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

April 1, 2020

Bradford Billings

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

> RE: 2019 Annual Groundwater Report Rice Operating Company – 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.

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. 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 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 chlorides in the bottom composite, elevated concentrations of TPH and BTEX. 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 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 44 ft x 49 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 then 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 chlorides 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 a1-3% 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 chlorides 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, ROC continued 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 2, 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 chlorides, based on a chloride concentration of 240 mg/L. Removed groundwater was utilized for pipeline maintenance. Since groundwater recovery began, chloride and TDS concentrations in MW-1R have decreased with concentrations below 250 mg/L and approximately 1,000 mg/L, respectively. BTEX concentrations have remained below detectable limits since the wells were installed.

The pumping program has been suspended based on low chloride concentrations. In 2018, one quarterly groundwater sample reading for MW-1R rose above 250 mg/L. Subsequent samples in 2018 and all four quarterly samples in 2019 have shown chloride concentrations below 250 mg/L.

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

Attached is the Appendix, which contains:

- 1. A Geographic Location Map.
- 2. A map showing well locations.
- 3. A table presenting all laboratory results and depth to groundwater for each well at the site, and a graph showing recent laboratory results.
- 4. The laboratory analytical results for 2019.

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

Sincerely,

Katie Davis

Environmental Manager

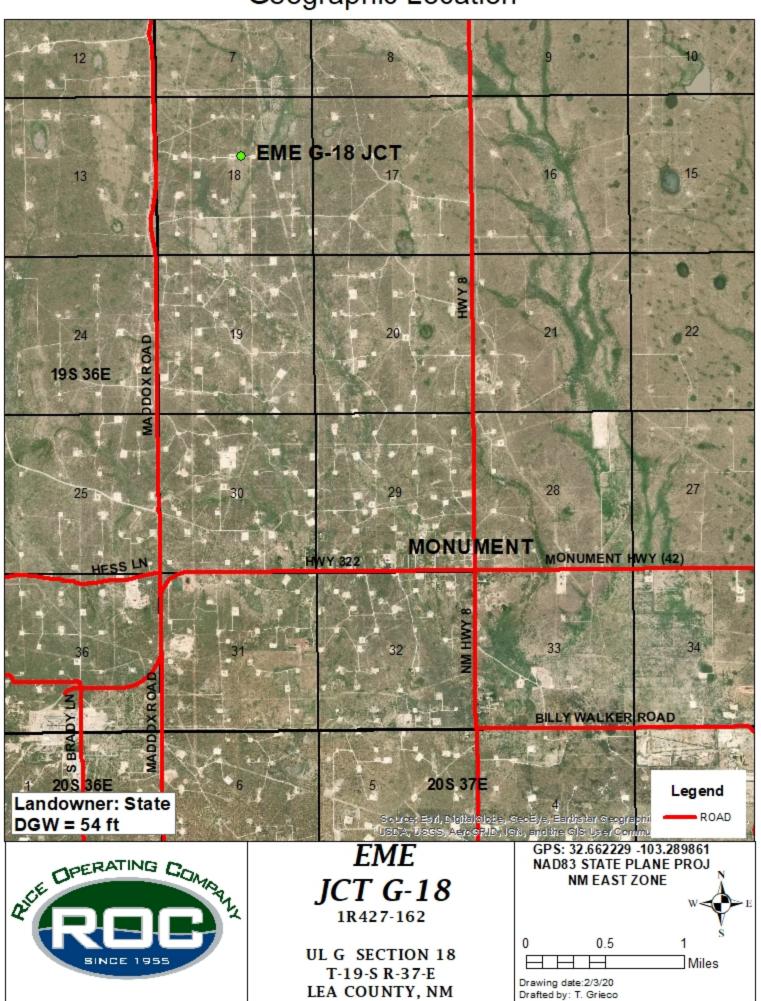
Katy Davis

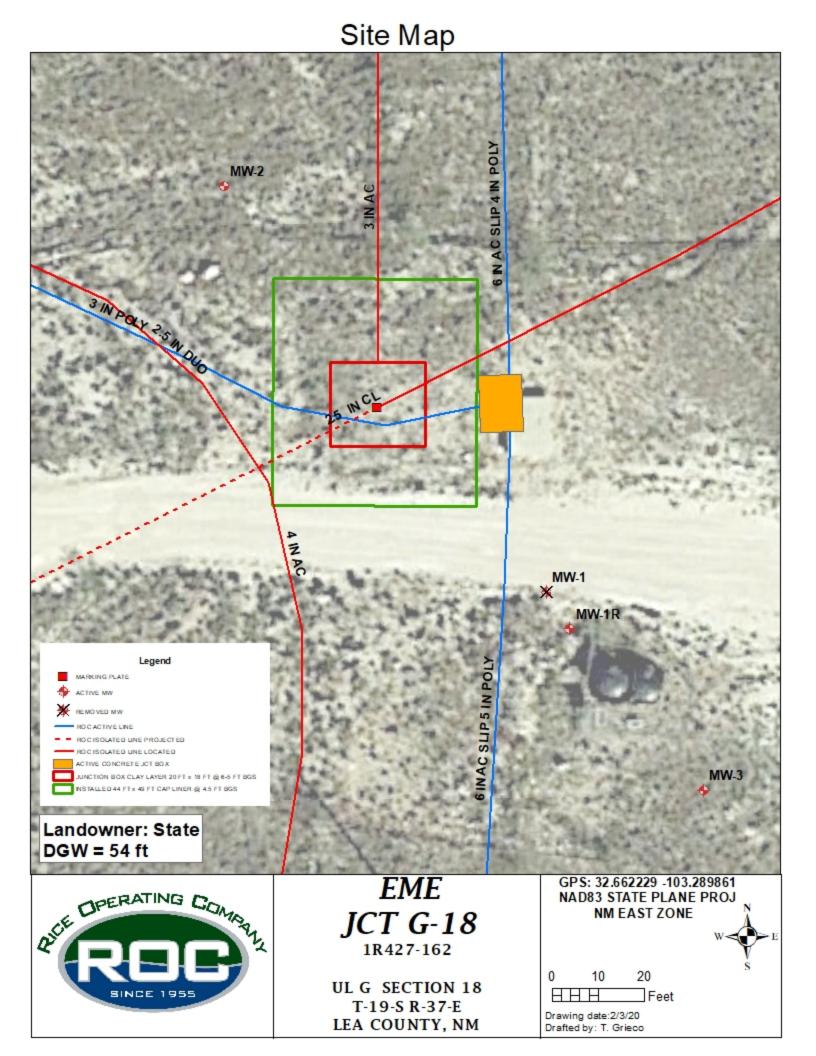
RICE Operating Company (ROC)

Cc – Edward J. Hansen (ROC)

appendix

Geographic Location





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
													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	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	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

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

MW	Depth to	Total	Well	Volume	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl	Total	Sulfate	Comments
IVIVV	Water	Depth	Volume	Purged	Sample Date	C	נטו	benzene	Toluelle	Benzene	Xylenes	Sullate	Comments
1R	XXX	100.15	XXX	100	9/6/2017	80	1,280	<0.001	<0.001	<0.001	<0.003	505	Clear No odor
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

MW	Depth to	Total	Well	Volume	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl	Total	Sulfate	Comments
	Water	Depth	Volume	Purged	Sample Bate	;	100	Berizerie	Totache	Benzene	Xylenes	Sanate	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
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

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	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	54.63	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

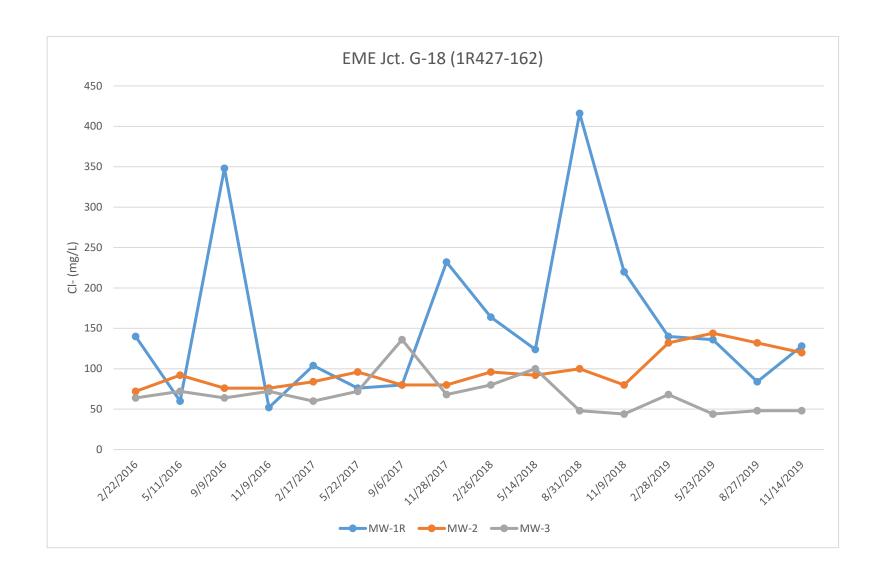
MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	52.55	70.23	2.8	10	3/4/2011	80	687	<0.001	<0.001	<0.001	<0.003	97	Clear No odor
3	52.96	70.23	2.8	10	5/31/2011	80	632	<0.001	<0.001	<0.001	<0.003	94.3	Clear No odor
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

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

MW	Depth to	Total	Well	Volume	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl	Total	Sulfate	Comments
IVIVV	Water	Depth	Volume	Purged	Sample Date	CI	103	Benzene	roluene	Benzene	Xylenes	Sullate	Comments
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	53.64	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
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

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

MW	Depth to	Total	Well	Volume	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl	Total	Sulfate	Comments
IVIVV	Water	Depth	Volume	Purged	Sample Date	C	103	Delizelle	Toluelle	Benzene	Xylenes	Juliate	Comments
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





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/ga/lab accred certif.html.

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

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

Accreditation applies to public drinking water matrices.

Celey D. Keine

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-14

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	Analyze	d 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	95.69	% 81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	140	4.00	03/05/2019	ND	108	108	100	3.77	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	85.0	10.0	03/06/2019	ND	23.2	116	20.0	0.303	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

Cardinal Laboratories *=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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 Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: T19S-R37E-SEC18 G-LEA COUNTY, NM

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

BTEX 8021B	mg/	L	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	03/05/2019	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 %	% 81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	40.0	4.00	03/05/2019	ND	108	108	100	3.77	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	168	10.0	03/06/2019	ND	23.2	116	20.0	0.303	
TDS 160.1	mg/	L	Analyze	d 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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after competent of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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 Sample Received By: Project Number: NONE GIVEN Jodi Henson

Project Location: T19S-R37E-SEC18 G-LEA COUNTY, NM

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

BTEX 8021B	mg/	L	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	03/05/2019	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 9	% 81.3-12	8						
Chloride, SM4500CI-B	mg/	L	Analyze	d 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	Analyze	d 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	Analyze	d By: AC					
Analyte	Dogult	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
	Result	Reporting Limit	Allalyzea	riculou blank	55	70 110001017	True Talue Qu	I G D	Quao.

Cardinal Laboratories *=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after competent of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

101 East Marland - Hobbs, NM 88240	ما	Т	٦	h a	N 114	01	40	101		~	T		_				CI	IAF	N-C)F-(CUS	STO	יםכ	ΥA	ND	AN	AL'	/SI	SR	EQ	UES	ST		
101 East Marland - Hobbs, NM 88240 Tel (575) 393-2326 Fax (575) 393-2476	al	سا	a	U	Jľ	al	lU	rı	le	5,	1		C.						LAI	3 Or	der	ID#								_				
Company Name:		BILL TO									PO#	‡								Δ	NΔ	IV	212	PF	OI	JES	т							
RICE Operating Company Project Manager:	_	RICE		Dera Addr		Co	mpa	any	/St	root	City	Ziel														d No								
Katie Jones		100 141				Habb	- N-	N # -	Š.	reet,	20	Zip)				1 1	N 8	1	ı	ĺ	1	1	Ī	Ì	Ĩ	Ī	ì	1	1	1	1	1	1	8
Address: (Street, City, Zip)	-	122 W	ayıc	Phon		HODD	s, ne	W IVIE	XICO	8824	Fax	#-			1			- 1																
122 W Taylor Street ~ Hobbs, New Mexico 88240		(575)	39	100000									397-1	1471	1				9.															
	ax #:	(-,-)									(0,	0)0			1				8/2						- 1									
	575)3	397-1	471	1)	1									(C35		5															
Project #: Project Name:				/		/	1	7							1		Jed (위문	2	33				- 1	-								
EME Junction G-18 Project Location:	-	_		Sami	ndow S	Manat	1/20:	-Po	7000	0 10	2000	2 (57	E1624	0240	1		tenc		S S						- 1	-								
T19S-R37E-Sec18 G ~ Lea County - New Me:	xico	10	/	Sall	//	Signat	are.	Ko	Zann	e Ju	HISO	n (57	5)631-	-9310			05 Ex								325				9	203)				onrs
		7		MA	TRI					RVA		E	SAMI	PLING	1		TPH 418.1/TX1005 / TX1005 Extended (C35)		TCLP Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7					324	GC/MS Semi. Vol. 8270C/625				δ.	Anions (CI, SO4, CO3, HCO3)	l.	sp		Turn Around Time ~ 24 Hours
145#	e	RS	4					$\overline{}$			E)					2	900		As E		TCLP Semi Volatiles			GC/MS Vol. 8260B/624	<u>~</u>		Pesticides 8081A/608	1=	Z	Ö		Total Dissolved Solids		'n
LAB# FIELD CODE	(G)rab or (C)omp	# CONTAINERS					HCI 12 40ml VOA)				ICE (1-1Liter HDPE)		6		MTBE 8021B/602	8021B/602	X		8 8	les	Vola	TCLP Pesticides		826	<u>=</u>	PCB's 8082/608	2 2	Moisture Content	Ž	08		ved		Ę
/ LAB USE \	<u></u>	ΙΨ	<u>~</u>		AIR	핑	40m		0	1020	1Lite	2000	DATE (2019)		3021	3021	8.1/	PAH 8270C	etal	TCLP Volatiles	emi	estic		S.	Ser	3087	Pesticides 808	2 2	၂ပ္	0	,,	SSO	Se	uno
ONLY	ap B	ő	WATER	=	~	Š	2	HNO3	NaHSO ₄	H ₂ SO ₄	(1	NONE	Œ.	ш	W W	×	4	28		PV	PS	P.P.		MS	MS	3's		Stir.	Sign	Suc	Sulfates		Chlorides	Ā
H900831'	<u> </u>	#	⋛	SOIL	A	S	15		Na	H ₂ 8		2	DA	TIME	Σ	BTEX	百	<u>₹</u> ;	힐	15	힏	덛	교	90	9	S C	Se S	S S	Sat	Anic	Sul	oti	흥	اِ
Monitor Well #1R	G	3	X				2				1		2/28	14:10		х											\top	T	T		\neg	x	х	
Monitor Well #2	G	3	х				2				1		2/28	9:50		х						П				\neg					x	_	х	
3 Monitor Well #3	G	3	х				2	8			1		2/28	11:25		х										\top		1	T		x	_	X	
										T					T										\neg	\top	\top	1	T		\dashv	1		
								Т			П				Г			\exists	\top		П		\exists	T	\top	\top	╅	\top	T	\top	\neg	寸		
							T												\top	T	\Box	T		T	T	\top	\top	\top	1		\dashv	7		
								\top							T	П	\neg	寸	\top		T	T	\neg	T	\dashv	\top		\dagger	+	\vdash	\dashv	\dagger	\neg	
								\top							Т	П		寸	\top		\exists	T	\dashv		1			+	1	\vdash	\dashv	\top	\dashv	\neg
							T	\top			П				Г	П		\neg	\top		\Box	\neg	\neg		\dashv	\top	\top	+	†	\vdash	\dashv	\top	_	\neg
						1	T	T	T	T	П					П		\dashv	1	П	\Box	7	7	7	\dashv		\top	十	†	\vdash	\dashv	+	\dashv	\neg
Relinquished by: Date Time: R	eceive	ed by:			-			Ē	ate		Tir	ne:		-	Ph	one	Resu	lts	十	Ye	s		No							_				\neg
Rozanne Johnson 2 2019 6'.6															Fax	Res	sults	0	T	Ye			No		Addi	tiona	l Fa	y Ni	mhe	er.				
	egeive	ed By:	(L	bora	atory	Staff	f)		ate		Tir	ne:			RE	MAF	KS:	0	_	10					· · · ·	LIOTIC	114	. 140	11100					\dashv
	10	di.	A	le	M	10	n	3	1/1	119	6	6	·bk	2		Em	ail R	esu	lts:	kje	one	s@	rice	esw	d.c	<u>om</u>								
Delivered By: (Circle One)	emple (Conditi	on						CHE	CKE	D BY	/ :								ro	zar	ne	110	Dwi	nds	trea	am.	net						
\sim		V00	Cool	/	Intact					1	A	-	1																					
Sampler - UPS - Bus - Other:		Yes	ř	Yes	L				Uni	17	/																							
delibrer - OFO - Bus - Other.	ſ	No		No			_	_	1	IV								_				-						_						



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/ga/lab accred certif.html.

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

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

Celey D. Keine

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

A | D.

Project Location: T19S-R37E-SEC18 G-LEA COUNTY, NM

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

nalyzed Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
/28/2019 ND	0.020	98.3	0.0200	1.32	
/28/2019 ND	0.021	103	0.0200	0.306	
/28/2019 ND	0.020	98.1	0.0200	0.373	
/28/2019 ND	0.061	102	0.0600	0.931	
/28/2019 ND					
Analyzed By: JH					
nalyzed Method Blank	RS	% Recovery	True Value QC	RPD	0
	55	,	True value qe	KFD	Qualifier
/30/2019 ND	100	100	100	3.92	Quaimer
730/2019 ND Analyzed By: JH		•	•		Quaimer
,		•	•		Qualifier
Analyzed By: JH	100	100	100	3.92	
Analyzed By: JH nalyzed Method Blank	100 BS	100 % Recovery	100 True Value QC	3.92 RPD	
Analyzed By: JH nalyzed Method Blank //30/2019 ND	100 BS	100 % Recovery	100 True Value QC	3.92 RPD	
,	/28/2019 ND /28/2019 ND /28/2019 ND /28/2019 ND /28/2019 ND /28/2019 ND	/28/2019 ND 0.020 /28/2019 ND 0.021 /28/2019 ND 0.020 /28/2019 ND 0.061 /28/2019 ND	/28/2019 ND 0.020 98.3 /28/2019 ND 0.021 103 /28/2019 ND 0.020 98.1 /28/2019 ND 0.061 102 /28/2019 ND	728/2019 ND 0.020 98.3 0.0200 728/2019 ND 0.021 103 0.0200 728/2019 ND 0.020 98.1 0.0200 728/2019 ND 0.061 102 0.0600 728/2019 ND Analyzed By: JH	/28/2019 ND 0.020 98.3 0.0200 1.32 /28/2019 ND 0.021 103 0.0200 0.306 /28/2019 ND 0.020 98.1 0.0200 0.373 /28/2019 ND 0.061 102 0.0600 0.931 /28/2019 ND

Cardinal Laboratories *=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Tamara Oldaker

Sample Received By:



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 Project Location: T19S-R37E-SEC18 G-LEA COUNTY, NM

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

BTEX 8021B	mg/	L	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	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 %	% 81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	40.0	4.00	05/30/2019	ND	100	100	100	3.92	
Sulfate 375.4	mg/	L	Analyze	d 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	Analyze	d 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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after competent of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Sample Received By:

05/23/2019

Cool & Intact

Tamara Oldaker

Water



Analytical Results For:

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

Received:05/24/2019Sampling Date:Reported:06/04/2019Sampling Type:Project Name:EME JUNCTION G-18Sampling Condition:

Project Location: T19S-R37E-SEC18 G-LEA COUNTY, NM

NONE GIVEN

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

Project Number:

BTEX 8021B	mg/	L	Analyze	d By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	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	% 81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	132	4.00	05/30/2019	ND	100	100	100	3.92	
Sulfate 375.4	mg/	L	Analyze	d 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	Analyze	d 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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

101 East Mariand - Ho	obbs, NM 88240	no.	l Laboratories, Inc.															С	HA	N-(OF-	CU	ST	OD	ΥA	ND	A	IAI	YS	SIS	RE	QU	EST	Γ	
Tel (575) 393 Fax (575) 393	3-2326 3-2476	IIa.		a	U	JI	al	W.		C	9		.11	C.						LΑ	во	rder	ID#	#								_			
Company Name:	ting Company		BILL T		Com			mno	n ,,			PO	#								-	\N/	LY	SIS	S R	EQI	UES	ST							
Project Manager:	ung company		KICI	_	Addr		<i>J</i> C0	mpa	Пу	(Str	eet, (City.	Zip)			-											od N								
Katie Jones			122 W	Tavl	or Str	eet ~	Hobb	s. Nev	v Me	1,400							Ĭ	[]	I	Ĩ	Ī	I	Ĭ	1			1	Ĩ	1	1	1	1		I	1
Address: (S	Street, City, Zip)			1.002	Phor			-		,,,,,,		Fax	#:			1																			
	eet ~ Hobbs, New Mexico 88240		(575	39	3-9	174						(57	75)3	397-1	1471					8															
Phone #:	174	Fax #:	1207	1.47	_													32)		6010B/200															
(575) 393-91 Project #:	Project Name:	(5/5)397-	147	1		7	-/	1							4		9		8															
	EME Junction G-18				/		//	#		1						è		ndec		휜	ב ב														
Project Location:				/	Sam	pler S	Signat	re:	Roz	zann	e Joh	nso	n (57	5)631-	9310	1		Exte		S Q	2										í	2			l s
T19S-R37E-	Sec18 G ~ Lea County - New N	/lexico)	/	1	XI	M	X	/									200		5	5					625					Č	3			our
		<	MATRIX PRESERVATIVE METHOD SAMPLING												TPH 418.1/TX1005 / TX1005 Extended (C35)		Ba Cd Cr Pb Se Hg	Da	,			624	GC/MS Semi. Vol. 8270C/625		88			a, K	Anions (Ci, SO4, CO3, FICO3)	lids		Turn Around Time ~ 24 Hours			
LAB#	FIELD CODE	(G)rab or (C)omp	# CONTAINERS WATER SOIL AIR SULUDGE SLUDGE HCL (2 40ml VOA) HNO3 NAHSO4 ICE (1-1Liter HDPE) NONE DATE (2019) TIME TIME WIBE 8021B/602										X1005		Total Metals Ag As Ba (S S	TCLP Semi Volatiles	les		GC/MS Vol. 8260B/624	Vol.	808	Pesticides 8081A/608	_	Moisture Content	Cations (Ca, Mg, Na, K)	5	Total Dissolved Solids		Time					
/ LAB USE \	FIELD CODE	5	₹	 ~			ш	10mOt		4		iter		019		021E)21B	11	00	als /	latile	m >	sticic		<u>6</u>	emi.	382/6	s 80	S, pt	ै	Ca,	3	solv	,,	pun
ONLY		apo	l S	直			8	(2,	ြိ	180	0	(1-1)	삙	E (2	181	E 8	8	418	827	Met	No.	Se	э Ре		NS V	NS S	s 8(cide	TS	ture	Suc	2 204	Dis	rides	Aro
H901864		<u>(</u> 9	Ů #	WATER	SOIL	AIR	SL	모	HNO3	NaHSO ₄	H ₂ SO ₄	ICE	NONE	DATE (2019)	TIME	MTBE	3TE)	F	PAH 8270C	otal	TCLP Volatiles	2	TCLP Pesticides	RCI	3C/I	3C/N	PCB's 8082/608	esti	BOD, TSS, pH	Nois	Satic	Anions (otal	Chlorides	Ę
/	Monitor Well #1R	G	3	x				2				1			13:55	_	X			T	Ť	T-			Ť	Ť			#		7	,	_	x	_
2	Monitor Well #2	G	3	х				2				1		5/23		1	х			1						٦		\neg	\exists	\dashv	\dashv	,	_	_	_
3	Monitor Well #3	G	3	x				2				1		5/23	11:00		x			1									\exists	\top	+	,	_	_	-
											П	25				Г	П			\top	T							\neg	T	\dashv	+	+	+	<u> </u>	1
								T			П								\neg	\top	T					\neg	\neg	\neg	寸	\top	\top	+	+		T
											П										T							\dashv	寸	\top	\top	+	\top		
						П		Ī			П					T	T			\top							\neg	\dashv	\dashv	\forall	\top	十	+		
																Г				T						T		\neg	\dashv	\forall	\top	十	+	T	\vdash
																Г	T		\neg	\top								\neg	\exists	\top	7	T	\top		
																Г												\dashv	\neg	\top	T	\top	1		
Relinquished by:	Date: Time:	Recei	ed by:		1	11	1	,	D	ate:		Tir	ne:		E.	Ph	one	Resi	ılts		Ye	es		No											-
Rozanne Johnson	5/24/2019 13:10	1/2	MAR	BI	11	da	14	1	5/2	24	119		1	3:	5	Fa	x Re	sults	9		Ye	es		No		Add	lition	al F	ax N	lum	ber:				
Relinquished by:	/Date! Time:	Receiv	ved By:	(L	abora	itory	Staff		D	The second liverage of		-	ne:			RE	MAF	KS:),				_								1000000				
																	Em	ail R	esu	lts:	ki	one	es@	Dric	esv	/d.c	com								
Delivered By: (Circle One)	Sample	Conditi	on			T		(CHE	CKED	BY	′ :			1											stre		ne	t					
1			204	Cool	fere B	Intact				15 250	2772 97										-									=					
Samuelan) II	IDC Due Othern		Yes	=	Yes				•	(Init	ials)																								
Sampler - U	IPS - Bus - Other:		No		No			To	٧,																										



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/ga/lab accred certif.html.

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

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

Celey D. Keine

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



Rice Operating Company KATIE JONES 112 W. Taylor Hobbs NM, 88240 Fax To: (575) 397-14

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

A ... - L ... - - - I D. .. MC

Project Location: T19S-R37E-SEC18 G-LEA COUNTY, NM

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

BTEX 8021B	mg/	'L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	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	% 81.3-12	8						
Chloride, SM4500CI-B	mg/	'L	Analyze	d 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	Analyze	d 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	Analyze	d 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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Tamara Oldaker

Sample Received By:



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 Location: T19S-R37E-SEC18 G-LEA COUNTY, NM

NONE GIVEN

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

Project Number:

BTEX 8021B	mg/	L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	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	% 81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	40.0	4.00	09/03/2019	ND	100	100	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	120	50.0	09/03/2019	ND	18.4	92.1	20.0	0.217	
TDS 160.1	mg/	L	Analyze	d 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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after competent of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Tamara Oldaker

Sample Received By:



Analytical Results For:

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

Received:08/29/2019Sampling Date:08/27/2019Reported:09/09/2019Sampling Type:WaterProject Name:EME JUNCTION G-18Sampling Condition:Cool & Intact

Project Location: T19S-R37E-SEC18 G-LEA COUNTY, NM

NONE GIVEN

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

Project Number:

RTFY 8021R

BIEX 8021B	mg/	L	Апанухе	а ву: м5					
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 9	% 81.3-12	8						
Chloride, SM4500CI-B	mg/	L	Analyze	d 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	Analyze	d 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	Analyze	d 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	

Analyzed By: MC

Cardinal Laboratories *=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

101 East Marland - Hobbs, NM 88240 Tel (575) 393-2326	ina	l Laboratories, Inc.															CI	ΙΑΙ	N-C)F-(CU	ST	OD	YA	NE	A C	NAI	LY	SIS	RE	QU	EST	ī	
	ına						ιU			3,	ı		C.						LA	3 Or	der	ID #	#											
Company Name: RICE Operating Company		RIC						251			РО)#								Δ	NΔ	IY	2512	SR	FΩ	UE	ST.							
Project Manager:		INIO			ress:		ПР	arry	(St	reet.	City	, Zip)			4										-	nod N			75.					
Katie Jones		122 W	Tayl	or Str	eet ~	Hobb	s, Ne	w Me	0050		5 50	, –				1		1	1	1	1		1	1	ĺ		Ė		1	1	1	ı	1	1
Address: (Street, City, Zip)				Pho							Fax	x#:			1			ı												- 1				
122 W Taylor Street ~ Hobbs, New Mexico 88240 Phone #:		(575) 39	3-9	174						(5	75)3	397-	1471					8															
(575) 393-9174	Fax #: (575)397-	147	1					_						1		32)	1	108/							П								
Project #: Project Name:)001	1-11	-				/	7_						-		9	18	9															
EME Junction G-18						/	A	1									ande		Se H									H				1		
Project Location: T19S-R37E-Sec18 G ~ Lea County - New	Movies			Sam	pler:	Signat	ure:	Ro	zanr	ie Jo	hnso	on (57	5)631	-9310	1		Exte		Pb										1	1	0	1		ço.
1 100-107 E-Sec 10 G ** Lea County - New	VIEXICO)		K	1	7	Y	DDE	CE	RVA	TIM	·= 1			4		000	3	5 5						1625					[5	3			Pour
Harson		(0	a	M	ATR	ix C	1			THO			SAM	PLING			TPH 418.1/TX1005 / TX1005 Extended (C35)		TCLP Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200./		_			624	GC/MS Semi. Vol. 8270C/625		86			Cations (Ca, Mg, Na, K)	3	ids		Turn Around Time ~ 24 Hours
LAB#	dwo	E.K					8				PE)				302	203	1005		d As		atile	S		60B/	ol.	8	1A/6(it l	2 0	-	Sol		me
FIELD CODE	Õ	¥					Ž				타	Н	19)		8021B/602	8021B/602	ĔΙ	ء ا	S A S	tiles	i Vol	icide		. 82	j.	2/60	808	핆	onte	a, 5	3	lvec		μ
(LAB USE)	b or	ΙŽ	ER			OG	(2.40	9	804	4	1-1	Ш	(20		80	802	118.	22/2	Meta	Vola	Sem	Pest		No.	Sei	808	des	SS,	re C	9 5	2 8	issc	les	rour
(S.12.)	(G)rab or (C)omp	# CONTAINERS	WATER	SOIL	AIR	SLUDGE	HCL (2 40ml VOA)	HNO3	NaHSO ₄	H ₂ SO ₄	ICE (1-1Liter HDPE)	NONE	DATE (2019)	TIME	MTBE	BTEX	H	FAH 82/UC	SLP Sal	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	C/MS	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Moisture Content	ation at	Sulfates	Total Dissolved Solids	Chlorides	II A
Monitor Well #1R	G	3	X	0,		-	2	_	٢	亡	1	_	8/27	14:00	_	X	- 1	-	F	Ē	F	Ĕ	α.	Ö	Ö	-	<u>~</u>	<u>M</u>	Σ	Ö	_		_	12
2 Monitor Well #2	G	3	х		П		2	_	T	П	1	Н	8/27	10:05	-	X	\dashv	+	+	Н	+	+	\dashv	\dashv	\dashv	\dashv	\dashv	\dashv	\dashv	+	X	-	X	\vdash
3 Monitor Well #3	G	3	х				2	_			1	П	Garane d	11:20	-	X	\forall	+	+	Н	+	\dashv	\dashv		-	\dashv	\dashv	\dashv	+	+	X	-	X	\vdash
							T			П		П			T		\dashv	$^{+}$	+	Н	\forall	7	\dashv	\dashv	\dashv	\dashv	\dashv	\dashv	+	+	+^	1	Х	
							T					П				П	\top	\dagger	1	Н	\forall	\dashv		-	+	\dashv	\dashv	\dashv	+	+	+	Н		
												П				П	\dashv	\dagger	1	Н	7	7		\dashv		\dashv	\dashv	\dashv	+	+	+	Н		-
															Г		\top	\dagger	1	П	\forall			\dashv		\dashv	\exists	\dashv	\dagger	+	+	Н		\neg
																		1	\top	П	1	7		\dashv		\dashv	\dashv	\forall	7	\top	+	Н		\neg
THE STATE OF THE S																					1	7	\exists	\neg		\neg	寸	\top	\forall	\top	T	Н		
Polinguished by D. T.																										\exists	\neg	\top	1	\top		П		
Relinquished by: Date: Time:	Receiv	ed by:			1	11	1	D	ate:			me:			Pho	ne F	esul	s		Yes			No								_			
Retinquished by / Date: Time:		MILL.	2013	1	4	Na	0	W		8-3	29	-15	7 /	3.35	Fax	Res	ults			Yes			No		Add	itiona	al F	ax N	lumi	ber:				
Refinquished by Date: Time:	Receiv	red By:	(La	bora	tory	Staff)	/	D	ate:		Tin	ne:			RE	MAR	KS:																	
																Ema	il Re	sul	s:	kjo	ne	s@	rice	esw	d.c	om								
Delivered By: (Circle One)	Sample	Conditi						C	HEC	CKED	BY	9								roz	an	ne'	110	Dwi	nds	strea	am	.ne	t					
		Yes	Cool	Yes	ntact	-			(Initi	ials)																								
Sampler - UPS - Bus - Other:		No		No			7	10)																								
	-									-		-				-										_								



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/ga/lab accred certif.html.

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

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

Celey D. Keine

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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	Analyze	d 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 %	58.2-13	3						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	128	4.00	11/19/2019	ND	100	100	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	90.7	25.0	11/22/2019	ND	21.1	106	20.0	14.9	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
,	resuit	reporting Enric	,====			,	•		-

Cardinal Laboratories *=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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

Received: 11/15/2019

Reported: 12/04/2019
Project Name: EME JUNCTION G-18
Project Number: NONE GIVEN

Project Location: T19S-R37E-SEC18 G-LEA COUNTY, NM

Sampling Date: 11/14/2019 Sampling Type: Water

Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

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

BTEX 8021B	mg/	L	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.001	0.001	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 %	6 58.2-13	3						
Chloride, SM4500CI-B	mg/	L	Analyze	d 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	Analyze	d 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	Analyze	d 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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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 Sample Received By: Project Number: NONE GIVEN Tamara Oldaker

Project Location: T19S-R37E-SEC18 G-LEA COUNTY, NM

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

RTFY 8021R

Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<0.001	0.001	11/24/2019	ND	0.019	96.8	0.0200	0.956	
<0.001	0.001	11/24/2019	ND	0.019	93.7	0.0200	0.628	
<0.001	0.001	11/24/2019	ND	0.019	95.4	0.0200	0.648	
<0.003	0.003	11/24/2019	ND	0.058	95.9	0.0600	0.741	
<0.006	0.006	11/24/2019	ND					
100 9	% 58.2-13	3						
mg/	/L	Analyze	d By: AC					
mg/ Result	Reporting Limit	Analyze Analyzed	d By: AC Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
				BS 100	% Recovery	True Value QC	RPD 0.00	Qualifier
Result	Reporting Limit	Analyzed 11/19/2019	Method Blank		,	·		Qualifier
Result	Reporting Limit	Analyzed 11/19/2019	Method Blank		,	·		Qualifier Qualifier
Result 132 mg/	Reporting Limit 4.00	Analyzed 11/19/2019 Analyze	Method Blank ND d By: AC	100	100	100	0.00	
Result 132 mg/	Reporting Limit 4.00 /L Reporting Limit 25.0	Analyzed 11/19/2019 Analyzed Analyzed 11/22/2019	Method Blank ND d By: AC Method Blank	100 BS	100 % Recovery	100 True Value QC	0.00	
Result 132 mg/ Result 91.0	Reporting Limit 4.00 /L Reporting Limit 25.0	Analyzed 11/19/2019 Analyzed Analyzed 11/22/2019	Method Blank ND d By: AC Method Blank ND	100 BS	100 % Recovery	100 True Value QC	0.00	
	<0.001 <0.001 <0.001 <0.003 <0.006	<0.001 0.001 <0.001 0.001 <0.001 0.001 <0.003 0.003 <0.006 0.006	<0.001	<0.001 0.001 11/24/2019 ND <0.001 0.001 11/24/2019 ND <0.001 0.001 11/24/2019 ND <0.003 0.003 11/24/2019 ND <0.006 0.006 11/24/2019 ND	<pre><0.001 0.001 11/24/2019 ND 0.019 <0.001 0.001 11/24/2019 ND 0.019 <0.001 0.001 11/24/2019 ND 0.019 <0.003 0.003 11/24/2019 ND 0.058 <0.006 0.006 11/24/2019 ND</pre>	<0.001	<0.001	<0.001

Analyzed By: MC

Cardinal Laboratories *=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

101 East Marland - Hobbs, NM 88240	rdina	IT	Laboratories, Inc.													C	HA	IN-	OF.	-CL	JST	OD	Y	NE	Al	IAI	_YS	SIS	RE	QUE	ST		
1 -14-14-14-14-14-14-14-14-14-14-14-14-14-	ıruma		a	U	I	al	LUI		es	9	III	IC.						LA	AB C	rde	r ID	#								_			
Company Name:		BILL T								F	PO#			T						۵N	ΔI \	/\$19	S P	EΩ	UE	et.							
RICE Operating Company Project Manager:		RICE		era Addre		Col	mpa	_	(Stro	* C	ity, Zip			4											nod N								
Katie Jones		122 14/				Uabba	. Nav		107	1.5	95000 A	,,			i	1	ı	1	I	ı	1	Ė	Ĺ	ı	ΙI	1	1	1	ï	1	î î	1	1
Address: (Street, City, Zip)		122 W	_	Phon	-	ממטרו	s, ivew	iviex	(ICO 88		ax#:			4													. 1						
122 W Taylor Street ~ Hobbs, New Mexico 88240		(575)										397	-1471	1				0.7															
Phone #:	Fax #:	(0.0)									010	,001	1771	-		_		B/2(1										
(575) 393-9174	(575	397-1	471				7	1	1					ı		35		8															
Project #: Project Name:	25 5 2				/	/	//	1						7		pe (9	P							ıl							
Project Location:	on G-18			/			1	1	2	-						tend		i Se	Se														
T19S-R37E-Sec18 G ~ Lea County	- New Mexico	1	/	Samr	Hers	ignati	Ire:	Poz	anne .	John	ison (575)63	1-9310			5 Ex		a d	2					55					33	3			nrs
The training and a search	INCW IVICAICO	1	MATRIX PRESERVATIVE SAMPLING													100			2					C/62						2			운
H903888		100	1	MA	TRD	(1	N	1ETH	OD	_	SAI	WPLING			TPH 418.1/TX1005 / TX1005 Extended (C35)		Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	Ba	S			GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625		80			Cations (Ca, Mg, Na, K)	5	Total Dissolved Solids		Turn Around Time ~ 24 Hours
LAB#	G)rab or (C)omp	# CONTAINERS	П				Æ			1	E	1		302	02	100		S S	g As	TCLP Semi Volatiles	ري پ		909	<u>10</u>	_∞	Pesticides 8081A/608		[교	1g, 7		d Sc		ine
FIELD CODE	ľŏ	Z) I					6	1	18/6	8021B/602	Ě	0	S Ag	IS A		cide		82	i.	2/60	808	핂	o i	a, S	5	lve		卢
/ LAB USE \	ь	ΙÈ	2			<u></u>	2 40r		0	4	₹	50		802	802	18.1	270	etal	/leta	emi	esti		5	Ser	808	es	SS,	9 9	် ၁	5	issc	es	Jno.
ONLY)rab	000	WATER	SOIL	2	SLUDGE	HCL (2 40ml VOA)	HN03	NaHSO ₄	12504 107	ICE (1-1Liter HDPE) NONE	DATE (2019)	TIME	MTBE 8021B/602	BTEX	1 4	PAH 8270C	a S	TCLP Metals A		TCLP Pesticides	_	MS	MS	PCB's 8082/608	ticio	BOD, TSS, pH	Moisture Content	ions	Sulfates	al D	Chlorides	n A
		#	-	Š	AR.	S	_	도	<u> </u>	ב כ	≥ ĕ	8	Ē	Σ	B	F	PA		5 5	2 2	2	RCI	9	99	PC DC	Pe	B	<u>§</u>	Ca	Sul	Tot	S	Ē
/ Monitor Well #1R	G	3	Х	_		\perp	2			1	1	11/1	4 13:45	5	Х															X	х	X	
Monitor Well #2	G	3	Х				2			3	1	11/1	4 9:50		Х															Х	х	X	
Monitor Well #3	G	3	Х				2			-	1	11/1	4 11:10	0	X															X	х	Х	
															T															T			
										T								T		T	П							\neg	1	1			
														Т				\neg								\neg	\neg						
			П							T				T	Î		\neg	\top		T						\neg	\neg	1	\top	T			
							П			\top				T				\exists									\dashv	1		T			
								T						T					\top	T							\dashv	\dashv	\top	+	Н		
Relinquished by: Date: Time:	Recei	red by:				7 0	/	Da	ite:	i	Time:			Př	none	Res	ults	\top	Y	es		No	_					_					
Pozanne jehrson / 1/15/26/19	12:10	19/11	140	6	0		94	/	11-1.	5-	19	1	2:10	Fa	x Re	sults			V	es		No		Δdc	lition	nal F	av N	lumi	hor:				\neg
Relinquished by: Date: Time:		ed By:	(La	bora	tory	Staff)		Da			Time:		2.0	RI	EMA	RKS	86 10		1.0			140		Auc	ition	all	ax IV	vuiiii	Jei.	_			-
															_				Le			-i -		and a									
Delivered By: (Circle One)	Sample	Conditio				_		^	UEOU	(50	D) (4	Em	iail F	esu	ilts:							com								
(Circle Offe)	Sample	Condition	Cool	, 1	ntact			C	HECK	ED	BI:								rc	oza	nne	11(<u>a</u> w	ind	stre	am	.ne	T					
		Yes	1	Yes	~			9)	(Initia	s)																							
Sampler - UPS - Bus - Other:		No		No			To	2																									
								-	-					_		_				_		_	/-	_					_				