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

February 25, 2021

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: **Termination Request**
Rice Operating Company – EME SWD System
EME Jct. G-18 (1R427-162): UL/G, Sec. 18, T19S, R37E

Mr. Billings:

ROC is the service provider (agent) for the EME SWD System and has no ownership of any portion of the pipeline, well, or facility. The system is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

Background and Previous Work
The site is located approximately 3 miles northwest of Monument, New Mexico at UL/G, Sec. 18, T19S, R37E as shown on the Geographic Location Map and Area Map. Monitor well sampling at the site indicates that groundwater has been encountered at approximately 54 ft below ground surface (bgs).

In 2004, ROC initiated work on the former EME G-18 junction box. The site was delineated using a backhoe to collect soil samples at regular intervals. The excavation reached dimensions of 20x18x12-ft bgs. Composite samples were sent to a commercial laboratory for chloride and TPH analyses, resulting in elevated concentration of chloride in the bottom composite, elevated concentrations of TPH and BTEX. A 1-ft thick clay layer was installed from 6-5 ft bgs, and a compaction test was performed on April 16th, 2004. The site was backfilled, the area was contoured to the surrounding area and an identification plate was placed on the site to mark its location for future environmental considerations. A new junction box was not required at the site.

Between June 2nd, 2004 and December 6th, 2010, fives soil bores and three monitor wells were drilled at and surrounding the former junction box. An ICP Report and CAP was then submitted to the NMOCD, which detailed the findings of the soil borings. The report requested a 6-month source removal and test pumping program and that MW-1 be plugged and replaced with a 4 inch well. In addition, a 44x49-ft, 20-mil reinforced liner would be installed at 4-5 ft bgs. NMOCD approved the plan on July 18th, 2011.

Beginning on November 23rd, 2011, the site was excavated to 44x49x5-ft deep. The excavation was padded with six inches of the imported sand and the liner was properly seated at approximately 4.5 ft bgs. The top of the liner was padded with six inches of imported sand and the excavation was backfilled and contoured to the surrounding location. The 20-mil reinforced liner will inhibit the further migration of chloride through the vadose zone into groundwater. The site was seeded with a blend of native vegetation and a silt net fence was placed around the area to maintain seed integrity. On October 15th, 2012, ROC submitted a Soil Closure Request to NMOCD that detailed these activities and asked for 'Soil Closure' or similar closure status. NMOCD approved the soil closure on the same day.

On October 26th, 2011, MW-1 was plugged and abandoned with a 1-3% bentonite/concrete slurry and capped with three feet of concrete. MW-1 was then replaced with a 4 inch well (MW-1R) which was installed 9 ft southeast of the former MW-1.

On April 17th, 2012, ROC submitted the Vadose Zone Remediation and Termination Request to NMOCD. ROC had completed the vadose zone remediation approved by NMOCD in the CAP and plugged and replaced MW-1 with MW-1R. A 6-month source removal and test pumping program from MW-1R that was described in the CAP was deemed no longer necessary because two quarters of monitor well sampling data showed chloride concentrations below WQCC standards. Therefore, ROC requested 'remediation termination' status of regulatory file. On June 5th, 2012, NMOCD responded with a request for two more quarters of monitor well sampling data from MW-1R prior to terminating the remediation plan. The two additional sampling events of MW-1R occurred on November 1st, 2012 resulting in a chloride value of 570 mg/kg and on February 8th, 2013 also resulting in a chloride value of 570 mg/kg. Given that these two sampling events show chlorides outside WQCC standards, it was recommended ROC continue with a 6-month source removal and test pumping program from MW-1R that was described in the CAP. This path forward was approved by NMOCD on July 2nd, 2013.

Groundwater recovery began on September 16th, 2013 from MW-1R and continued through November 2015. During that time, approximately 7,263 barrels of groundwater was removed which equates to approximately 277 kg of chloride, based on a chloride concentration of 240 mg/L. Removed groundwater was utilized for a purposeful use. Since groundwater recovery began, chloride and TDS concentrations in MW-1R have decreased to 250 mg/L and 1,000 mg/L, respectively and have remained below WQCC standards for eight consecutive quarters. Concentrations in MW-2 and MW-3 have remained below WQCC standards since installation.

Recommendations

Based on the low concentrations observed in all three monitoring wells, soil closure received from NMOCD, and recovered vegetation, ROC respectfully requests remediation termination or similar closure status for this site. Once NMOCD grants termination, the three monitoring wells (MW-1R, MW-2, and MW-3) will be plugged and abandoned using Portland slurry and a three-foot cap of concrete at the surface. ROC acknowledges they have met the requirements of 19.15.29 NMAC and a final C-141 is attached.

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 at if you have any questions or wish to further discuss this site. Thank you for your time and consideration.

Sincerely,

Katie Davis

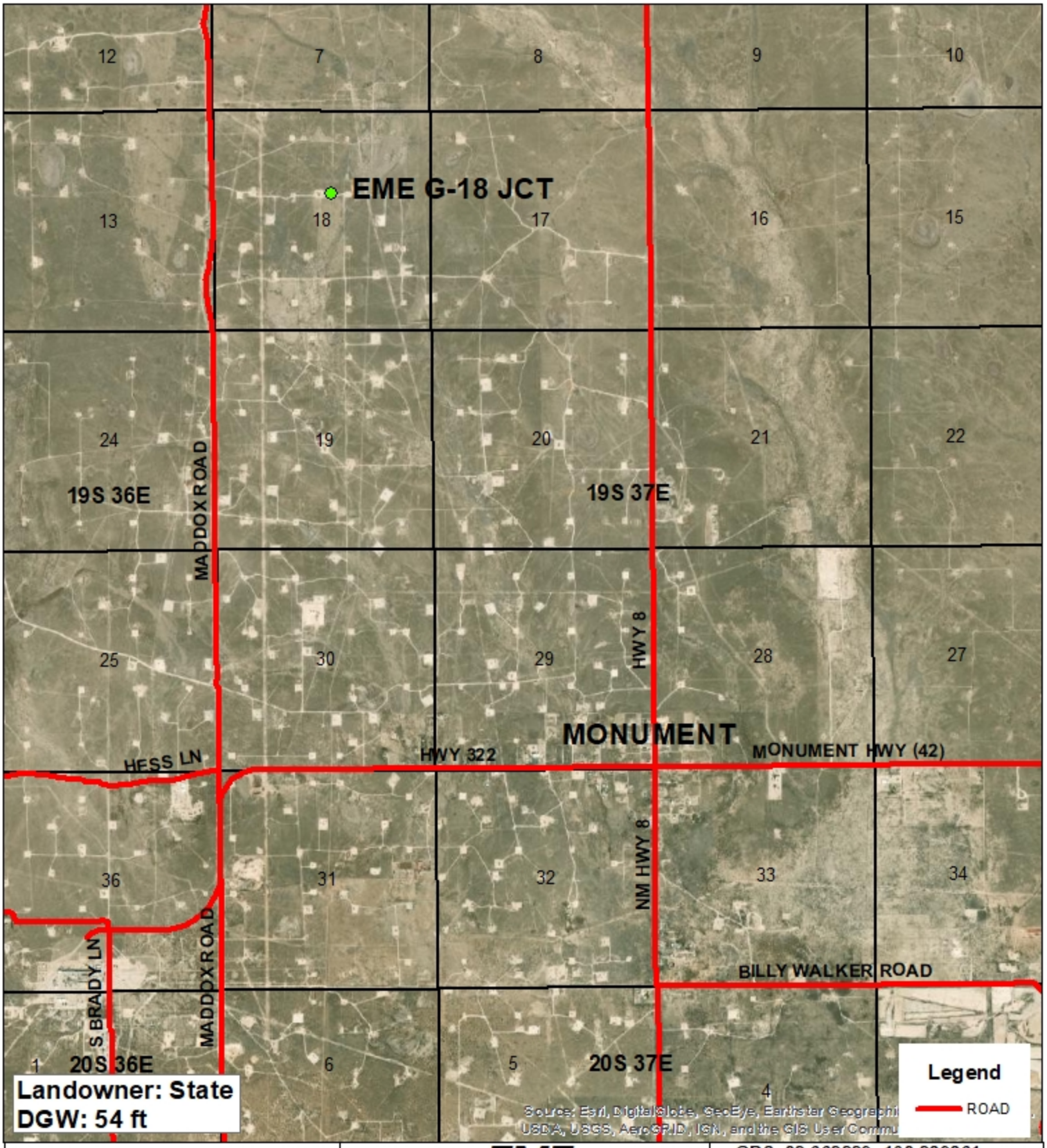
Katie Davis
Environmental Manager
RICE Operating Company

Appendix

Figures

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

Geographic Location



RICE OPERATING COMPANY
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SINCE 1955

EME JCT G-18

1R427-162

UL G SECTION 18
T-19-S R-37-E
LEA COUNTY, NM

GPS: 32.662229 -103.289861
NAD83 STATE PLANE PROJ
NM EAST ZONE

N
W E
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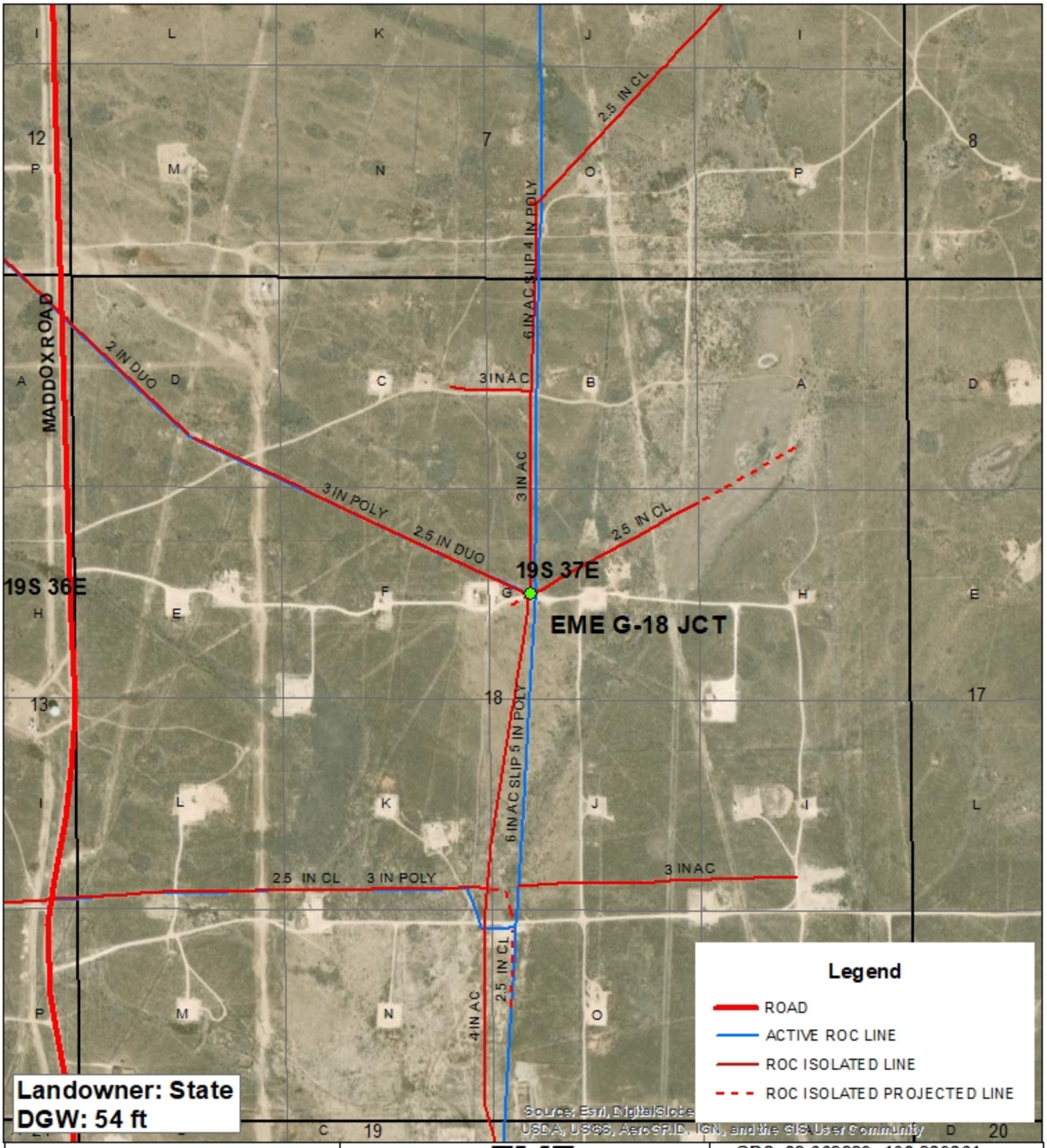
0 0.5 1
Miles

Drawing date: 1/6/21
Drafted by: T. Grieco

Area Map



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NAD83 STATE PLANE PROJ
NM EAST ZONE

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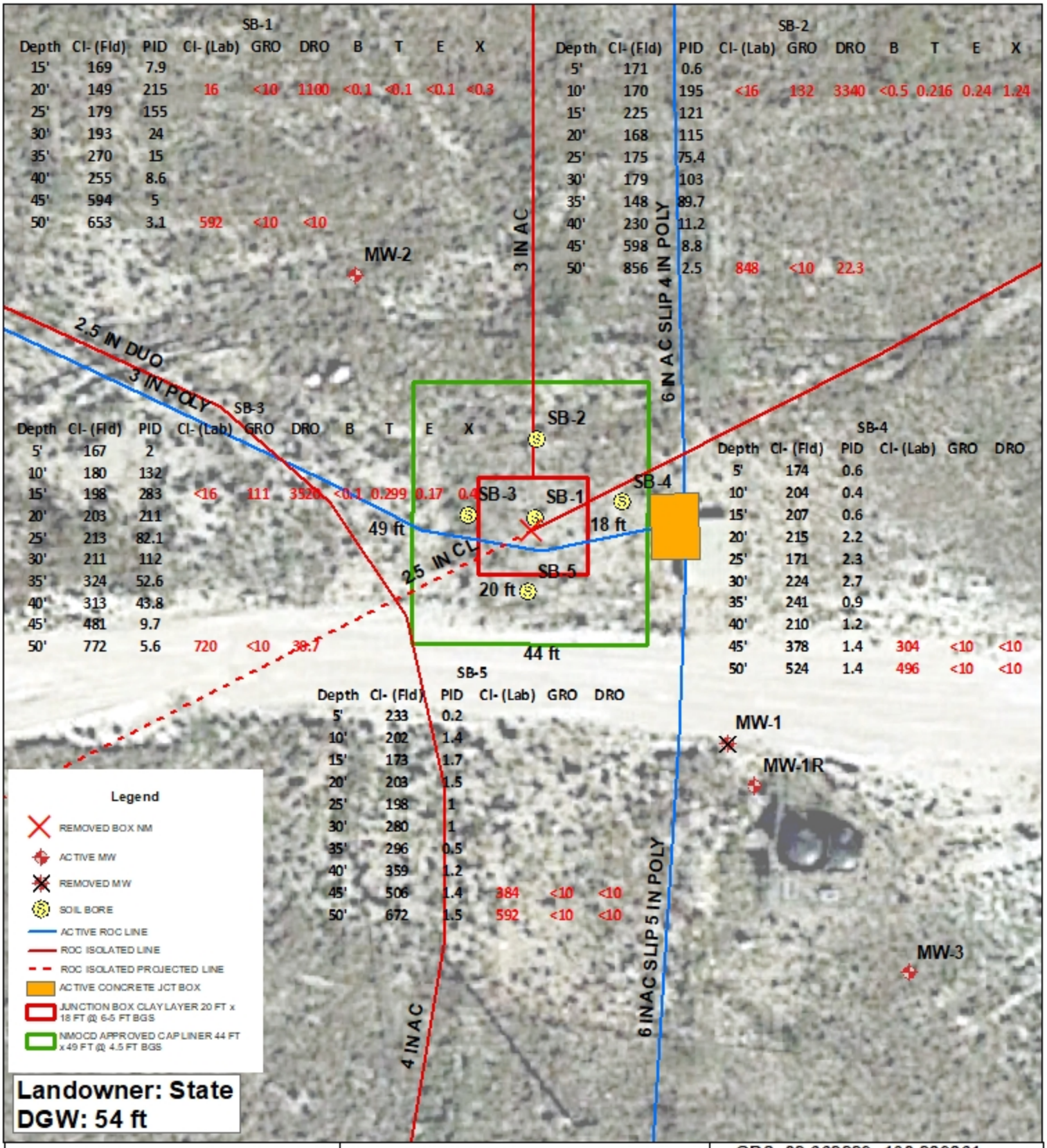
Feet

Drawing date: 1/6/21
Drafted by: T. Grieco

Monitor Well and Soil Bore Installation



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JCT G-18
1R427-162

UL G SECTION 18
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LEA COUNTY, NM

GPS: 32.662229 -103.289861
NAD83 STATE PLANE PROJ
NM EAST ZONE

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W E
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0 10 20
Feet

Drawing date: 1/6/21
Drafted by: T. Grieco

Monitoring Well Sampling

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

ROC - EME Jct. G-18 (1R427-162)
Unit Letter G, Section 18, T19S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	53.51	68.28	2.4	8	12/28/2010	630	1,810	<0.001	<0.001	<0.001	<0.003	308	Clear No odor
1	53.71	68.28	2.3	8	3/4/2011	470	1,670	<0.001	<0.001	<0.001	<0.003	282	Clear No odor
1	54.11	68.28	2.3	8	5/31/2011	550	1,560	<0.001	<0.001	<0.001	<0.003	217	Clear No odor
1	54.33	68.28	2.2	8	8/29/2011	550	1,420	<0.001	<0.001	<0.001	<0.003	174	Clear No odor
1R	54.4	100.15	29.7	100	11/14/2011	200	768	<0.001	<0.001	<0.001	<0.003	98.2	Clear No odor - replaced with 4 inch
1R	54.64	100.15	29.6	100	2/14/2012	192	713	<0.001	<0.001	<0.001	<0.003	78.1	Clear No odor
1R	54.83	100.15	29.5	100	5/23/2012	360	1,060	<0.001	<0.001	<0.001	<0.003	99.4	Clear No odor
1R	54.92	100.15	29.4	100	7/13/2012	308	1,060	<0.001	<0.001	<0.001	<0.003	117	Clear No odor
1R	55.17	100.15	29.2	100	11/1/2012	570	1,750	<0.001	<0.001	<0.001	<0.003	209	Clear No odor
1R	55.28	100.15	29.2	100	2/8/2013	570	1,660	<0.001	<0.001	<0.001	<0.003	243	Clear No odor
1R	55.47	100.15	29	100	5/22/2013	516	1,560	<0.001	<0.001	<0.001	<0.003	213	Clear No odor
1R	55.26	100.15	29.2	100	9/3/2013	850	2,270	<0.001	<0.001	<0.001	<0.003	531	Clear No odor
1R	XXX	100.15	XXX	running	11/11/2013	236	770	<0.001	<0.001	<0.001	<0.003	77.8	Clear No odor
1R	XXX	100.15	XXX	100	3/3/2014	490	1,900	<0.001	<0.001	<0.001	<0.003	381	Clear No odor
1R	XXX	100.15	XXX	running	5/28/2014	256	830	<0.001	<0.001	<0.001	<0.003	74	Clear No odor
1R	XXX	100.15	XXX	running	8/15/2014	268	830	<0.001	<0.001	<0.001	<0.003	76.1	Clear No odor
1R	XXX	100.15	XXX	running	11/19/2014	96	704	<0.001	<0.001	<0.001	<0.003	60.6	Clear No odor
1R	XXX	100.15	XXX	100	2/20/2015	328	1,090	<0.001	<0.001	<0.001	<0.003	136	Clear No odor
1R	XXX	100.15	XXX	100	5/28/2015	208	826	<0.001	<0.001	<0.001	<0.003	87.4	Clear No odor
1R	XXX	100.15	XXX	100	8/14/2015	196	736	<0.001	<0.001	<0.001	<0.003	51.6	Clear No odor
1R	XXX	100.15	XXX	running	11/9/2015	240	774	<0.001	<0.001	<0.001	<0.003	78	Clear No odor
1R	XXX	100.15	XXX	100	2/22/2016	140	880	<0.001	<0.001	<0.001	<0.003	112	Clear No odor
1R	XXX	100.15	XXX	100	5/11/2016	60	802	<0.001	<0.001	<0.001	<0.003	183	Clear No odor
1R	XXX	100.15	XXX	100	9/9/2016	348	1,190	<0.001	<0.001	<0.001	<0.003	134	Clear No odor
1R	XXX	100.15	XXX	100	11/9/2016	52	964	<0.001	<0.001	<0.001	<0.003	337	Clear No odor
1R	XXX	100.15	XXX	100	2/17/2017	104	982	<0.001	<0.001	<0.001	<0.003	273	Clear No odor
1R	XXX	100.15	XXX	100	5/22/2017	76	766	<0.001	<0.001	<0.001	<0.003	77	Clear No odor
1R	XXX	100.15	XXX	100	9/6/2017	80	1,280	<0.001	<0.001	<0.001	<0.003	505	Clear No odor

ROC - EME Jct. G-18 (1R427-162)
Unit Letter G, Section 18, T19S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1R	XXX	100-15	XXX	100	11/28/2017	232	938	<0.001	<0.001	<0.001	<0.003	114	Clear No odor
1R	XXX	100-15	XXX	100	2/26/2018	164	1,110	<0.001	<0.001	<0.001	<0.003	261	Clear No odor
1R	XXX	100-15	XXX	100	5/14/2018	124	1,000	<0.001	<0.001	<0.001	<0.003	221	Clear No odor
1R	XXX	100-15	XXX	100	8/31/2018	416	1,430	<0.001	<0.001	<0.001	<0.003	151	Clear No odor
1R	XXX	100-15	XXX	100	11/9/2018	220	1,060	<0.001	<0.001	<0.001	<0.003	135	Clear No odor
1R	XXX	100.15	XXX	100	2/28/2019	140	605	<0.001	<0.001	<0.001	<0.003	85	Clear No odor
1R	XXX	100.15	XXX	100	5/23/2019	136	940	<0.001	<0.001	<0.001	<0.003	136	Clear No odor
1R	XXX	100.15	XXX	100	8/27/2019	84	886	<0.001	<0.001	<0.001	<0.003	165	Clear No odor
1R	XXX	100.15	XXX	100	11/14/2019	128	867	<0.001	<0.001	<0.001	<0.003	91	Clear No odor
1R	XXX	100.15	XXX	100	3/3/2020	140	912	<0.001	<0.001	<0.001	<0.003	111	Clear No odor
1R	XXX	100.15	XXX	100	5/29/2020	136	901	XXX	XXX	XXX	XXX	115	Clear No odor
1R	XXX	100.15	XXX	100	9/9/2020	132	947	XXX	XXX	XXX	XXX	132	Clear No odor
1R	XXX	100.15	XXX	100	10/30/2020	160	964	XXX	XXX	XXX	XXX	112	Clear No odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	53.58	70.22	2.7	10	3/4/2011	32	715	<0.001	<0.001	<0.001	<0.003	191	Clear No odor
2	53.98	70.22	2.6	10	5/31/2011	44	821	<0.001	<0.001	<0.001	<0.003	243	Clear No odor
2	54.21	70.22	2.6	10	8/29/2011	32	643	<0.001	<0.001	<0.001	<0.003	213	Clear No odor
2	54.39	70.22	2.5	10	11/14/2011	28	744	<0.001	<0.001	<0.001	<0.003	184	Clear No odor
2	54.39	70.22	2.5	10	2/14/2012	24	818	<0.001	<0.001	<0.001	<0.003	209	Clear No odor
2	54.82	70.22	2.5	10	5/23/2012	32	815	<0.001	<0.001	<0.001	<0.003	203	Clear No odor
2	54.91	70.22	2.4	10	7/13/2012	36	821	<0.001	<0.001	<0.001	<0.003	214	Clear No odor
2	55.15	70.22	2.4	10	11/1/2012	72	867	<0.001	<0.001	<0.001	<0.003	198	Clear No odor
2	55.32	70.22	2.4	10	2/8/2013	28	748	<0.001	<0.001	<0.001	<0.003	177	Clear No odor
2	55.43	70.22	2.4	10	5/22/2013	40	783	<0.001	<0.001	<0.001	<0.003	206	Clear No odor
2	55.28	70.22	2.4	10	9/3/2013	28	686	<0.001	<0.001	<0.001	<0.003	131	Clear No odor
2	55.54	70.22	2.3	10	11/11/2013	28	721	<0.001	<0.001	<0.001	<0.003	155	Clear No odor
2	55.57	70.22	2.3	10	3/3/2014	40	704	<0.001	<0.001	<0.001	<0.003	166	Clear No odor

ROC - EME Jct. G-18 (1R427-162)
Unit Letter G, Section 18, T19S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	55.74	70.22	2.3	10	5/28/2014	32	766	<0.001	<0.001	<0.001	<0.003	153	Clear No odor
2	55.83	70.22	2.3	10	8/15/2014	20	748	<0.001	<0.001	<0.001	<0.003	183	Clear No odor
2	54.44	70.22	2.5	10	11/19/2014	80	682	<0.001	<0.001	<0.001	<0.003	55.3	Clear No odor
2	54.14	70.22	2.6	10	2/20/2015	32	866	<0.001	<0.001	<0.001	<0.003	183	Clear No odor
2	54.52	70.22	2.5	10	5/28/2015	28	942	<0.001	<0.001	<0.001	<0.003	244	Clear No odor
2	54.53	70.22	2.5	10	8/14/2015	44	848	<0.001	<0.001	<0.001	<0.003	190	Clear No odor
2	54.8	70.22	2.47	10	11/9/2015	20	742	<0.001	<0.001	<0.001	<0.003	186	Clear No odor
2	54.63	70.22	2.5	10	2/22/2016	20	788	<0.001	<0.001	<0.001	<0.003	176	Clear No odor
2	54.52	70.22	2.5	10	5/11/2016	32	734	<0.001	<0.001	<0.001	<0.003	184	Clear No odor
2	54.82	70.22	2.6	10	9/9/2016	20	874	<0.001	<0.001	<0.001	<0.003	225	Clear No odor
2	54.83	70.22	2.6	10	11/9/2016	24	696	<0.001	<0.001	<0.001	<0.003	192	Clear No odor
2	53.75	70.22	2.6	10	2/17/2017	88	752	<0.001	<0.001	<0.001	<0.003	78	Clear No odor
2	53.56	70.22	2.7	10	5/22/2017	92	696	<0.001	<0.001	<0.001	<0.003	79	Clear No odor
2	54.8	70.22	2.7	10	9/6/2017	32	860	<0.001	<0.001	<0.001	<0.003	202	Clear No odor
2	54.78	70.22	2.7	10	11/28/2017	56	864	<0.001	<0.001	<0.001	<0.003	229	Clear No odor
2	54.76	70.22	2.5	10	2/26/2018	32	472	<0.001	<0.001	<0.001	<0.003	188	Clear No odor
2	54.73	70.22	2.5	10	5/14/2008	28	706	<0.001	<0.001	<0.001	<0.003	185	Clear No odor
2	54.98	70.22	2.4	10	8/31/2018	36	668	<0.001	<0.001	<0.001	<0.003	147	Clear No odor
2	54.2	70.22	2.6	10	11/9/2018	28	606	<0.001	<0.001	<0.001	<0.003	232	Clear No odor
2	54.19	70.22	2.6	10	2/28/2019	40	422	<0.001	<0.001	<0.001	<0.003	168	Clear No odor
2	54.16	70.22	2.6	10	5/23/2019	40	704	<0.001	<0.001	<0.001	<0.003	167	Clear No odor
2	55.38	70.22	2.4	10	8/27/2019	40	594	<0.001	<0.001	<0.001	<0.003	120	Clear No odor
2	55.59	70.22	2.3	10	11/14/2019	36	749	<0.001	<0.001	<0.001	<0.003	146	Clear No odor
2	55.65	70.22	2.3	10	3/3/2020	36	556	<0.001	<0.001	<0.001	<0.003	140	Clear No odor
2	55.96	70.22	2.3	10	5/29/2020	36	724	XXX	XXX	XXX	XXX	150	Clear No odor
2	56.16	70.22	2.2	10	9/9/2020	48	795	XXX	XXX	XXX	XXX	174	Clear No odor
2	55.26	70.22	2.4	10	10/30/2020	36	604	XXX	XXX	XXX	XXX	144	Clear No odor

ROC - EME Jct. G-18 (1R427-162)
Unit Letter G, Section 18, T19S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	52.55	70.23	2.8	10	3/4/2011	80	687	<0.001	<0.001	<0.001	<0.003	97	Clear No odor
3	52.96	70.23	2.8	10	5/31/2011	80	632	<0.001	<0.001	<0.001	<0.003	94.3	Clear No odor
3	53.17	70.23	2.7	10	8/29/2011	84	685	<0.001	<0.001	<0.001	<0.003	93.8	Clear No odor
3	53.34	70.23	2.7	10	11/14/2011	72	708	<0.001	<0.001	<0.001	<0.003	93.2	Clear No odor
3	53.58	70.23	2.7	10	2/14/2012	85	753	<0.001	<0.001	<0.001	<0.003	99.5	Clear No odor
3	53.75	70.23	2.6	10	5/23/2012	76	705	<0.001	<0.001	<0.001	<0.003	92.6	Clear No odor
3	53.84	70.23	2.6	10	7/13/2012	60	766	<0.001	<0.001	<0.001	<0.003	91.8	Clear No odor
3	54.14	70.23	2.6	10	11/1/2012	76	783	<0.001	<0.001	<0.001	<0.003	88.3	Clear No odor
3	55.27	70.23	2.4	10	2/8/2013	80	734	<0.001	<0.001	<0.001	<0.003	84	Clear No odor
3	55.38	70.23	2.4	10	5/22/2013	76	750	<0.001	<0.001	<0.001	<0.003	71.6	Clear No odor
3	54.17	70.23	2.6	10	9/3/2013	60	683	<0.001	<0.001	<0.001	<0.003	71.9	Clear No odor
3	54.51	70.23	2.5	10	11/11/2013	48	712	<0.001	<0.001	<0.001	<0.003	76.4	Clear No odor
3	54.54	70.23	2.5	10	3/3/2014	80	734	<0.001	<0.001	<0.001	<0.003	84.6	Clear No odor
3	54.73	70.23	2.5	10	5/28/2014	96	758	<0.001	<0.001	<0.001	<0.003	92.4	Clear No odor
3	54.94	70.23	2.4	10	8/15/2014	84	708	<0.001	<0.001	<0.001	<0.003	76.5	Clear No odor
3	53.38	70.23	2.7	10	11/19/2014	24	806	<0.001	<0.001	<0.001	<0.003	249	Clear No odor
3	53.12	70.23	2.7	10	2/20/2015	80	738	<0.001	<0.001	<0.001	<0.003	65	Clear No odor
3	53.56	70.23	2.7	10	5/28/2015	84	754	<0.001	<0.001	<0.001	<0.003	84.8	Clear No odor
3	53.64	70.23	2.7	10	8/14/2015	76	730	<0.001	<0.001	<0.001	<0.003	54	Clear No odor
3	53.88	70.23	2.62	10	11/9/2015	32	712	<0.001	<0.001	<0.001	<0.003	192	Clear No odor
3	53.64	70.23	2.7	10	2/22/2016	80	710	<0.001	<0.001	<0.001	<0.003	77	Clear No odor
3	53.53	70.23	2.7	10	5/11/2016	64	792	<0.001	<0.001	<0.001	<0.003	175	Clear No odor
3	54.83	70.23	2.6	10	9/9/2016	76	620	<0.001	<0.001	<0.001	<0.003	47	Clear No odor
3	53.84	70.23	2.6	10	11/9/2016	24	760	<0.001	<0.001	<0.001	<0.003	182	Clear No odor
3	53.76	70.23	2.6	10	2/17/2017	92	730	<0.001	<0.001	<0.001	<0.003	78	Clear No odor
3	53.58	70.23	2.7	10	5/22/2017	96	784	<0.001	<0.001	<0.001	<0.003	65	Clear No odor
3	54.83	70.23	2.7	10	9/6/2017	40	914	<0.001	<0.001	<0.001	<0.003	251	Clear No odor
3	54.81	70.23	2.7	10	11/28/2017	104	758	<0.001	<0.001	<0.001	<0.003	103	Clear No odor
3	54.78	70.23	2.5	10	2/26/2018	60	714	<0.001	<0.001	<0.001	<0.003	225	Clear No odor

ROC - EME Jct. G-18 (1R427-162)
Unit Letter G, Section 18, T19S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	54.75	70.23	2.5	10	5/14/2018	96	886	<0.001	<0.001	<0.001	<0.003	227	Clear No odor
3	55.01	70.23	2.4	10	8/31/2018	140	764	<0.001	<0.001	<0.001	<0.003	73.4	Clear No odor
3	54.24	70.23	2.6	10	11/9/2018	128	468	<0.001	<0.001	<0.001	<0.003	76.4	Clear No odor
3	54.23	70.23	2.6	10	2/28/2019	148	822	<0.001	<0.001	<0.001	<0.003	88	Clear No odor
3	54.21	70.23	2.6	10	5/23/2019	132	808	<0.001	<0.001	<0.001	<0.003	86	Clear No odor
3	55.41	70.23	2.4	10	8/27/2019	56	793	<0.001	<0.001	<0.001	<0.003	154	Clear No odor
3	55.62	70.23	2.3	10	11/14/2019	132	890	<0.001	<0.001	<0.001	<0.003	91	Clear No odor
3	55.69	70.23	2.3	10	3/3/2020	140	888	<0.001	<0.001	<0.001	<0.003	107	Clear No odor
3	56.01	70.23	2.3	10	5/29/2020	140	917	XXX	XXX	XXX	XXX	126	Clear No odor
3	56.21	70.23	2.2	10	9/9/2020	160	960	XXX	XXX	XXX	XXX	112	Clear No odor
3	55.3	70.23	2.4	10	10/30/2020	160	866	XXX	XXX	XXX	XXX	105	Clear No odor

CARDINAL Laboratories

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

November 09, 2020

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JUNCTION G-18

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/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:	11/02/2020	Sampling Date:	10/30/2020
Reported:	11/09/2020	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #1R (H002889-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**160**	4.00	11/03/2020	ND	104	104	100	3.92	

Sulfate 375.4 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**112**	25.0	11/05/2020	ND	23.8	119	20.0	6.41	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**964**	5.00	11/05/2020	ND	553	111	500	4.83	

Sample ID: MONITOR WELL #2 (H002889-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**36.0**	4.00	11/03/2020	ND	104	104	100	3.92	

Sulfate 375.4 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**144**	25.0	11/05/2020	ND	23.8	119	20.0	6.41	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**604**	5.00	11/05/2020	ND	553	111	500	4.83	

Cardinal Laboratories *=Accredited Analyte

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:	11/02/2020	Sampling Date:	10/30/2020
Reported:	11/09/2020	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #3 (H002889-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**160**	4.00	11/03/2020	ND	104	104	100	3.92	

Sulfate 375.4 mg/L **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**105**	25.0	11/05/2020	ND	23.8	119	20.0	6.41	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**866**	5.00	11/06/2020	ND	553	111	500	4.83	

Cardinal Laboratories *=Accredited Analyte

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: EME Junction G-18
Project Location: T19S-R37E-Sec18 G ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL (4-40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2020)	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
H002889																																				
1	Monitor Well #1R	G	1	X								1		10/30	14:05																		X	X	X	
2	Monitor Well #2	G	1	X								1		10/30	9:50																		X	X	X	
3	Monitor Well #3	G	1	X								1		10/30	11:20																		X	X	X	

Relinquished by: Rozanne Johnson	Date: 11/2/2020	Time: 15:35	Received by: Tamara Baker
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)

Date: 11-2-20 Time: 1535

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

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

CHECKED BY: (Initials) JC

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

REMARKS:

Email Results: kjones@riceswd.com
rozanne@sdacres.com

CARDINAL Laboratories

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

September 17, 2020

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JUNCTION G-18

Enclosed are the results of analyses for samples received by the laboratory on 09/11/20 13:30.

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. 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:	09/11/2020	Sampling Date:	09/09/2020
Reported:	09/17/2020	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #1 R (H002419-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**132**	4.00	09/14/2020	ND	100	100	100	3.92	

Sulfate 375.4 mg/L **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**120**	25.0	09/14/2020	ND	18.6	92.8	20.0	2.12	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**947**	5.00	09/15/2020	5.00	830	83.0	1000	1.14	

Sample ID: MONITOR WELL #2 (H002419-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**48.0**	4.00	09/14/2020	ND	100	100	100	3.92	

Sulfate 375.4 mg/L **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**174**	25.0	09/14/2020	ND	18.6	92.8	20.0	2.12	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**795**	5.00	09/15/2020	5.00	830	83.0	1000	1.14	

Cardinal Laboratories *=Accredited Analyte

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:	09/11/2020	Sampling Date:	09/09/2020
Reported:	09/17/2020	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #3 (H002419-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**160**	4.00	09/14/2020	ND	100	100	100	3.92	

Sulfate 375.4 mg/L **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**112**	25.0	09/14/2020	ND	18.6	92.8	20.0	2.12	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**960**	5.00	09/15/2020	5.00	830	83.0	1000	1.14	

Cardinal Laboratories *=Accredited Analyte

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: EME Junction G-18
Project Location: T19S-R37E-Sec18 G ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

LAB # H002419 (LAB USE ONLY)

	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL (4-40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2020)	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	1	X								1		9/9	12:30																		X	X	X	
2	Monitor Well #2	G	1	X								1		9/9	9:05																		X	X	X	
3	Monitor Well #3	G	1	X								1		9/9	10:40																		X	X	X	

ANALYSIS REQUEST
(Circle or Specify Method No.)

Relinquished by: Rozanne Johnson	Date: 9/11/2020	Time: 13:25	Received by:	Date: 9-11-20	Time: 1330
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)	Date:	Time:

Phone Results ☐ Yes ☐ No

Fax Results ☐ Yes ☐ No Additional Fax Number:

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

Sample Condition: Cool — Yes ☑ / No ☐; Intact — Yes ☑ / No ☐

CHECKED BY: (Initials) JD.

REMARKS:

Email Results: kjones@riceswd.com
rozanne@sdacres.com

CARDINAL Laboratories

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

June 04, 2020

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JUNCTION G-18

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. 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:	06/01/2020	Sampling Date:	05/29/2020
Reported:	06/04/2020	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #1R (H001477-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**136**	4.00	06/02/2020	ND	104	104	100	0.00	

Sulfate 375.4 **mg/L** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**115**	25.0	06/02/2020	ND	20.1	101	20.0	0.890	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**901**	5.00	06/03/2020	ND	540	108	500	0.777	

Sample ID: MONITOR WELL #2 (H001477-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**36.0**	4.00	06/02/2020	ND	104	104	100	0.00	

Sulfate 375.4 **mg/L** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**150**	25.0	06/02/2020	ND	20.1	101	20.0	0.890	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**724**	5.00	06/03/2020	ND	523	105	500	0.415	

Cardinal Laboratories *=Accredited Analyte

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:	06/01/2020	Sampling Date:	05/29/2020
Reported:	06/04/2020	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #3 (H001477-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**140**	4.00	06/02/2020	ND	104	104	100	0.00	

Sulfate 375.4 mg/L **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**126**	25.0	06/02/2020	ND	20.1	101	20.0	0.890	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**917**	5.00	06/03/2020	ND	523	105	500	0.415	

Cardinal Laboratories *=Accredited Analyte

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: EME Junction G-18
Project Location: T19S-R37E-Sec18 G ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

H001477 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 (2020)	TIME
1	Monitor Well #1R	G	1	X								1		5/29	13:05
2	Monitor Well #2	G	1	X								1		5/29	9:45
3	Monitor Well #3	G	1	X								1		5/29	11:10

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	

Relinquished by: Rozanne Johnson	Date: 6/1/2020	Time: 14:35	Received by: Samara Valdez
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)

Date: 6-1-20 Time: 1435

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 / Intact: Yes

CHECKED BY: (Initials) T.O.

CARDINAL Laboratories

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

March 10, 2020

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JUNCTION G-18

Enclosed are the results of analyses for samples received by the laboratory on 03/05/20 14:15.

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:	03/05/2020	Sampling Date:	03/03/2020
Reported:	03/10/2020	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #1 R (H000723-01)

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	03/06/2020	ND	0.020	102	0.0200	0.425	
Toluene*	<0.001	0.001	03/06/2020	ND	0.020	99.8	0.0200	0.240	
Ethylbenzene*	<0.001	0.001	03/06/2020	ND	0.020	101	0.0200	0.0198	
Total Xylenes*	<0.003	0.003	03/06/2020	ND	0.060	99.6	0.0600	0.0921	
Total BTEX	<0.006	0.006	03/06/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.6 %* *58.2-133*

Chloride, SM4500Cl-B mg/L Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**140**	4.00	03/06/2020	ND	104	104	100	3.92	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**111**	25.0	03/05/2020	ND	22.5	113	20.0	2.28	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**912**	5.00	03/10/2020	ND	526	105	500	2.86	

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:	03/05/2020	Sampling Date:	03/03/2020
Reported:	03/10/2020	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #2 (H000723-02)

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	03/06/2020	ND	0.020	102	0.0200	0.425	
Toluene*	<0.001	0.001	03/06/2020	ND	0.020	99.8	0.0200	0.240	
Ethylbenzene*	<0.001	0.001	03/06/2020	ND	0.020	101	0.0200	0.0198	
Total Xylenes*	<0.003	0.003	03/06/2020	ND	0.060	99.6	0.0600	0.0921	
Total BTEX	<0.006	0.006	03/06/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.2 %* *58.2-133*

Chloride, SM4500Cl-B mg/L Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**36.0**	4.00	03/06/2020	ND	104	104	100	3.92	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**140**	25.0	03/05/2020	ND	22.5	113	20.0	2.28	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**556**	5.00	03/10/2020	ND	526	105	500	2.86	

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:	03/05/2020	Sampling Date:	03/03/2020
Reported:	03/10/2020	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #3 (H000723-03)

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	03/06/2020	ND	0.020	102	0.0200	0.425	
Toluene*	<0.001	0.001	03/06/2020	ND	0.020	99.8	0.0200	0.240	
Ethylbenzene*	<0.001	0.001	03/06/2020	ND	0.020	101	0.0200	0.0198	
Total Xylenes*	<0.003	0.003	03/06/2020	ND	0.060	99.6	0.0600	0.0921	
Total BTEX	<0.006	0.006	03/06/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.4 %* *58.2-133*

Chloride, SM4500Cl-B mg/L Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**140**	4.00	03/06/2020	ND	104	104	100	3.92	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**107**	25.0	03/05/2020	ND	22.5	113	20.0	2.28	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**888**	5.00	03/10/2020	ND	526	105	500	2.86	

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: EME Junction G-18
Project Location: T19S-R37E-Sec18 G ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

H000723 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 (2020)	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, SO_4, CO_3, HCO_3)	Sulfates	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours
1	Monitor Well #1R	G	3	X				2				1		3/3	14:00		X																X	X	X	
2	Monitor Well #2	G	3	X				2				1		3/3	10:10		X																X	X	X	
3	Monitor Well #3	G	3	X				2				1		3/3	11:25		X																X	X	X	

ANALYSIS REQUEST

(Circle or Specify Method No.)

Relinquished by: Rozanne Johnson	Date: 3/5/2020	Time: 14:14	Received by: [signature]
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)

Date: 3-5-20 Time: 1415

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

REMARKS:

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

Delivered By: (Circle One)	Sample Condition				CHECKED BY:
	Cool		Intact		
Sampler - UPS - Bus - Other:	Yes		Yes	✓	(Initials)
	No		No		T.O.

CARDINAL Laboratories

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

December 04, 2019

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JUNCTION G-18

Enclosed are the results of analyses for samples received by the laboratory on 11/15/19 12:10.

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:	11/15/2019	Sampling Date:	11/14/2019
Reported:	12/04/2019	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #1 R (H903888-01)

BTEX 8021B mg/L Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	11/24/2019	ND	0.019	96.8	0.0200	0.956	
Toluene*	<0.001	0.001	11/24/2019	ND	0.019	93.7	0.0200	0.628	
Ethylbenzene*	<0.001	0.001	11/24/2019	ND	0.019	95.4	0.0200	0.648	
Total Xylenes*	<0.003	0.003	11/24/2019	ND	0.058	95.9	0.0600	0.741	
Total BTEX	<0.006	0.006	11/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *121 %* *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*	**128**	4.00	11/19/2019	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*	**90.7**	25.0	11/22/2019	ND	21.1	106	20.0	14.9	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**867**	5.00	11/21/2019	ND	533	101	527	0.375	

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:	11/15/2019	Sampling Date:	11/14/2019
Reported:	12/04/2019	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #2 (H903888-02)

BTEX 8021B mg/L **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	11/24/2019	ND	0.019	96.8	0.0200	0.956	
Toluene*	<0.001	0.001	11/24/2019	ND	0.019	93.7	0.0200	0.628	
Ethylbenzene*	<0.001	0.001	11/24/2019	ND	0.019	95.4	0.0200	0.648	
Total Xylenes*	<0.003	0.003	11/24/2019	ND	0.058	95.9	0.0600	0.741	
Total BTEX	<0.006	0.006	11/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *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*	**36.0**	4.00	11/19/2019	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*	**146**	25.0	11/22/2019	ND	21.1	106	20.0	14.9	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**749**	5.00	11/21/2019	ND	533	101	527	0.375	

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:	11/15/2019	Sampling Date:	11/14/2019
Reported:	12/04/2019	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #3 (H903888-03)

BTEX 8021B mg/L **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	11/24/2019	ND	0.019	96.8	0.0200	0.956	
Toluene*	<0.001	0.001	11/24/2019	ND	0.019	93.7	0.0200	0.628	
Ethylbenzene*	<0.001	0.001	11/24/2019	ND	0.019	95.4	0.0200	0.648	
Total Xylenes*	<0.003	0.003	11/24/2019	ND	0.058	95.9	0.0600	0.741	
Total BTEX	<0.006	0.006	11/24/2019	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*	**132**	4.00	11/19/2019	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*	**91.0**	25.0	11/22/2019	ND	21.1	106	20.0	14.9	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**890**	5.00	11/21/2019	ND	533	101	527	0.375	

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: EME Junction G-18
Project Location: T19S-R37E-Sec18 G ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

H903888 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	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		11/14	13:45		X																	X	X	X	
2	Monitor Well #2	G	3	X				2				1		11/14	9:50		X																	X	X	X	
3	Monitor Well #3	G	3	X				2				1		11/14	11:10		X																	X	X	X	

ANALYSIS REQUEST

(Circle or Specify Method No.)

Relinquished by: Rozanne Johnson	Date: 11/15/2019	Time: 12:10	Received by: Tamara Oldaker
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition: Cool: Yes ✓ / No; Intact: Yes ✓ / No		CHECKED BY: (Initials) JO

Date: 11-15-19 Time: 12:10

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

September 09, 2019

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JUNCTION G-18

Enclosed are the results of analyses for samples received by the laboratory on 08/29/19 13:35.

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:	08/29/2019	Sampling Date:	08/27/2019
Reported:	09/09/2019	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #1 R (H903000-01)

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	08/30/2019	ND	0.020	100	0.0200	3.23	
Toluene*	<0.001	0.001	08/30/2019	ND	0.020	99.2	0.0200	3.43	
Ethylbenzene*	<0.001	0.001	08/30/2019	ND	0.019	93.5	0.0200	4.99	
Total Xylenes*	<0.003	0.003	08/30/2019	ND	0.060	101	0.0600	5.68	
Total BTEX	<0.006	0.006	08/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *90.2 %* *81.3-128*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**84.0**	4.00	09/03/2019	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*	**165**	50.0	09/03/2019	ND	18.4	92.1	20.0	0.217	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**886**	5.00	09/03/2019	ND	544	103	527	2.98	

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:	08/29/2019	Sampling Date:	08/27/2019
Reported:	09/09/2019	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #2 (H903000-02)

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	08/30/2019	ND	0.020	100	0.0200	3.23	
Toluene*	<0.001	0.001	08/30/2019	ND	0.020	99.2	0.0200	3.43	
Ethylbenzene*	<0.001	0.001	08/30/2019	ND	0.019	93.5	0.0200	4.99	
Total Xylenes*	<0.003	0.003	08/30/2019	ND	0.060	101	0.0600	5.68	
Total BTEX	<0.006	0.006	08/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.3 %* *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*	**40.0**	4.00	09/03/2019	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*	**120**	50.0	09/03/2019	ND	18.4	92.1	20.0	0.217	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**594**	5.00	09/03/2019	ND	544	103	527	2.98	

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:	08/29/2019	Sampling Date:	08/27/2019
Reported:	09/09/2019	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #3 (H903000-03)

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	08/30/2019	ND	0.020	100	0.0200	3.23	
Toluene*	<0.001	0.001	08/30/2019	ND	0.020	99.2	0.0200	3.43	
Ethylbenzene*	<0.001	0.001	08/30/2019	ND	0.019	93.5	0.0200	4.99	
Total Xylenes*	<0.003	0.003	08/30/2019	ND	0.060	101	0.0600	5.68	
Total BTEX	<0.006	0.006	08/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.3 %* *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*	**56.0**	4.00	09/03/2019	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*	**154**	50.0	09/03/2019	ND	18.4	92.1	20.0	0.217	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**793**	5.00	09/03/2019	ND	544	103	527	2.98	

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

Cardinal Laboratories, Inc.

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

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: EME Junction G-18
Project Location: T19S-R37E-Sec18 G ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

H903000

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
1	Monitor Well #1R	G	3	X				2				1		8/27	14:00
2	Monitor Well #2	G	3	X				2				1		8/27	10:05
3	Monitor Well #3	G	3	X				2				1		8/27	11:20

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
1		X																	X	X	X	
2		X																	X	X	X	
3		X																	X	X	X	

Relinquished by: Rozanne Johnson	Date: 8/29/2019	Time: 13:35	Received by:	Date: 8-29-19	Time: 13:35
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)	Date:	Time:

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

REMARKS:

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

Delivered By: (Circle One)	Sample Condition		CHECKED BY:
Sampler - UPS - Bus - Other:	Cool: Yes ✓ / No	Intact: Yes ✓ / No	(Initials) T.O.

CARDINAL Laboratories

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

June 04, 2019

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JUNCTION G-18

Enclosed are the results of analyses for samples received by the laboratory on 05/24/19 13:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is 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:	05/24/2019	Sampling Date:	05/23/2019
Reported:	06/04/2019	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #1 R (H901864-01)

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	05/28/2019	ND	0.020	98.3	0.0200	1.32	
Toluene*	<0.001	0.001	05/28/2019	ND	0.021	103	0.0200	0.306	
Ethylbenzene*	<0.001	0.001	05/28/2019	ND	0.020	98.1	0.0200	0.373	
Total Xylenes*	<0.003	0.003	05/28/2019	ND	0.061	102	0.0600	0.931	
Total BTEX	<0.006	0.006	05/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.9 %* *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*	**136**	4.00	05/30/2019	ND	100	100	100	3.92	

Sulfate 375.4 mg/L Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**230**	50.0	05/30/2019	ND	21.6	108	20.0	7.75	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**940**	5.00	06/04/2019	5.00	510	96.8	527	0.498	

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:	05/24/2019	Sampling Date:	05/23/2019
Reported:	06/04/2019	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #2 (H901864-02)

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	05/28/2019	ND	0.020	98.3	0.0200	1.32	
Toluene*	<0.001	0.001	05/28/2019	ND	0.021	103	0.0200	0.306	
Ethylbenzene*	<0.001	0.001	05/28/2019	ND	0.020	98.1	0.0200	0.373	
Total Xylenes*	<0.003	0.003	05/28/2019	ND	0.061	102	0.0600	0.931	
Total BTEX	<0.006	0.006	05/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.7 %* *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*	**40.0**	4.00	05/30/2019	ND	100	100	100	3.92	

Sulfate 375.4 mg/L **Analyzed By: JH**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**167**	25.0	05/30/2019	ND	21.6	108	20.0	7.75	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**704**	5.00	06/04/2019	5.00	510	96.8	527	0.498	

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:	05/24/2019	Sampling Date:	05/23/2019
Reported:	06/04/2019	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #3 (H901864-03)

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	05/28/2019	ND	0.020	98.3	0.0200	1.32	
Toluene*	<0.001	0.001	05/28/2019	ND	0.021	103	0.0200	0.306	
Ethylbenzene*	<0.001	0.001	05/28/2019	ND	0.020	98.1	0.0200	0.373	
Total Xylenes*	<0.003	0.003	05/28/2019	ND	0.061	102	0.0600	0.931	
Total BTEX	<0.006	0.006	05/28/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.1 %* *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*	**132**	4.00	05/30/2019	ND	100	100	100	3.92	

Sulfate 375.4 mg/L Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**86.2**	25.0	05/30/2019	ND	21.6	108	20.0	7.75	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**808**	5.00	06/04/2019	5.00	510	96.8	527	0.498	

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: EME Junction G-18
Project Location: T19S-R37E-Sec18 G ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

LAB # (LAB USE ONLY) H901864	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 #1R	G	3	X				2				1		5/23	13:55
2	Monitor Well #2	G	3	X				2				1		5/23	9:15
3	Monitor Well #3	G	3	X				2				1		5/23	11:00

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: 5/24/2019	Time: 13:10	Received by:	Date: 5/24/19	Time: 13:15
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) TO

CARDINAL Laboratories

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

March 14, 2019

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JUNCTION G-18

Enclosed are the results of analyses for samples received by the laboratory on 03/01/19 16:16.

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:	03/01/2019	Sampling Date:	02/28/2019
Reported:	03/14/2019	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #1R (H900831-01)

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	03/05/2019	ND	0.021	106	0.0200	0.538	
Toluene*	<0.001	0.001	03/05/2019	ND	0.019	97.0	0.0200	0.862	
Ethylbenzene*	<0.001	0.001	03/05/2019	ND	0.020	102	0.0200	1.06	
Total Xylenes*	<0.003	0.003	03/05/2019	ND	0.064	106	0.0600	1.06	
Total BTEX	<0.006	0.006	03/05/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *95.6 %* *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*	**140**	4.00	03/05/2019	ND	108	108	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*	**85.0**	10.0	03/06/2019	ND	23.2	116	20.0	0.303	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**605**	5.00	03/08/2019	ND	509	96.6	527	0.770	

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:	03/01/2019	Sampling Date:	02/28/2019
Reported:	03/14/2019	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #2 (H900831-02)

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	03/05/2019	ND	0.021	106	0.0200	0.538	
Toluene*	<0.001	0.001	03/05/2019	ND	0.019	97.0	0.0200	0.862	
Ethylbenzene*	<0.001	0.001	03/05/2019	ND	0.020	102	0.0200	1.06	
Total Xylenes*	<0.003	0.003	03/05/2019	ND	0.064	106	0.0600	1.06	
Total BTEX	<0.006	0.006	03/05/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.5 %* *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*	**40.0**	4.00	03/05/2019	ND	108	108	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*	**168**	10.0	03/06/2019	ND	23.2	116	20.0	0.303	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**422**	5.00	03/08/2019	ND	509	96.6	527	0.770	

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:	03/01/2019	Sampling Date:	02/28/2019
Reported:	03/14/2019	Sampling Type:	Water
Project Name:	EME JUNCTION G-18	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T19S-R37E-SEC18 G-LEA COUNTY, NM		

Sample ID: MONITOR WELL #3 (H900831-03)

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	03/05/2019	ND	0.021	106	0.0200	0.538	
Toluene*	<0.001	0.001	03/05/2019	ND	0.019	97.0	0.0200	0.862	
Ethylbenzene*	<0.001	0.001	03/05/2019	ND	0.020	102	0.0200	1.06	
Total Xylenes*	<0.003	0.003	03/05/2019	ND	0.064	106	0.0600	1.06	
Total BTEX	<0.006	0.006	03/05/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.8 %* *81.3-128*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**148**	4.00	03/05/2019	ND	108	108	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*	**88.4**	10.0	03/06/2019	ND	23.2	116	20.0	0.303	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**822**	5.00	03/08/2019	ND	509	96.6	527	0.770	

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: EME Junction G-18
Project Location: T19S-R37E-Sec18 G ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY H900831)	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 #1R	G	3	X				2				1		2/28	14:10
2	Monitor Well #2	G	3	X				2				1		2/28	9:50
3	Monitor Well #3	G	3	X				2				1		2/28	11:25

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: 3/1/2019	Time: 16:15	Received by:
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff) Jodi Henson 3/1/19 16:16

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)

Excavation and Liner Installation Photo Documentation

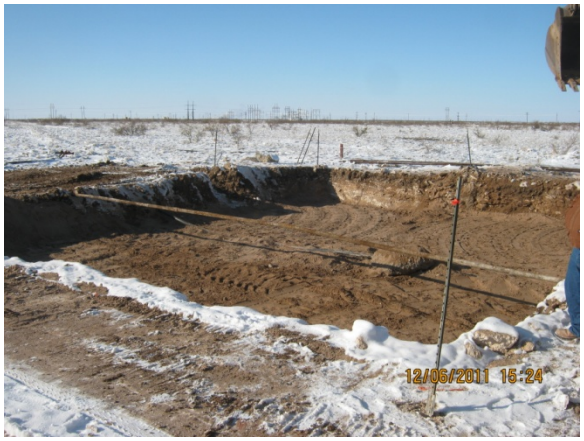
RICE Operating Company
112 West Taylor, Hobbs, NM 88240
Phone 575.393.9174

EME Jct. G-18 (1R427-162)
Unit G, Section 18, T19S, R37E

Site prior to excavation, facing east 10.27.11

Excavating site, facing east 12.1.11

Site excavated to 49x44x5-ft deep, facing north 12.2.11



Installed bottom 6” sand pad, facing northwest 12.6.11

20-mil reinforced plastic liner installed at 4.5 ft BGS, facing northeast 12.7.11

Installing 6” sand pad above liner with imported blow sand, facing east 12.7.11

Exporting soil, facing west 12.8.11

Backfilling with blended backfill, facing south 12.8.11

Importing blow sand, facing south 12.9.11

Backfilling top 6” with blow sand, facing east 12.9.11

Seeding site, facing northeast 1.4.12

Site completed, facing east 4.11.12

Initial CAP Report and Soil Closure Request and NMOCD Approval

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

From:	Hansen, Edward J., EMNRD
To:	Hack Conder
Cc:	Leking, Geoffrey R, EMNRD; Katie Jones; Laura Pena; Lara Weinheimer (lweinheimer@rice-ecs.com)
Subject:	Soil Closure Approval (1R427-162) - ROC EME Jct G-18 Site
Date:	Monday, October 15, 2012 4:16:56 PM

RE: Soil Closure Request
for the Rice Operating Company's
EME Jct G-18 Site
Unit Letters G, Section 18, T19S, R37E, NMPM, Lea County, New Mexico
Soil Closure Approval (1R427-162)

Dear Mr. Conder:

The New Mexico Oil Conservation Division (OCD) has received the Rice Operating Company's (ROC) Soil Closure Request for the Remediation Plan (1R427-162) for the EME Jct G-18 Site, dated October 15, 2012. The above-referenced report, submitted in fulfillment of 19.15.29 NMAC (Rule 29, formally, Rule 116), indicates that Rice Operating Company (ROC) has partially met the requirements of 19.15.29 NMAC for this site. Therefore, the OCD hereby conditionally approves the soil closure for the EME Jct G-18 Site and no further soil remediation is required for this site:

The ROC EME Jct G-18 Site is still active under Remediation Plan, 1R427-162, and groundwater monitoring, further groundwater contamination delineation if warranted, and groundwater remediation if warranted must continue at the ROC EME Jct G-18 Site.

Please be advised that OCD approval of this request does not relieve the owner/operator of responsibility should operations pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the owner/operator of responsibility for compliance with any OCD, federal, state, or local laws and/or regulations.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact at 505-476-3489.

Edward J. Hansen
Hydrologist
Environmental Bureau

RICE *Operating Company*
122 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax: (575) 397-1471

CERTIFIED MAIL
RETURN RECEIPT NO. 7007 2560 0003 0320 5426

October 15, 2012

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

RE: Soil Closure Request
EME Jct. G-18 (1R427-162): UL/G, Sec. 18, T19S, R37E
RICE Operating Company – EME SWD System

Mr. Hansen:

Rice Operating Company (ROC) is the service provider (agent) for the Eunice Monument Eumont (EME) Saltwater Disposal (SWD) System and has no ownership of any portion of the pipeline, well, or facility. The System is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

Background
The site is located approximately 3 miles northwest of Monument, New Mexico at UL/G, Sec. 18, T19S, R37E. Depth to groundwater at this site is approximately 54 +/- ft below ground surface (bgs).

In 2004, ROC initiated work on the former EME G-18 junction box. The site was delineated using a backhoe to collect soil samples at regular intervals. The excavation reached dimensions of 20 ft x 18 ft x 12 ft (bgs). Composite samples were sent to a commercial laboratory for chloride and TPH analyses, resulting in elevated concentration of chloride in the bottom composite, elevated

concentrations of TPH, BTEX above detectable limits. A 1-ft thick clay layer was installed from 6-5 ft bgs, to inhibit further chloride migration and a compaction test was performed on April 16th, 2004. The site was backfilled, the area was contoured to the surrounding landscape and an identification plate was placed on the surface of the site to mark its location for future environmental considerations. A new junction box was not required at the site.

Between June 2nd, 2004 and December 6th, 2010, fives soil bores were drilled at and surrounding the former junction box, and three monitoring wells were also. An ICP Report and CAP was then submitted to the NMOCD, which detailed the findings of the soil borings. The report requested a 6-month source removal and test pumping program and MW-1 be plugged and replaced with a 4 inch well, as well as, a 44x49 ft, 20-mil liner be installed at 4-5 ft bgs. NMOCD approved the plan on July 18, 2011.

SOIL

Beginning on November 23rd, 2011, the site was excavated to 44 ft x 49 ft x 5 ft deep. Excavated soil was blended on site to use as backfill. A composite sample of the blended soil was field tested for hydrocarbons using a PID meter and returned a result of 4.0 ppm. The sample was then sent to a commercial laboratory for analysis of chlorides and returned a result of 80 mg/kg. Clean soil was imported to the site to pad the liner to protect it from punctures. A sample of the imported soil was field tested for hydrocarbons using a PID meter and returned a result of 0.6 ppm. The sample was then sent to a commercial laboratory for analysis of chlorides and returned a concentration below detectable limit. The excavation was padded with six inches of the imported sand and then the liner was properly seated into the excavation at approximately 4.5 ft bgs. The liner was padded on top with six inches of imported sand and then backfilled with the blended soil to six inches bgs. The remaining imported soil was used to complete the backfill and to contour the site to the surrounding area. A total of 132 yards of soil was imported to the site to use as padding and as backfill. The remainder of the blended soil, 228 yards, was taken to a NMOCD approved facility for disposal. The site was seeded with a blend of native vegetation and a silt net fence was placed around the area to maintain seed integrity.

GROUNDWATER

On October 26th, 2011, MW-1 was plugged and abandoned with a 1-3% bentonite/concrete slurry and capped with three feet of concrete. MW-1 was then replaced with a 4 inch well (MW-1R) which was installed 9 ft southeast of the former MW-1. Initial sampling of MW-1R resulted in chloride concentrations below WQCC standards.

Based on the liner installation and low concentrations of chloride in MW-1R, ROC submitted a Vadose Zone Remediation and Termination Request on April 17, 2012, and NMOCD requested an additional two quarters of sampling.

ROC has completed the vadose zone remediation as approved by NMOCD in the CAP. The 20-mil reinforced liner will inhibit the further migration of chlorides through the vadose zone into groundwater. As such, ROC requests 'Soil Closure' or similar closure status. A recent photograph showing vegetation is attached. ROC will continue monitoring groundwater quality and a report will be submitted to the NMOCD with recommendations.

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

Sincerely,
RICE Operating Company

Hack Conder
Environmental Manager

enclosures

EME Jct. G-18 (1R427-162)

UL/G, Sec. 18, T19S, R37E

Facing Southwest 10/1/2012

Final C-141

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1R427-162
Facility ID	
Application ID	pLWP0513650720

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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

Printed Name: Katie Davis Title: Environmental Manager

Signature: Katie Davis Date: 2/25/2021

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

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Current Photo

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

EME Jct. G-18 (1R427-162)
Unit G, Section 18, T19S, R37E

Facing East 11/12/2020