RICE Operating Company

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April 1, 2021

Bradford Billings

New Mexico Oil Conservation Division 1220 So. St. Francis Drive Santa Fe, New Mexico 87505

RE: 2020 Annual Groundwater Report Rice Operating Company – BD SWD System BD K-4 Release (1R0459): Unit K, Section 4, T22S, R37E

Mr. Billings:

ROC is the service provider (agent) for the BD Saltwater Disposal System and has no ownership of any portion of the pipelines, wells, or facilities. The BD System is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

The site is located approximately 1 mile southwest of Eunice, New Mexico at UL/K, Sec. 4, T22S, R37E as shown on the Geographical Location Map. Groundwater sampling at the site indicated the depth to groundwater is approximately 83 ft below ground surface (bgs).

ROC completed the Corrective Action Plan (CAP) dated April 23rd, 2007, which was granted verbal approval by the New Mexico Oil Conservation Division (NMOCD) on December 16th, 2009. The CAP was implemented in February 2010. A site Termination Request was submitted to the NMOCD on September 23rd, 2010 and denied by the NMOCD on October 13th, 2010, requiring ROC to continue removing chloride impacted groundwater from MW-1 and to continue monitoring MW-1, MW-2, and MW-3 on a quarterly basis. Based on the completed CAP work, NMOCD granted 'Soil Closure' on October 11th, 2012.

Since recovery began on September 3rd, 2009, a total of 40,179.4 gallons of chloride impacted groundwater have been removed at the site. Removed groundwater was utilized for a beneficial use.

All wells have been sampled quarterly per NMOCD guidelines since installation. The attached tables summarize the analytical results from groundwater samples collected from the monitor wells at the site. Results indicate the chloride and TDS concentrations have overall decreased in MW-1 and have remained below 250 mg/L since 2018 (ten consecutive quarters). Chloride concentrations remain stable and below 250 mg/L in MW-2 and MW-3. BTEX concentration have remained below detectable limits since the wells were installed. In 2020, ROC received NMOCD approval to cease BTEX sampling.

Based on the monitoring well data being below WQCC standard for eight consecutive quarters, ROC submitted a Termination Request to NMOCD on September 8th, 2020. The report was uploaded to the OCD Online portal and is currently "Under OCD Review" and pending a response.

Attached is the Appendix, which contains:

- 1. A Geographical Location Map.
- 2. A map showing well locations.
- 3. A table presenting all laboratory results and depth to groundwater for each well at the site, and a graph showing recent laboratory results.
- 4. The laboratory analytical results for 2020.

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

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Geographic Location

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ROC - BD K-4 (1R-459)

Unit Letter K, Section 4, T22S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	85.02	93.63	1.4	5	11/13/2006	1040	2120	<0.001	<0.001	<0.001	<0.001	152	Silt to clear No odor
1	84.99	93.62	1.4	6	3/8/2007	916	2100	<0.001	<0.001	<0.001	<0.001	148	Silt to clear No odor
1	84.96	93.62	1.4	6	4/23/2007	917	1950	<0.001	<0.001	<0.001	<0.001	339	Silt to clear No odor
1	ххх	xxx	ххх	ххх	8/7/2007	ххх	xxx	ххх	xxx	xxx	xxx	XXX	converted from a 2 in well to a 4 in well
1	86.06	97.7	7.6	6	9/14/2007	760	2,028	<0.001	<0.001	<0.001	<0.003	159	Silt to clear No odor
1	86.06	97.7	7.6	20	10/31/2007	736	1,770	<0.002	<0.002	<0.002	<0.006	124	Silt to clear No odor
1	85.93	98.6	8.2	30	2/15/2008	760	1,880	<0.002	<0.002	<0.002	<0.006	157	Clear No odor
1	85.73	98.6	8.4	30	5/5/2008	720	1,880	<0.002	<0.002	<0.002	<0.006	195	Clear No odor
1	85.81	98.6	8.3	30	8/11/2008	620	1,590	<0.001	<0.001	<0.001	<0.003	106	Clear No odor
1	85.65	98.6	8.4	30	11/13/2008	570	1,470	<0.001	<0.001	<0.001	<0.003	148	Clear No odor
1	85.64	98.4	8.3	30	1/21/2009	630	1,560	<0.001	<0.001	<0.001	<0.003	143	Clear No odor
1	85.61	98.4	8.3	30	4/22/2009	600	1,680	<0.001	<0.001	<0.001	<0.003	123	Clear No odor
1	85.48	98.4	8.4	30	7/20/2009	520	1,380	<0.001	<0.001	<0.001	<0.003	113	Clear No odor
1	85.49	98.4	8.4	30	10/13/2009	700	1,700	<0.001	<0.001	<0.001	<0.003	131	Clear No odor
1	85.32	98.41	8.5	30	1/19/2010	780	1,860	<0.001	<0.001	<0.001	<0.003	173	Clear No odor
1	85.31	98.41	8.5	30	4/15/2010	680	1,610	<0.001	<0.001	<0.001	<0.003	155	Clear No odor
1	85.23	98.41	8.6	30	7/20/2010	610	1,550	<0.001	<0.001	<0.001	<0.003	143	Clear No odor
1	85.15	98.41	8.6	30	10/15/2010	600	1,460	<0.001	<0.001	<0.001	<0.003	125	Clear No odor
1	85.14	98.4	8.6	30	1/26/2011	680	1,580	<0.001	<0.001	<0.001	<0.003	164	Clear No odor
1	84.97	98.4	8.7	30	4/22/2011	740	1,620	<0.001	<0.001	< 0.001	<0.003	144	Clear No odor
1	84.96	98.4	8.7	30	7/29/2011	640	1,530	<0.001	<0.001	<0.001	<0.001	108	Clear No odor
1	85.07	98.4	8.7	30	10/24/2011	650	1,510	<0.001	<0.001	< 0.001	<0.003	122	Clear No odor
1	84.88	98.4	8.8	30	1/31/2012	660	1,500	<0.001	<0.001	< 0.001	<0.003	140	Clear No odor
1	84.82	98.4	8.8	125	5/3/2012	670	1,440	<0.001	<0.001	<0.001	<0.003	143	Clear No odor
1	XXX	98.4	0	Running	7/25/2012	730	1,670	<0.001	<0.001	<0.001	<0.003	165	Clear No odor
1	XXX	98.4	0	Running	10/25/2012	870	1,960	<0.001	<0.001	<0.001	<0.003	182	Clear No odor
1	84.58	98.4	9	80	3/26/2013	520	1,240	<0.001	<0.001	<0.001	<0.003	129	Clear No odor
1	85.65	98.4	8.3	80	4/24/2013	524	1,290	<0.001	<0.001	<0.001	<0.003	143	Clear No odor

ROC - BD K-4 (1R-459)

Unit Letter K, Section 4, T22S, R37E

MW	Depth to	Total	Well	Volume	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl	Total	Sulfate	Comments
	Water	Depth	Volume	Purged	Sample Date	Ci	105	Denzene	Tolucile	Benzene	Xylenes	Junate	comments
1	84.61	98.4	9	80	7/30/2013	500	1,300	<0.001	<0.001	<0.001	<0.003	129	Clear No odor
1	84.5	98.4	9	80	10/23/2013	500	1,320	<0.001	<0.001	<0.001	<0.003	131	Clear No odor
1	84.39	98.4	9.1	80	2/7/2014	470	1,160	<0.001	<0.001	<0.001	<0.003	122	Clear No odor
1	84.53	98.4	9	80	4/10/2014	510	1,210	<0.001	<0.001	<0.001	<0.003	131	Clear No odor
1	84.36	98.4	9.1	80	7/28/2014	424	1,170	<0.001	<0.001	<0.001	<0.003	116	Clear No odor
1	84.34	98.4	9.1	100	10/30/2014	770	1,900	<0.001	<0.001	<0.001	<0.003	136	Clear No odor
1	84.28	98.4	9.2	100	2/9/2015	780	1,780	<0.001	<0.001	<0.001	<0.003	131	Clear No odor
1	84.34	98.4	9.1	100	4/23/2015	529	1,450	<0.001	<0.001	<0.001	<0.003	95.7	Clear No odor
1	84.24	98.4	9.2	100	7/31/2015	220	788	<0.001	<0.001	<0.001	<0.003	80	Clear No odor
1	84.21	98.4	9.22	100	10/26/2015	570	1,690	<0.001	<0.001	<0.001	<0.003	119	Clear No odor
1	84.05	98.4	9.3	100	1/29/2016	750	1,680	<0.001	<0.001	<0.001	<0.003	203	Clear No odor
1	84.06	98.4	9.3	100	4/22/2016	660	1,490	<0.001	<0.001	<0.001	<0.003	170	Clear No odor
1	84.07	98.4	9.3	100	7/22/2016	560	1,590	<0.001	<0.001	<0.001	<0.003	130	Clear No odor
1	83.98	98.4	9.4	100	10/26/2016	690	1,720	<0.001	<0.001	<0.001	<0.003	99	Clear No odor
1	84.04	98.4	9.3	100	2/6/2017	630	1,370	<0.001	<0.001	<0.001	<0.003	192	Clear No odor
1	83.96	98.4	9.4	100	4/12/2017	500	1,400	<0.001	<0.001	<0.001	<0.003	228	Clear No odor
1	83.9	98.4	9.4	100	7/27/2017	510	1,510	<0.001	<0.001	<0.001	<0.003	291	Clear No odor
1	83.93	98.4	9.4	100	10/23/2017	470	1,360	<0.001	<0.001	<0.001	<0.003	212	Clear No odor
1	83.72	98.4	9.5	100	1/17/2018	332	1,050	<0.001	<0.001	<0.001	<0.003	140	Clear No odor
1	83.76	98.4	9.5	100	4/27/2018	272	846	<0.001	<0.001	<0.001	<0.003	136	Clear No odor
1	83.64	98.4	9.6	100	8/3/2018	200	780	<0.001	<0.001	<0.001	<0.003	113	Clear No odor
1	83.72	98.4	9.5	100	1/17/2018	332	1,050	<0.001	<0.001	<0.001	<0.003	140	Clear No odor
1	83.76	98.4	9.5	100	4/27/2018	272	846	<0.001	<0.001	<0.001	<0.003	136	Clear No odor
1	83.64	98.4	9.6	100	8/3/2018	200	780	<0.001	<0.001	<0.001	<0.003	113	Clear No odor
1	83.65	98.4	9.6	100	11/2/2018	156	562	<0.001	<0.001	<0.001	<0.003	113	Clear No odor
1	83.6	98.4	9.6	100	2/5/2019	156	620	<0.001	<0.001	<0.001	<0.003	123	Clear No odor
1	83.12	98.4	9.6	100	4/23/2019	156	562	<0.001	<0.001	<0.001	<0.003	119	Clear No odor
1	83.54	98.4	9.6	100	7/25/2019	156	663	<0.001	<0.001	<0.001	<0.003	131	Clear No odor
1	83.49	98.4	9.6	100	10/25/2019	140	647	<0.001	<0.001	<0.001	<0.003	114	Clear No odor

ROC - BD K-4 (1R-459) Unit Letter K, Section 4, T22S, R37E

мw	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	83.44	98.4	9.7	100	2/18/2020	140	658	<0.0005	<0.0005	<0.0005	< 0.002	125	Clear No odor
1	83.5	98.4	9.7	100	5/27/2020	132	626	XXX	XXX	XXX	XXX	102	Clear No odor
1	83.32	98.4	9.8	100	8/24/2020	132	665	XXX	XXX	XXX	XXX	94.7	Clear No odor
1	83.35	98.4	9.8	100	10/28/2020	124	546	XXX	XXX	XXX	XXX	115	Clear No odor

MW	Depth to	Total	Well	Volume	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl	Total	Sulfate	Comments
	Water	Depth	Volume	Purged	Sample Date	CI	103	Delizene	Toluelle	Benzene	Xylenes	Junate	comments
2	83.35	94.1	1.7	7	11/13/2006	77	542	<0.001	<0.001	<0.001	<0.001	85	Silt to clear No odor
2	83.28	94.08	1.7	7	3/8/2007	75.3	574	<0.001	<0.001	<0.001	<0.001	80.8	Silt to clear No odor
2	83.25	94.08	1.7	7	4/23/2007	83.5	564	<0.001	<0.001	<0.001	<0.001	83	Silt to clear No odor
2	83.12	94.08	1.8	7	9/14/2007	110	588	<0.001	<0.001	<0.001	<0.003	130	Silt to clear No odor
2	83.11	94.08	1.8	6	10/31/2007	84	596	<0.002	<0.002	<0.002	<0.006	82.7	Silt to clear No odor
2	82.97	94.05	1.8	6	2/15/2008	92	574	<0.002	<0.002	<0.002	<0.006	86.6	Silt to clear No odor
2	82.81	94.05	1.8	6	5/5/2008	100	570	<0.002	<0.002	<0.002	<0.006	117	Silt to clear No odor
2	82.86	94.05	1.8	6	8/11/2008	108	596	<0.001	<0.001	<0.001	<0.003	94	Silt to clear No odor
2	82.75	94.05	1.8	6	11/13/2008	144	578	<0.001	<0.001	<0.001	<0.003	93.7	Silt to clear No odor
2	82.77	93.98	1.8	6	1/21/2009	104	598	<0.001	<0.001	<0.001	<0.003	95.4	Silt to clear No odor
2	82.69	93.98	1.8	6	4/22/2009	108	621	<0.001	<0.001	<0.001	<0.003	89.8	Silt to clear No odor
2	82.61	93.98	1.8	6	7/20/2009	144	628	<0.001	<0.001	<0.001	<0.003	95.4	Silt to clear No odor
2	82.58	93.98	1.8	6	10/13/2009	108	641	<0.001	<0.001	<0.001	<0.003	78.9	Silt to clear No odor
2	82.4	93.67	1.8	6	1/19/2010	116	605	<0.001	<0.001	<0.001	<0.003	105	Silt to clear No odor
2	82.37	93.67	1.8	6	4/15/2010	112	625	<0.001	<0.001	<0.001	<0.003	91.2	Silt to clear No odor
2	82.32	93.67	1.8	6	7/20/2010	116	596	<0.001	<0.001	<0.001	<0.003	74.2	Silt to clear No odor
2	82.23	93.67	1.8	6	10/15/2010	116	609	<0.001	<0.001	<0.001	<0.003	93.9	Silt to clear No odor
2	82.18	93.7	1.8	6	1/26/2011	112	549	<0.001	<0.001	<0.001	<0.003	91.2	Silt to clear No odor
2	82.08	93.7	1.9	6	4/22/2011	112	575	<0.001	<0.001	<0.001	<0.003	89.7	Silt to clear No odor
2	82.05	93.7	1.9	6	7/29/2011	112	601	<0.001	<0.001	<0.001	<0.003	75.5	Silt to clear No odor
2	82.03	93.7	1.9	6	10/24/2011	116	612	<0.001	<0.001	<0.001	<0.003	81.4	Silt to clear No odor

ROC - BD K-4 (1R-459)

Unit Letter K, Section 4, T22S, R37E

MW	Depth to	Total	Well	Volume	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl	Total	Sulfate	Comments
	Water	Depth	Volume	Purged	Sample Date	Ci	105	Denzene	Tolucile	Benzene	Xylenes	Junate	comments
2	81.94	93.7	1.9	6	1/31/2012	104	603	<0.001	<0.001	<0.001	<0.003	94.9	Silt to clear No odor
2	81.93	93.7	1.9	6	5/3/2012	112	607	<0.001	<0.001	<0.001	<0.003	96	Silt to clear No odor
2	81.88	93.7	1.9	6	7/25/2012	112	592	<0.001	<0.001	<0.001	<0.003	82	Silt to clear No odor
2	81.77	93.7	1.9	6	10/24/2012	96	564	<0.001	<0.001	<0.001	<0.003	79	Silt to clear No odor
2	81.72	93.7	1.9	6	3/26/2013	108	583	<0.001	<0.001	<0.001	<0.003	91	Silt to clear No odor
2	81.73	93.7	1.9	6	4/24/2013	104	560	<0.001	<0.001	<0.001	<0.003	101	Silt to clear No odor
2	81.69	93.7	1.9	6	7/30/2013	104	583	<0.001	<0.001	<0.001	<0.003	122	Silt to clear No odor
2	81.59	93.7	1.9	6	10/23/2013	104	551	<0.001	<0.001	<0.001	<0.003	90	Silt to clear No odor
2	81.48	93.7	2	6	2/7/2014	120	581	<0.001	<0.001	<0.001	<0.003	101	Silt to clear No odor
2	81.64	93.7	1.9	6	4/10/2014	104	568	<0.001	<0.001	<0.001	<0.003	96.6	Silt to clear No odor
2	81.46	93.7	2	6	7/28/2014	112	588	<0.001	<0.001	<0.001	<0.003	85.1	Silt to clear No odor
2	81.52	93.7	1.9	6	10/30/2014	100	504	<0.001	<0.001	<0.001	<0.003	71	Silt to clear No odor
2	81.44	93.7	2	6	2/9/2015	108	602	<0.001	<0.001	<0.001	<0.003	83	Silt to clear No odor
2	81.52	93.7	1.9	6	4/23/2015	92	628	<0.001	<0.001	<0.001	<0.003	86	Silt to clear No odor
2	81.33	93.7	1.98	6	7/31/2015	128	694	<0.001	<0.001	<0.001	<0.003	84	Silt to clear No odor
2	81.31	93.7	1.98	6	10/26/2015	120	622	<0.001	<0.001	<0.001	<0.003	65	Silt to clear No odor
2	81.17	93.7	2	6	1/29/2016	60	620	<0.001	<0.001	<0.001	<0.003	140	Silt to clear No odor
2	81.13	93.7	2	6	4/22/2016	112	582	<0.001	<0.001	<0.001	<0.003	101	Silt to clear No odor
2	81.15	93.7	2	6	7/22/2016	112	646	<0.001	<0.001	<0.001	<0.003	79	Silt to clear No odor
2	81.08	93.7	2	6	10/26/2016	128	592	<0.001	<0.001	<0.001	<0.003	102	Silt to clear No odor
2	81.12	93.7	2	6	2/6/2017	128	632	<0.001	<0.001	<0.001	<0.003	102	Silt to clear No odor
2	81.04	93.7	2	6	4/12/2017	136	670	<0.001	<0.001	<0.001	<0.003	95	Silt to clear No odor
2	80.98	93.7	2	6	7/27/2017	132	646	<0.001	<0.001	<0.001	<0.003	89	Silt to clear No odor
2	81	93.7	2	6	10/23/2017	148	676	<0.001	<0.001	<0.001	<0.003	107	Silt to clear No odor
2	80.85	93.7	2.1	6	1/17/2018	140	652	<0.001	<0.001	<0.001	<0.003	109	Silt to clear No odor
2	80.88	93.7	2.1	6	4/27/2018	140	614	<0.001	<0.001	<0.001	<0.003	116	Silt to clear No odor
2	80.78	93.7	2.1	6	8/3/2018	148	630	<0.001	<0.001	<0.001	<0.003	91.5	Silt to clear No odor
2	80.72	93.7	2.1	6	11/2/2018	140	586	<0.001	<0.001	<0.001	<0.003	103	Silt to clear No odor
2	80.68	93.7	2.1	6	2/5/2019	128	646	<0.001	<0.001	<0.001	<0.003	122	Silt to clear No odor

ROC - BD K-4 (1R-459) Unit Letter K, Section 4, T22S, R37E

MW	Depth to	Total	Well	Volume	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl	Total	Sulfate	Comments
	Water	Depth	Volume	Purged						Benzene	Xylenes		
2	80.69	93.7	2.1	6	4/23/2019	112	562	<0.001	<0.001	<0.001	<0.003	101	Silt to clear No odor
2	80.64	93.7	2.1	6	7/25/2019	108	596	<0.001	<0.001	<0.001	<0.003	115	Silt to clear No odor
2	80.6	93.7	2.1	6	10/25/2019	120	603	<0.001	<0.001	<0.001	<0.003	93	Silt to clear No odor
2	80.57	93.7	2.1	6	2/18/2020	116	573	<0.0005	<0.0005	<0.0005	<0.002	122	Silt to clear No odor
2	80.62	93.7	2.1	6	5/27/2020	104	556	XXX	XXX	XXX	XXX	97	Silt to clear No odor
2	80.44	93.7	2.1	6	8/24/2020	116	600	XXX	XXX	XXX	XXX	88.5	Silt to clear No odor
2	80.48	93.7	2.1	6	10/28/2020	116	591	XXX	XXX	XXX	XXX	91.4	Silt to clear No odor
	Depth to	Total	Well	Volume				_		Ethyl	Total		
MW	Water	Depth	Volume	Purged	Sample Date	Cl	TDS	Benzene	Toluene	, Benzene	Xylenes	Sulfate	Comments
3	86.45	94.6	1.3	5	11/13/2006	148	622	<0.001	<0.001	<0.001	<0.001	97.6	Silt to clear No odor
3	86.41	94.5	1.3	5	3/8/2007	199	678	<0.001	<0.001	<0.001	< 0.001	103	Silt to clear No odor
3	86.35	94.5	1.3	6	4/23/2007	145	674	< 0.001	<0.001	<0.001	< 0.001	92.1	Silt to clear No odor
3	86.23	94.5	1.3	6	9/14/2007	170	710	<0.001	<0.001	<0.001	<0.003	151	Silt to clear No odor
3	86.19	94.5	1.3	6	10/31/2007	156	689	<0.002	<0.002	<0.002	<0.006	106	Silt to clear No odor
3	86.09	94.35	1.3	6	2/15/2008	160	668	<0.002	<0.002	<0.002	<0.006	110	Silt to clear No odor
3	85.89	94.35	1.4	6	5/5/2008	160	710	<0.002	<0.002	<0.002	<0.006	166	Silt to clear No odor
3	85.94	94.35	1.3	6	8/11/2008	172	691	<0.001	<0.001	<0.001	<0.003	117	Silt to clear No odor
3	85.84	94.35	1.4	6	11/13/2008	168	711	<0.001	<0.001	<0.001	<0.003	124	Silt to clear No odor
3	85.84	94.2	1.3	6	1/21/2009	164	713	<0.001	<0.001	<0.001	<0.003	116	Silt to clear No odor
3	85.76	94.2	1.4	6	4/22/2009	168	730	<0.001	<0.001	<0.001	<0.003	108	Silt to clear No odor
3	85.64	94.2	1.4	6	7/20/2009	172	718	<0.001	<0.001	<0.001	<0.003	107	Silt to clear No odor
3	85.63	94.2	1.4	6	10/13/2009	168	688	<0.001	<0.001	<0.001	<0.003	94.1	Silt to clear No odor
3	85.52	94.58	1.4	6	1/19/2010	176	729	<0.001	<0.001	<0.001	<0.003	108	Silt to clear No odor
3	85.46	94.58	1.5	6	4/15/2010	180	708	<0.001	<0.001	<0.001	<0.003	108	Silt to clear No odor
3	85.38	94.58	1.5	6	7/20/2010	192	706	<0.001	<0.001	<0.001	<0.003	89.5	Silt to clear No odor
3	85.33	94.58	1.5	6	10/15/2010	188	675	<0.001	<0.001	<0.001	<0.003	87.7	Silt to clear No odor
3	85.29	94.61	1.5	6	1/26/2010	188	696	<0.001	<0.001	< 0.001	<0.003	114	Silt to clear No odor

ROC - BD K-4 (1R-459)

Unit Letter K, Section 4, T22S, R37E

MW	Depth to	Total	Well	Volume	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl	Total	Sulfato	Comments
	Water	Depth	Volume	Purged	Sample Date	CI	105	Denzene	Toluelle	Benzene	Xylenes	Junate	comments
3	85.15	94.61	1.5	6	4/22/2011	208	719	<0.001	<0.001	<0.001	<0.003	111	Silt to clear No odor
3	85.11	94.61	1.5	6	7/29/2011	224	743	<0.001	<0.001	<0.001	<0.003	74.7	Silt to clear No odor
3	85.07	94.61	1.5	6	10/24/2011	252	765	<0.001	<0.001	<0.001	<0.003	101	Silt to clear No odor
3	85.04	94.61	1.5	6	1/31/2012	196	728	<0.001	<0.001	<0.001	<0.003	101	Silt to clear No odor
3	84.64	94.61	1.6	6	5/3/2012	272	824	<0.001	<0.001	<0.001	<0.003	104	Silt to clear No odor
3	84.9	94.61	1.6	6	7/25/2012	184	723	<0.001	<0.001	<0.001	<0.003	109	Silt to clear No odor
3	84.82	94.61	1.6	6	10/24/2012	124	617	<0.001	<0.001	<0.001	<0.003	96	Silt to clear No odor
3	84.81	94.61	1.6	6	3/26/2013	220	751	<0.001	<0.001	<0.001	<0.003	109	Silt to clear No odor
3	84.78	94.61	1.6	6	4/24/2013	208	741	<0.001	<0.001	<0.001	<0.003	128	Silt to clear No odor
3	84.77	94.61	1.6	6	7/30/2013	188	725	<0.001	<0.001	<0.001	<0.003	167	Silt to clear No odor
3	84.63	94.61	1.6	6	10/23/2013	228	733	<0.001	<0.001	<0.001	<0.003	116	Silt to clear No odor
3	84.54	94.61	1.6	6	2/7/2014	220	748	<0.001	<0.001	<0.001	<0.003	106	Silt to clear No odor
3	84.66	94.61	1.6	6	4/10/2014	152	622	<0.001	<0.001	<0.001	<0.003	121	Silt to clear No odor
3	84.48	94.61	1.6	6	7/28/2014	188	636	<0.001	<0.001	<0.001	<0.003	89.8	Silt to clear No odor
3	84.34	94.61	1.6	6	10/30/2014	144	656	<0.001	<0.001	<0.001	<0.003	92	Silt to clear No odor
3	84.47	94.61	1.6	6	2/9/2015	120	646	<0.001	<0.001	<0.001	<0.003	109	Silt to clear No odor
3	84.54	94.61	1.6	6	4/23/2015	268	814	<0.001	<0.001	<0.001	<0.003	79	Silt to clear No odor
3	84.35	94.61	1.64	6	7/31/2015	156	608	<0.001	<0.001	<0.001	<0.003	76	Silt to clear No odor
3	84.34	94.61	1.64	6	10/26/2015	120	892	<0.001	<0.001	<0.001	<0.003	240	Silt to clear No odor
3	84.21	94.61	1.7	6	1/29/2016	72	590	<0.001	<0.001	<0.001	<0.003	150	Silt to clear No odor
3	84.19	94.61	1.7	6	4/22/2016	152	696	<0.001	<0.001	<0.001	<0.003	112	Silt to clear No odor
3	84.18	94.61	1.7	6	7/22/2016	204	784	<0.001	<0.001	<0.001	<0.003	109	Silt to clear No odor
3	84.14	94.61	1.7	6	10/26/2016	196	740	<0.001	<0.001	<0.001	<0.003	115	Silt to clear No odor
3	84.18	94.61	1.7	6	2/6/2017	200	852	<0.001	<0.001	<0.001	<0.003	117	Silt to clear No odor
3	84.11	94.61	1.7	6	4/12/2017	140	694	<0.001	<0.001	<0.001	<0.003	96	Silt to clear No odor
3	84.04	94.61	1.7	6	7/27/2017	152	700	<0.001	<0.001	<0.001	<0.003	95	Silt to clear No odor
3	84.07	94.61	1.7	6	10/23/2017	136	650	<0.001	<0.001	<0.001	<0.003	113	Silt to clear No odor
3	83.91	94.61	1.7	6	1/17/2018	144	652	<0.001	<0.001	<0.001	<0.003	107	Silt to clear No odor
3	83.93	94.61	1.7	6	4/27/2018	164	726	<0.001	<0.001	<0.001	<0.003	119	Silt to clear No odor

ROC - BD K-4 (1R-459)

Unit Letter K, Section 4, T22S, R37E

MW	Depth to	Total	Well	Volume	Sample Date	CI	TDS	Benzene	Toluene	Ethyl	Total	Sulfato	Comments
	Water	Depth	Volume	Purged	Sample Date	C	103	Delizene	roluelle	Benzene	Xylenes	Sunate	Comments
3	83.83	94.61	1.7	6	8/3/2018	148	630	<0.001	<0.001	<0.001	<0.003	103	Silt to clear No odor
3	83.76	94.61	1.7	6	11/2/2018	176	450	<0.001	<0.001	<0.001	<0.003	106	Silt to clear No odor
3	83.72	94.61	1.7	6	2/5/2019	120	586	<0.001	<0.001	<0.001	<0.003	114	Silt to clear No odor
3	83.74	94.61	1.7	6	4/23/2019	120	580	<0.001	<0.001	<0.001	<0.003	98	Silt to clear No odor
3	83.69	94.61	1.7	6	7/25/2019	136	634	<0.001	<0.001	<0.001	<0.003	124	Silt to clear No odor
3	83.65	94.61	1.7	6	10/25/2019	120	564	<0.001	<0.001	<0.001	<0.003	94	Silt to clear No odor
3	83.63	94.61	1.8	6	2/18/2020	128	617	<0.0005	<0.0005	<0.0005	<0.002	106	Silt to clear No odor
3	83.7	94.61	1.7	6	5/27/2020	132	509	XXX	XXX	XXX	XXX	108	Silt to clear No odor
3	83.52	94.61	1.8	6	8/24/2020	108	579	XXX	XXX	XXX	XXX	88.2	Silt to clear No odor
3	83.56	94.61	1.8	6	10/28/2020	124	568	XXX	XXX	XXX	XXX	85.9	Silt to clear No odor





March 03, 2020

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

RE: BD K-4 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 02/24/20 14:22.

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. 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:	02/24/2020	Sampling Date:	02/18/2020
Reported:	03/03/2020	Sampling Type:	Water
Project Name:	BD K-4 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S R37E SEC4K - LEA CTY., NM		

Sample ID: MONITOR WELL #1 (H000575-01)

BTEX 8260B	mg	′L	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.0005	0.0005	02/26/2020	ND	0.019	92.6	0.0200	2.19	
Toluene*	<0.0005	0.0005	02/26/2020	ND	0.020	98.6	0.0200	2.80	
Ethylbenzene*	<0.0005	0.0005	02/26/2020	ND	0.020	98.4	0.0200	4.67	
Total Xylenes*	<0.002	0.002	02/26/2020	ND	0.067	111	0.0600	3.61	
Total BTEX	<0.003	0.003	02/26/2020	ND					
Surrogate: Dibromofluoromethane	104	% 89.2-11	2						
Surrogate: Toluene-d8	102 5	% 92-100	ó						
Surrogate: 4-Bromofluorobenzene	95.1	% 80.4-12	4						
Chloride, SM4500Cl-B	mg,	′L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	140	4.00	02/25/2020	ND	100	100	100	0.00	
Sulfate 375.4	mg,	'L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	125	25.0	02/26/2020	ND	20.5	102	20.0	6.89	
TDS 160.1	mg,	′L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	658	5.00	02/27/2020	ND	541	108	500	0.819	

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:	02/24/2020	Sampling Date:	02/18/2020
Reported:	03/03/2020	Sampling Type:	Water
Project Name:	BD K-4 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S R37E SEC4K - LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H000575-02)

BTEX 8260B	mg/	Έ	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.0005	0.0005	02/26/2020	ND	0.019	92.6	0.0200	2.19	
Toluene*	<0.0005	0.0005	02/26/2020	ND	0.020	98.6	0.0200	2.80	
Ethylbenzene*	<0.0005	0.0005	02/26/2020	ND	0.020	98.4	0.0200	4.67	
Total Xylenes*	<0.002	0.002	02/26/2020	ND	0.067	111	0.0600	3.61	
Total BTEX	<0.003	0.003	02/26/2020	ND					
Surrogate: Dibromofluoromethane	107 9	% 89.2-11	2						
Surrogate: Toluene-d8	103 9	% 92-106	í						
Surrogate: 4-Bromofluorobenzene	95.7	% 80.4-12	4						
Chloride, SM4500Cl-B	mg/	'L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	116	4.00	02/25/2020	ND	100	100	100	0.00	
Sulfate 375.4	mg/	'L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	122	25.0	02/26/2020	ND	20.5	102	20.0	6.89	
TDS 160.1	mg/	'L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	573	5.00	02/26/2020	ND	541	108	500	0.819	

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:	02/24/2020	Sampling Date:	02/18/2020
Reported:	03/03/2020	Sampling Type:	Water
Project Name:	BD K-4 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S R37E SEC4K - LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H000575-03)

BTEX 8260B	mg/	′L	Analyze	d By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene	<0.0005	0.0005	02/28/2020	ND	0.019	92.8	0.0200	3.68	
Toluene	<0.0005	0.0005	02/28/2020	ND	0.020	97.6	0.0200	6.84	
Ethylbenzene	<0.0005	0.0005	02/28/2020	ND	0.021	103	0.0200	6.05	
Total Xylenes	<0.002	0.002	02/28/2020	ND	0.065	108	0.0600	5.88	
Total BTEX	<0.003	0.003	02/28/2020	ND					
Surrogate: Dibromofluoromethane	101 9	% 89.2-11	2						
Surrogate: Toluene-d8	102 9	% 92-106	í						
Surrogate: 4-Bromofluorobenzene	94.4	% 80.4-12	4						
Chloride, SM4500Cl-B	mg/	'L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	128	4.00	02/25/2020	ND	100	100	100	0.00	
Sulfate 375.4	mg/	'L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	106	25.0	02/26/2020	ND	20.5	102	20.0	6.89	
TDS 160.1	mg/	'L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	617	5.00	02/26/2020	ND	541	108	500	0.819	

Cardinal Laboratories

*=Accredited Analyte

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

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

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager

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June 04, 2020

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

RE: BD K-4 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 06/01/20 14:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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. Keine

Celey D. Keene Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	06/01/2020	Sampling Date:	05/27/2020
Reported:	06/04/2020	Sampling Type:	Water
Project Name:	BD K-4 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S R37E SEC4K - LEA CTY., NM		

Sample ID: MONITOR WELL #1 (H001476-01)

Chloride, SM4500Cl-B	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	132	4.00	06/02/2020	ND	104	104	100	0.00	
Sulfate 375.4	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	102	25.0	06/02/2020	ND	20.1	101	20.0	0.890	
TDS 160.1	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	626	5.00	06/03/2020	ND	540	108	500	0.777	

Sample ID: MONITOR WELL #2 (H001476-02)

Chloride, SM4500Cl-B	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	104	4.00	06/02/2020	ND	104	104	100	0.00	
Sulfate 375.4	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	97.0	25.0	06/02/2020	ND	20.1	101	20.0	0.890	
TDS 160.1	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	556	5.00	06/03/2020	ND	540	108	500	0.777	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	06/01/2020	Sampling Date:	05/27/2020
Reported:	06/04/2020	Sampling Type:	Water
Project Name:	BD K-4 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S R37E SEC4K - LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H001476-03)

Chloride, SM4500Cl-B	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	132	4.00	06/02/2020	ND	104	104	100	0.00	
Sulfate 375.4	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	108	25.0	06/02/2020	ND	20.1	101	20.0	0.890	
TDS 160.1	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	509	5.00	06/03/2020	ND	540	108	500	0.777	

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 SM4500CI-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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Fax (575) 39 mpany Name:	93-2476										-		10.	_					LA	BOr	derl	D#										1000	
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^{oject Manager:} Katie Jones	ŝ		Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240										1	11	1	I	I	(Ci I	rcle i I I	or Sp I	becii I	y Me	ethoo I	d No	.)	n i		ī	1	1	T		
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September 04, 2020

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

RE: BD K-4 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 08/27/20 10:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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. Keine

Celey D. Keene Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	08/27/2020	Sampling Date:	08/24/2020
Reported:	09/04/2020	Sampling Type:	Water
Project Name:	BD K-4 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S R37E SEC4K - LEA CTY., NM		

Sample ID: MONITOR WELL #1 (H002261-01)

Chloride, SM4500Cl-B	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	132	4.00	08/28/2020	ND	100	100	100	3.92	
Sulfate 375.4	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	94.7	25.0	08/27/2020	ND	16.1	80.7	20.0	0.871	
TDS 160.1	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	665	5.00	08/31/2020	ND	533	107	500	2.18	

Sample ID: MONITOR WELL #2 (H002261-02)

Chloride, SM4500Cl-B	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	116	4.00	08/28/2020	ND	100	100	100	3.92	
Sulfate 375.4	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	88.5	25.0	08/27/2020	ND	16.1	80.7	20.0	0.871	
TDS 160.1	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	600	5.00	09/02/2020	ND	864	86.4	1000	5.66	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	08/27/2020	Sampling Date:	08/24/2020
Reported:	09/04/2020	Sampling Type:	Water
Project Name:	BD K-4 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S R37E SEC4K - LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H002261-03)

Chloride, SM4500Cl-B	mg	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	108	4.00	08/28/2020	ND	100	100	100	3.92	
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	08/27/2020	ND	16.1	80.7	20.0	0.871	
TDS 160.1	mg	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	579	5.00	09/02/2020	ND	864	86.4	1000	5.66	

Cardinal Laboratories

*=Accredited Analyte

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 SM4500CI-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

Ist Marland - Hobbs, NM 88240 Tel (575) 393-2326 Fax (575) 393-2476	lina	T	,9	h	nr	ิวา	to	ri	P	2	Tr	10		_		СН	AIN		-			YA	ND	AN	AL	/SIS	RE	EQU	JES	T	
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FIELD CODE	(G)rab or (C)omp	# CONTAINERS					HCL (2 40ml VOA)				NONF	6		MTBE 8021B/602	BTEX 8021B/602	ž	Ag	Ag ag	TCLP Semi Volatiles	TCLP Pesticides		826	. <	PCB's 8082/608		Moisture Content	Mg.	S04	ved		Turn Around Time
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November 11, 2020

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

RE: BD K-4 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 11/02/20 15:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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.

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Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

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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:	11/02/2020	Sampling Date:	10/28/2020
Reported:	11/11/2020	Sampling Type:	Water
Project Name:	BD K-4 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S R37E SEC4K - LEA CTY., NM		

Sample ID: MONITOR WELL #1 (H002887-01)

Chloride, SM4500Cl-B	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	124	4.00	11/03/2020	ND 104		104	100	3.92	
Sulfate 375.4	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	115	25.0	11/05/2020	ND	23.8	119	20.0	6.41	QM-07
TDS 160.1	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	546	5.00	11/06/2020	ND	553	111	500	4.83	

Sample ID: MONITOR WELL #2 (H002887-02)

Chloride, SM4500Cl-B	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	116	4.00	11/03/2020	ND 104		104	100	3.92	
Sulfate 375.4	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	91.4	25.0	11/05/2020	ND	23.8	119	20.0	6.41	
TDS 160.1	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	591	5.00	11/06/2020	ND	553	111	500	4.83	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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Received:	11/02/2020	Sampling Date:	10/28/2020
Reported:	11/11/2020	Sampling Type:	Water
Project Name:	BD K-4 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S R37E SEC4K - LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H002887-03)

Chloride, SM4500Cl-B	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	124	4.00	11/03/2020	ND 104		104	100	3.92	
Sulfate 375.4	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	85.9	25.0	11/05/2020	ND	23.8	119	20.0	6.41	
TDS 160.1	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	568	5.00	11/06/2020	ND	553	111	500	4.83	

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Celez 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

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

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101 East Marland - Hobbs, NM 88240 Tel (575) 393-2326 Fax (575) 393-2476 Cardinal Laboratories, Inc.								LAB Order ID #												of D													
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RICE Operating Company Project Manager:		RICE		Addre		00	mpa	arry		eet, (City,	Zip)			(Circle or Specify Method No.)												_ امّ						
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Address: (Street, City, Zip)				Phone							Fax				1			1															
122 W Taylor Street ~ Hobbs, New Mexico 88240	ax #:	(575)	393	3-91	74						(57	75)3	397-	1471	1			000					1										
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HOCLAB #	dwo	# CONTAINERS					140	(M)			ICE (1-1Liter HDPE)				/602	/602	X100	V - V	AgA	s	TCLP Semi Volatiles	des	0000	1070	GC/MS Semi. Vol.	808	Pesticides 8081A/608	Moisture Content	Ma	504	s per		Tim
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CONDITIONS

Action 23955

District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 District III

District III 1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 S. St Francis Dr. Santa Fe, NM 87505

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:						
RICE OPERATING COM	PANY 122 W Taylor	Hobbs, NM88240	19174	23955	GROUND WATER ABATEMENT						
OCD Reviewer	Condition										
bbillings	Data looks god, will process stated closure request as soon as possible.										
bbillings	Data looks good										