8081A/608	
BOD, TSS, pH	
Moisture Content	
Cations (Ca, Mg, Na, K)	
Anions (Cl, SO4, CO3, HCO3)	
Sulfates	X
Total Dissolved Solids	X
Chlorides	X
Turn Around Time ~ 24 Hours	

Relinquished by: Rozanne Johnson	Date: 3/26/2019	Time: 13:50	Received by:	Date: 3-26-19 Time: 13:50
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)
Sampler - UPS - Bus - Other:

Sample Condition: Cool — Yes ✓ / No ; Intact — Yes ✓ / No

CHECKED BY: (Initials) T.O.

CARDINAL Laboratories

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

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/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	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/L Analyzed 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 %* *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*	**620**	4.00	06/28/2019	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*	**66.4**	10.0	06/29/2019	ND	21.6	108	20.0	5.76	

TDS 160.1 mg/L Analyzed 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

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	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 Analyzed 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 %* *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*	**68.0**	4.00	06/28/2019	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*	**34.4**	10.0	06/29/2019	ND	21.6	108	20.0	5.76	

TDS 160.1 mg/L Analyzed 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

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	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 Analyzed 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 %* *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*	**100**	4.00	06/28/2019	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*	**55.8**	10.0	06/29/2019	ND	21.6	108	20.0	5.76	

TDS 160.1 mg/L Analyzed 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

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

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: Hobbs K-29 Boot
Project Location: T18S-R38E-Sec29 K ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310 rozanne11@windstream.net

H902197 LAB # (LAB USE ONLY)

	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX					PRESERVATIVE METHOD						SAMPLING		MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005 / TX1005 Extended (C35)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Moisture Content	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	Sulfates	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours
				WATER	SOIL	AIR	SLUDGE		HCL (2 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	DATE (2019)	TIME																						
1	Monitor Well #1	G	3	X					2				1		6/24	10:30		X																	X	X	X	
2	Monitor Well #2	G	3	X					2				1		6/24	9:10		X																	X	X	X	
3	Monitor Well #3	G	3	X					2				1		6/24	13:00		X																	X	X	X	

ANALYSIS REQUEST
(Circle or Specify Method No.)

Relinquished by: Rozanne Johnson	Date: 6/26/2019	Time: 16:55	Received by:	Date: Time:
Relinquished by:	Date: Time:		Received By: (Laboratory Staff)	Date: Time:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:			Sample Condition: Cool: Yes ✓ No; Intact: Yes ✓ No	CHECKED BY: (Initials) #97

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

REMARKS:

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

CARDINAL Laboratories

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

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/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	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/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 88.3 % 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*	**640**	4.00	09/27/2019	ND	104	104	100	3.77	

Sulfate 375.4 mg/L Analyzed 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 Analyzed 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	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	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 %* *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*	**68.0**	4.00	09/27/2019	ND	104	104	100	3.77	

Sulfate 375.4 mg/L Analyzed 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 Analyzed 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	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	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 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 *86.7 %* *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*	**152**	4.00	09/27/2019	ND	104	104	100	3.77	

Sulfate 375.4 mg/L Analyzed 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 Analyzed 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	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

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: Hobbs K-29 Boot
Project Location: T18S-R38E-Sec29 K ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310 rozanne11@windstream.net

LAB # (LAB USE ONLY H903306)	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE		PRESERVATIVE METHOD: HCL (2 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2019)	TIME
1	Monitor Well #1	G	3	X					2				1		9/23	11:00
2	Monitor Well #2	G	3	X					2				1		9/23	9:40
3	Monitor Well #3	G	3	X					2				1		9/23	14:05

ANALYSIS REQUEST

(Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005 / TX1005 Extended (C35)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Moisture Content	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	Sulfates	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours
	X																	X	X	X	
	X																	X	X	X	
	X																	X	X	X	

Relinquished by: Rozanne Johnson	Date: 9/25/2019	Time: 14:55	Received by: [signature]
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)

Date: 9-25-19 Time: 14:55

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)
Sampler - UPS - Bus - Other:

Sample Condition: Cool: Yes [✓] No [ ] Intact: Yes [✓] No [ ]

CHECKED BY: (Initials) TO.

CARDINAL Laboratories

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

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/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	12/10/2019	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 Analyzed 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 %* *58.2-133*

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	12/11/2019	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*	**70.7**	10.0	12/12/2019	ND	21.3	106	20.0	11.9	

TDS 160.1 mg/L Analyzed 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	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	12/10/2019	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)

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	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 *104 %* *58.2-133*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**72.0**	4.00	12/11/2019	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*	**84.5**	25.0	12/12/2019	ND	21.3	106	20.0	11.9	

TDS 160.1 mg/L **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**561**	5.00	12/13/2019	ND	585	111	527	3.05	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	12/10/2019	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 Analyzed 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 %* *58.2-133*

Chloride, SM4500Cl-B mg/L Analyzed 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 Analyzed 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 Analyzed 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	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

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: Hobbs K-29 Boot
Project Location: T18S-R38E-Sec29 K ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310 rozanne11@windstream.net

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY) H904130	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL (2 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2019)	TIME	MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005 / TX1005 Extended (C35)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Moisture Content	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	Sulfates	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours
1	Monitor Well #1R	G	3	X				2				1		12/9	13:45		X																X	X	X	
2	Monitor Well #2	G	3	X				2				1		12/9	10:15		X																X	X	X	
3	Monitor Well #3	G	3	X				2				1		12/10	12:05		X																X	X	X	

Relinquished by: Rozanne Johnson	Date: 12/10/2019	Time: 14:40	Received by:
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff) Jodi Henson 12/10/19 14:40

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

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

CHECKED BY: (Initials) JHA

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

REMARKS:

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