

L Peter Galusky, Jr PE

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March 31, 2023

REVIEWED

By Mike Buchanan at 1:59 pm, Nov 29, 2023

Nelson Velez

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

RE: **2022 Annual Report and Path Forward**
OCD Case Number: 1R427-87
Rice Operating Company – EME SWD System
H-20 SWD (UL H, Sec 20, T20S, R37E)

Sent by E-mail

Mr. Velez:

Review of the 2022 Annual Report and Path Forward: **Content Satisfactory**

1. NMOCD suggests requesting a meeting to discuss options going forward for high chlorides in groundwater at the site.
2. Discontinuing chloride detection in groundwater monitoring samples at the site is currently not approved.
3. Please continue to conduct groundwater monitoring at the site until eight (8) consecutive sampling events and lab analyses demonstrate below NMWQCC standards in 20.6.2.3108 of the NMAC
4. Please submit the 2023 Annual Groundwater Monitoring Report by April 1, 2024.

This letter summarizes progress made over the past year pursuant to the NMOCD approved Corrective Action Plan for this site. An active SWD produced water disposal facility is operated at this location by Rice Operating Company (ROC). This project is located in the EME field approximately 4 miles south of Monument, New Mexico (Appendix, Figure 1). Over the course of 2022 we continued to monitor up and down-gradient monitor wells (Appendix, Figure 2) for chloride and petroleum hydrocarbon (BTEX).

In brief:

Groundwater chlorides. Average annual groundwater chloride concentrations are given in the Appendix, Figure 3 and Table 1. The complete groundwater dataset is given in Table 3. Year average groundwater chloride concentrations (Table 1) in the near-source monitor well (MW-1) remained relatively stable at 1,053 mg/l in 2022 vs 1,028 mg/l in 2021. Year average groundwater chloride concentrations in the up-gradient monitor well (MW-2) remained elevated at 963 mg/l in 2021 and 910 mg/l in 2022. Year average groundwater chlorides in the down-gradient monitor well (MW-3) remained stable at 1,013 mg/l in 2021 and 1,043 mg/l in 2022. Year average groundwater chloride concentrations in the far down-gradient monitor well (MW-4) also remained stable at 1,178 mg/l in 2021 and 1,198 mg/l in 2022. Year average groundwater chloride concentrations in the east side-gradient monitor well (MW-5) increased from 910 mg/l in 2021 to 1,198 mg/l in 2022.

Groundwater benzene. Average annual groundwater benzene concentrations are given in the Appendix, Figure 4 and Table 2. The complete groundwater dataset is given in Table 3. Year average groundwater

Rice Operating Company EME H-20 SWD Annual Report

benzene concentrations in the near-source monitor well (MW-1) has dropped from 0.0155 mg/l in 2020, to 0.0093 mg/l in 2021, to 0.0058 mg/l in 2022. Year average benzene concentrations in the up-gradient monitor well (MW-2) has remained below the laboratory limit of detection of 0.001 mg/l from 2018 through 2022. Year average benzene concentrations in the downgradient monitor well (MW-3) has dropped from 0.0300 mg/l in 2020, to 0.0043 in 2021, to 0.0040 mg/l in 2022. Year average benzene concentrations in the far down-gradient monitor well (MW-4) dropped from 0.0015 mg/l in 2021 to below the laboratory limit of detection in 2022. Year average benzene concentrations in the east side gradient monitor well (MW-5) have remained below the laboratory limit of detection since 2011.

Groundwater chloride concentrations in the down and side-gradient wells continue to slowly, if unevenly, converging toward the prevailing upgradient values (roughly 900 to 1,000 mg/l). Groundwater benzene concentrations in the near-source monitor well (MW-1) are less than half of their high values of over a decade ago and appear to exhibit a clear and consistent downward trend.

The H-20 SWD site is located within an area of regionally highly impacted groundwater (Figure 5a and 5b), as evidenced by the high chloride concentrations measured in the groundwater from the upgradient monitor well (MW-2), which have hovered roughly around 1,000 mg/l chloride for the past many years. Groundwater chloride concentrations in the near-source monitor well (MW-1) have been less than 100 mg/l higher than those in the upgradient monitor well for at least the last five years. Therefore, any effort to abate chloride levels would be severely constrained by the highly impacted groundwater that is coming across the site from the non-ROC up-gradient source. This suggests no further remedial actions are warranted in regard to the chloride concentrations (Exhibit 1).

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

Please contact either Katie Davis of Rice Operating Company or me if you have any questions or need additional information.

Sincerely,



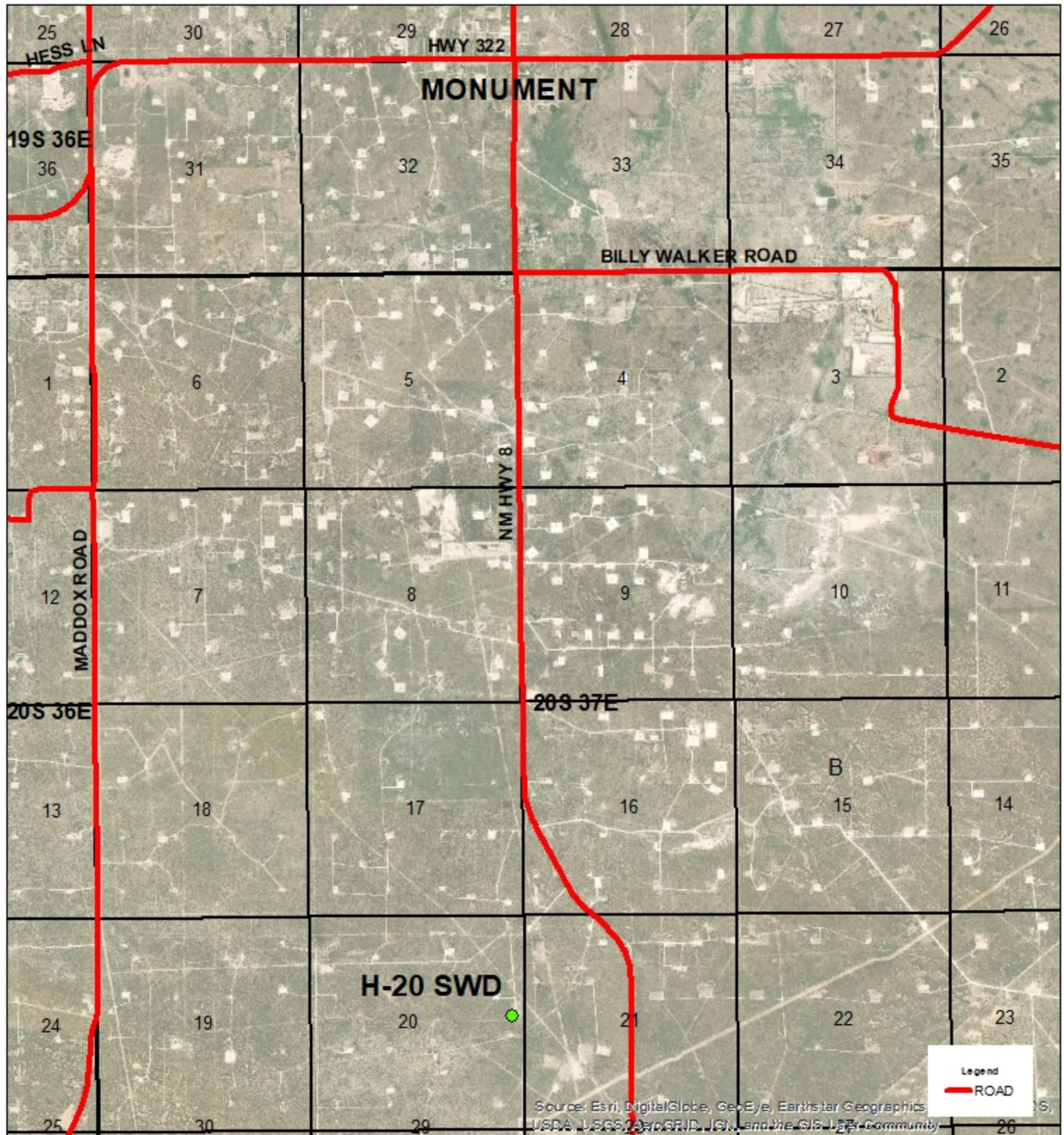
L. Peter Galusky, Jr. P.E.
NM Prof. Engineer No. 22561

Copy: Rice Operating Company; Attachments: ... as noted, above.

L Peter Galusky, Jr PE

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Geographic Location



EME
H-20 SWD
1R427-87

UL H SECTION 20
T-20-S R-37-E
LEA COUNTY, NM

GPS: 32.559077-103.265553
NAD83 STATE PLANE PROJ
NM EAST ZONE

0 0.5 1
Miles



Drawing date: 2/3/20
Drafted by: T. Grieco

Site Map



EME
H-20 SWD
1R427-87

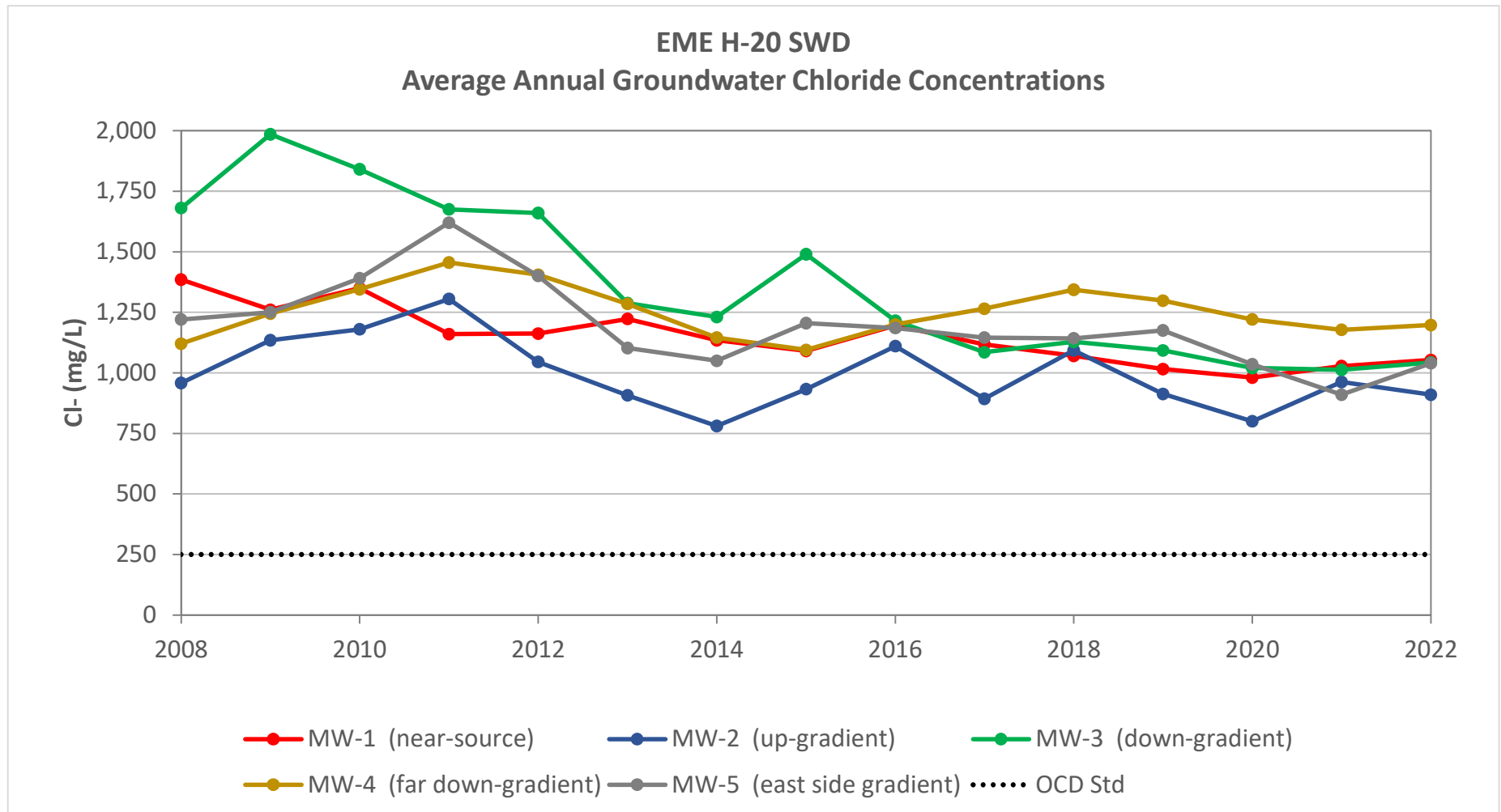
UL H SECTION 20
T-20-S R-37-E
LEA COUNTY, NM

GPS: 32.559077-103.265553
NAD83 STATE PLANE PROJ
NM EAST ZONE

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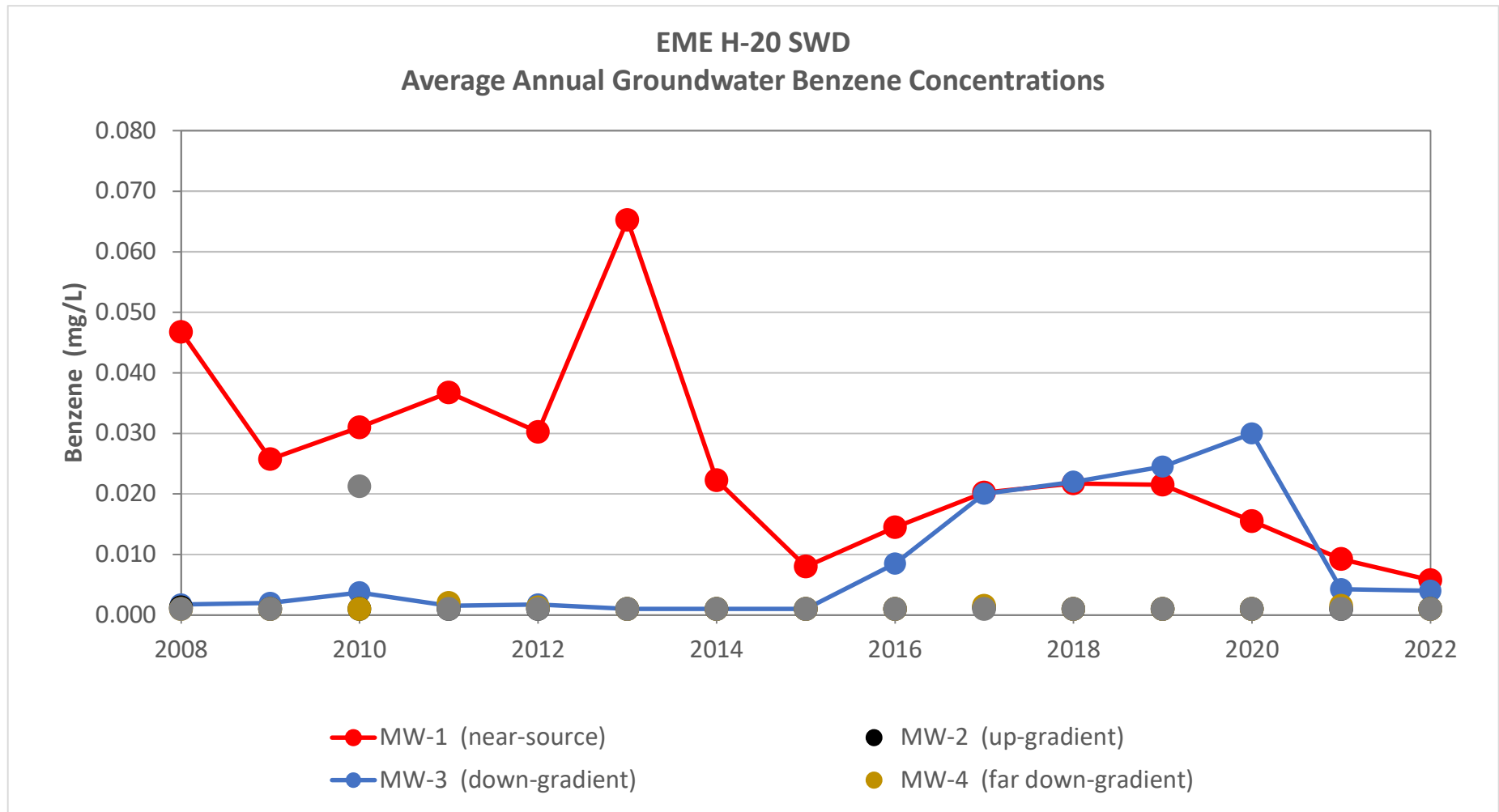
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Drafted by: T. Grieco





EME H-20 SWD Groundwater Chloride Concentrations
Average Annual Values (mg/l)

	MW-1	MW-2	MW-3	MW-4	MW-5	OCD Std
	(near-source)	(up-gradient)	(down-gradient)	(far down- gradient)	(east side gradient)	
Year						
2007						
2008	1,385	958	1,680	1,120	1,220	250
2009	1,260	1,135	1,985	1,245	1,250	250
2010	1,350	1,180	1,840	1,345	1,390	250
2011	1,160	1,305	1,675	1,455	1,620	250
2012	1,163	1,045	1,660	1,405	1,400	250
2013	1,223	908	1,288	1,285	1,103	250
2014	1,135	780	1,230	1,145	1,050	250
2015	1,090	932	1,490	1,095	1,205	250
2016	1,195	1,110	1,215	1,200	1,185	250
2017	1,118	893	1,085	1,265	1,145	250
2018	1,070	1,093	1,128	1,343	1,143	250
2019	1,015	913	1,093	1,298	1,175	250
2020	980	800	1,020	1,220	1,035	250
2021	1,028	963	1,013	1,178	910	250
2022	1,053	910	1,043	1,198	1,040	250

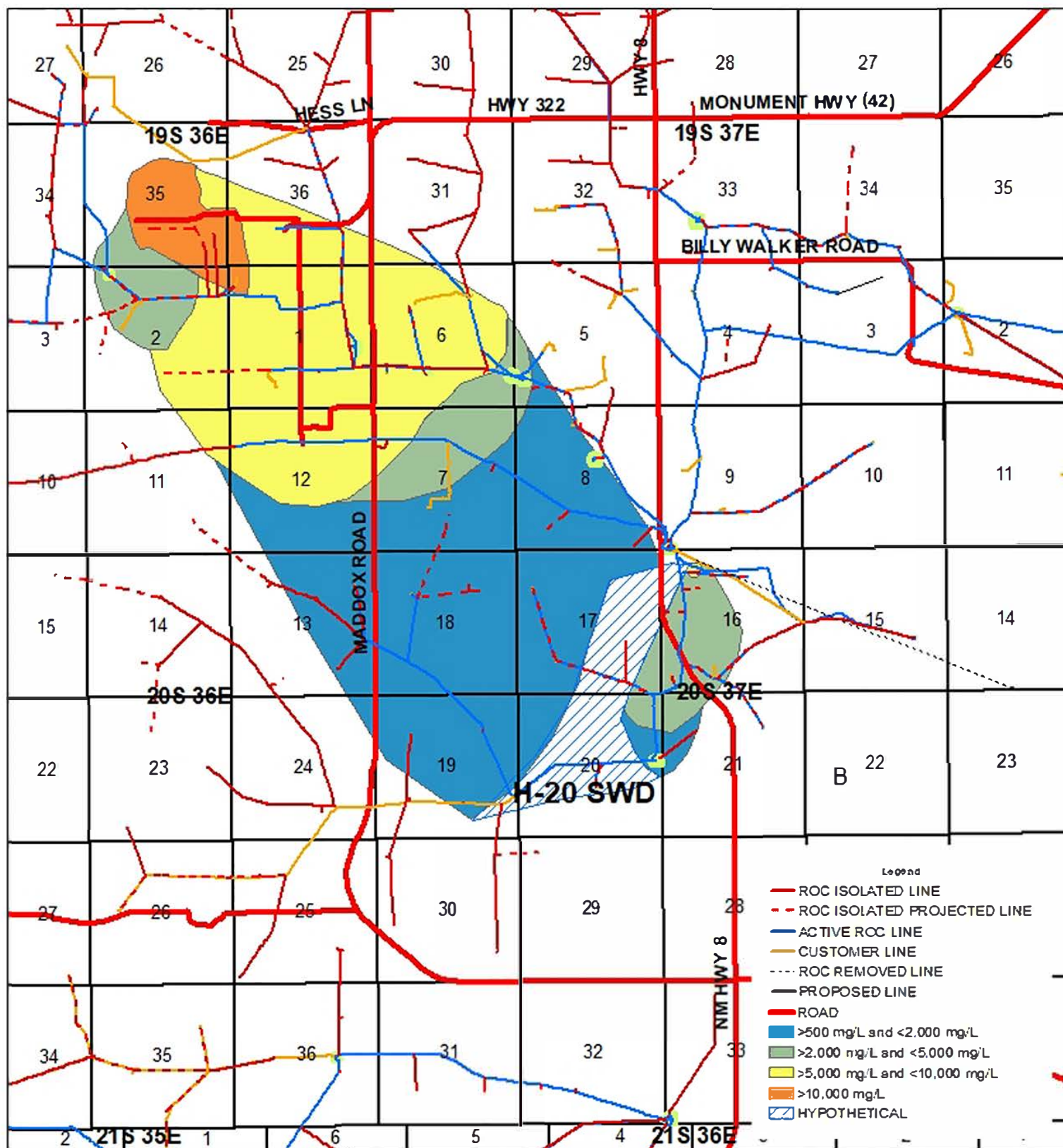


EME H-20 SWD Groundwater Benzene Concentrations (mg/l)
Average Annual Values (mg/l)

	MW-1	MW-2	MW-3	MW-4	MW-5
	(near-source)	(up- gradient)	(down- gradient)	(far down- gradient)	(east side gradient)
2008	0.0468	0.0013	0.0018	0.0010	0.0010
2009	0.0258	0.0010	0.0020	0.0010	0.0010
2010	0.0310	0.0010	0.0038	0.0010	0.0213
2011	0.0368	0.0010	0.0015	0.0020	0.0010
2012	0.0303	0.0010	0.0018	0.0013	0.0010
2013	0.0653	0.0010	0.0010	0.0010	0.0010
2014	0.0223	0.0010	0.0010	0.0010	0.0010
2015	0.0080	0.0010	0.0010	0.0010	0.0010
2016	0.0145	0.0010	0.0085	0.0010	0.0010
2017	0.0203	0.0013	0.0200	0.0015	0.0010
2018	0.0218	0.0010	0.0220	0.0010	0.0010
2019	0.0215	0.0010	0.0245	0.0010	0.0010
2020	0.0155	0.0010	0.0300	0.0010	0.0010
2021	0.0093	0.0010	0.0043	0.0015	0.0010
2022	0.0058	0.0010	0.0040	0.0010	0.0010

Note: 0.0010 mg/l is the laboratory limit of detection for benzene.

Groundwater Contamination Plume



EME
H-20 SWD
1R427-87

UL H SECTION 20
T-20-S R-37-E
LEA COUNTY, NM

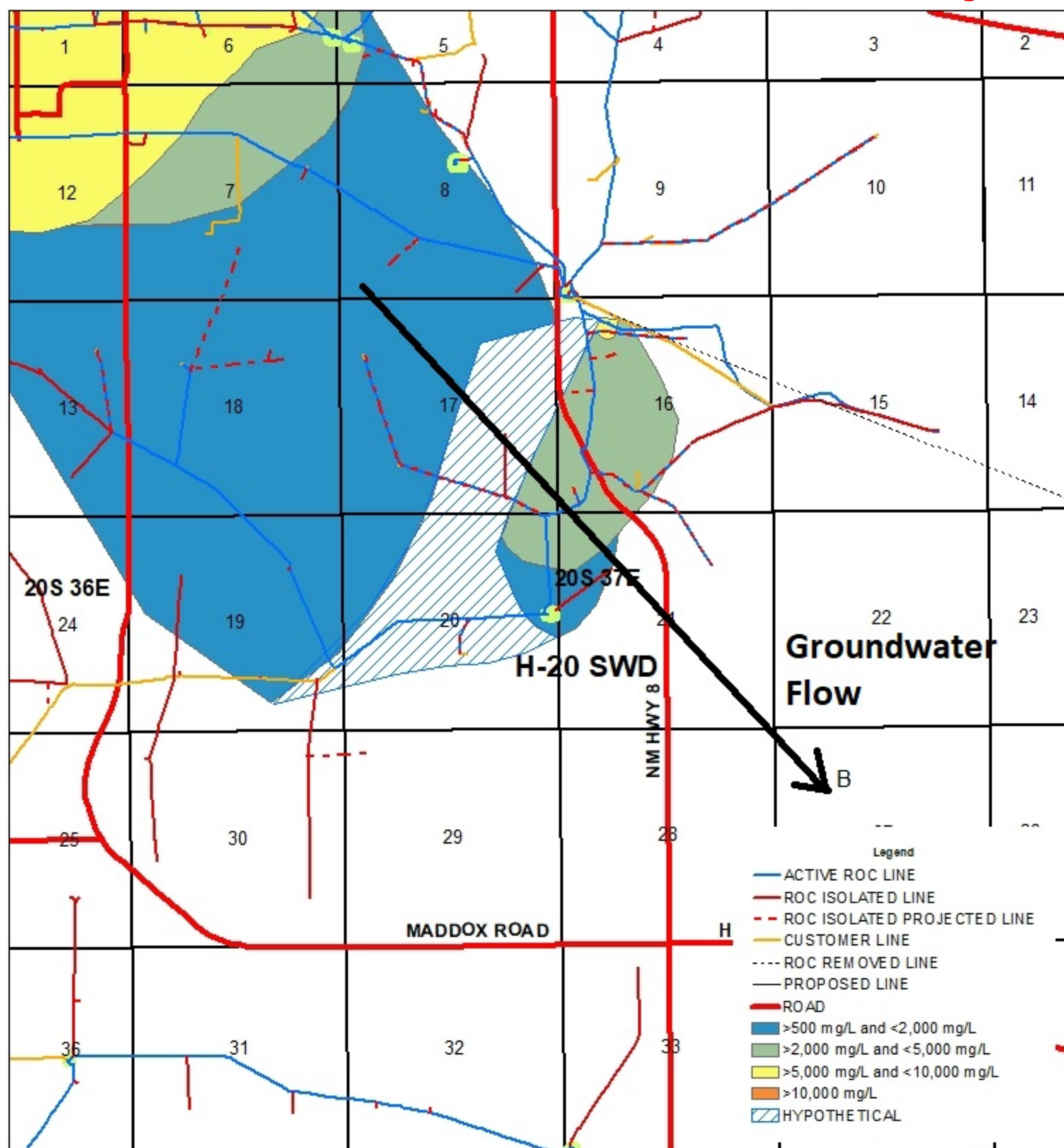
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NAD83 STATE PLANE PROJ
NM EAST ZONE

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Miles

Drawing date: 3/9/23
Drafted by: T. Grieco



Groundwater Contamination Plume



EME
H-20 SWD
1R427-87

UL H SECTION 20
T-20-S R-37-E
LEA COUNTY, NM

GPS: 32.559077-103.265553
NAD83 STATE PLANE PROJ
NM EAST ZONE

0 0.5 1
Miles

Drawing date: 11/14/21
Drafted by: T. Grieco



ROC - EME H-20 SWD (1R427-87)
Unit Letter H, Section 20, T20S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	CI	ann. avg CI	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	22.89	34.95	7.8	25	4/23/2007	1,939		4,343	0.06	<0.002	<0.002	<0.006	544	Clear
1	23.45	34.95	7.5	25	7/12/2007	1,230		3,660	0.0684	<0.005	0.0157	<0.002	644	Clear
1	23.54	34.95	7.4	25	11/1/2007	1,260	1,476	3,824	0.059	<0.002	0.006	<0.006	612	Gray to clear Strong odor 0.16 inches of product in well
1	23.37	34.95	7.5	25	1/18/2008	1,420		3,896	0.052	<0.005	<0.005	<0.015	653	Hydrocarbon present Gray to clear with strong odor
1	23.25	34.95	7.6	25	4/9/2008	1,380		3,890	0.032	0.001	0.004	<0.003	862	Gray to clear Strong odor Hydrocarbon present
1	24	34.95	7.1	25	7/21/2008	1,440		4,070	0.048	<0.02	<0.02	<0.06	794	Hydrocarbon present Gray to clear Strong odor
1	23.54	34.95	7.4	25	10/20/2008	1,300	1,385	3,920	0.055	0.002	0.004	<0.003	744	Hydrocarbon present Gray to clear Strong odor
1	23.22	34.96	7.6	25	2/5/2009	1,360		3,900	0.031	0.001	0.004	<0.003	753	Hydrocarbon present Gray to clear Strong odor
1	23.13	34.96	7.7	25	5/8/2009	1,220		3,850	0.031	<0.001	<0.001	<0.003	746	Hydrocarbon present Gray to clear Strong odor
1	24.13	34.96	7	25	8/14/2009	1,180		3,690	0.024	<0.001	0.007	<0.003	694	Hydrocarbon present Gray to clear Strong odor
1	24.32	34.96	6.9	25	11/4/2009	1,280	1,260	3,840	0.017	<0.001	0.002	<0.003	631	Hydrocarbon present Gray to clear Strong odor
1	23.83	34.96	7.2	25	2/17/2010	1,360		3,800	0.03	<0.001	0.004	<0.003	946	Gray to Clear with Strong Odor
1	23.37	34.96	7.5	25	5/19/2010	1,280		3,950	0.006	<0.001	<0.001	<0.003	760	Hydrocarbon sheen Gray to clear Strong odor
1	23.11	34.96	7.7	25	8/11/2010	1,460		4,050	0.014	<0.001	0.003	<0.003	740	Hydrocarbon sheen Gray to clear Strong odor
1	23.58	34.96	7.4	25	11/4/2010	1,300	1,350	3,910	0.074	<0.002	0.004	<0.006	645	Hydrocarbon sheen Gray to clear Strong odor
1	23.26	34.96	7.6	25	2/25/2011	1,160		3,800	0.033	0.002	0.004	0.003	756	Hydrocarbon sheen gray to clear with strong odor

1	23.51	34.96	7.4	25	5/20/2011	1,220		3,700	0.056	0.003	0.006	0.007	761	Hydrocarbon sheen gray to clear with strong odor
1	24.43	34.96	6.8	25	8/11/2011	1,080		3,640	0.034	<0.001	0.002	<0.003	779	Hydrocarbon sheen Gray to clear Strong odor
1	24.22	34.96	7	25	11/9/2011	1,180	1,160	3,580	0.024	<0.001	0.002	<0.003	827	Hydrocarbon sheen Gray to clear Strong odor
1	23.82	34.96	7.2	25	2/8/2012	1,170		3,650	0.028	<0.001	0.003	<0.003	807	Hydrocarbon sheen Gray to clear Strong odor
1	23.67	34.96	7.3	25	5/20/2012	1,100		3,500	0.027	<0.001	0.004	<0.003	639	Hydrocarbon sheen Gray to clear Strong odor
1	24.28	34.96	6.9	25	8/7/2012	1,160		3,660	0.04	0.002	0.008	<0.003	727	Hydrocarbon sheen Gray to clear Strong odor
1	24.09	34.96	7.1	25	10/31/2012	1,220	1,163	3,720	0.026	<0.001	<0.001	<0.003	686	Hydrocarbon sheen Gray to clear Strong odor
1	23.85	34.96	7.2	25	1/30/2013	1,180		3,750	0.044	<0.001	0.004	<0.003	547	Hydrocarbon sheen Gray to clear Strong odor
1	23.78	34.96	7.3	25	5/14/2013	1,230		3,860	0.082	0.002	0.008	<0.003	842	Hydrocarbon sheen Gray to clear Strong odor
1	24.16	34.96	7	25	8/14/2013	1,360		3,820	0.074	0.003	0.013	<0.003	788	Hydrocarbon sheen Gray to clear Strong odor
1	24.29	34.96	6.9	25	10/31/2013	1,120	1,223	3,830	0.061	<0.001	<0.001	<0.003	832	Hydrocarbon sheen Gray to clear Strong odor
1	23.87	34.96	7.2	25	2/18/2014	1,100		3,720	0.038	<0.001	0.003	<0.003	815	Hydrocarbon sheen Gray to clear Strong odor
1	23.77	34.96	7.3	25	4/24/2014	1,080		3,760	0.037	<0.001	0.003	<0.003	785	Hydrocarbon sheen Gray to clear Strong odor
1	24.74	34.96	6.6	25	7/31/2014	1,060		3,510	0.013	<0.001	0.002	<0.003	626	Hydrocarbon sheen Gray to clear Strong odor
1	24.72	34.96	6.7	25	11/6/2014	1,300	1,135	4,340	<0.001	<0.001	<0.001	<0.003	983	Hydrocarbon sheen Gray to Clear Strong odor PSH Sock Changed
1	23.52	34.96	7.4	25	2/12/2015	1,030		3,500	0.029	<0.001	0.001	<0.003	789	Hydrocarbon sheen Gray to clear Strong odor PSH Sock Changed
1	23.22	34.96	7.6	25	5/6/2015	1,120		3,790	<0.001	<0.001	<0.001	<0.003	812	Hydrocarbon sheen Gray to clear Strong odor
1	23.83	34.96	7.2	25	8/11/2015	1,090		4,120	<0.001	<0.001	<0.001	<0.003	759	Hydrocarbon sheen Gray to clear Strong odor

1	23.64	34.96	7.4	25	11/5/2015	1,120	1,090	3,790	<0.001	<0.001	<0.001	<0.003	728	Hydrocarbon sheen
1	23.24	34.96	7.6	25	2/10/2016	1,040		3,690	0.024	<0.001	<0.001	<0.003	746	Hydrocarbon sheen Gray to clear Strong odor
1	23.01	34.96	7.8	25	5/9/2016	1,300		3,880	<0.001	<0.001	<0.001	<0.003	768	Hydrocarbon sheen Gray to clear Strong odor
1	23.66	34.96	7.3	25	9/8/2016	1,200		3,560	0.010	<0.001	0.001	0.012	830	Hydrocarbon sheen Gray to clear Strong odor
1	23.21	34.96	7.6	25	11/8/2016	1,240	1,195	3,620	0.023	0.004	0.003	0.030	819	Hydrocarbon sheen Gray to clear Strong odor
1	23.01	38.96	7.8	25	2/16/2017	1,240		3,690	0.001	<0.001	<0.001	<0.003	888	Hydrocarbon sheen Gray to clear Strong odor
1	22.74	38.96	7.9	25	4/28/2017	1,040		3,520	0.014	<0.001	0.002	<0.003	884	Hydrocarbon sheen Gray to clear Strong odor
1	23.41	38.96	7.9	25	9/5/2017	1,200		3,890	0.037	<0.001	0.007	<0.003	865	Hydrocarbon sheen Gray to clear Strong odor
1	23.38	38.96	7.9	25	11/8/2017	990	1,118	3,560	0.029	<0.001	0.005	<0.003	840	Hydrocarbon sheen Gray to clear Strong odor
1	22.84	34.96	7.9	25	2/23/2018	1,040		3,220	0.018	<0.001	0.003	<0.003	847	Hydrocarbon sheen Gray to clear Strong odor
1	23.02	34.96	7.8	25	5/8/2018	1,240		3,780	<0.001	<0.001	<0.001	<0.003	945	Hydrocarbon sheen Gray to clear Strong odor
1	24.18	34.96	7	25	8/30/2018	1,020		3,400	0.036	<0.001	0.006	<0.003	804	Hydrocarbon sheen Gray to clear Strong odor
1	23.57	34.96	7.4	25	11/8/2018	980	1,070	3,060	0.032	0.001	0.005	<0.003	980	Hydrocarbon sheen Gray to clear Strong odor
1	23.09	38.96	7.7	25	2/27/2019	1,080		3,100	0.002	<0.001	<0.001	<0.003	1,000	Hydrocarbon sheen Gray to clear Strong odor
1	23.12	38.96	7.7	25	5/22/2019	990		3,430	0.019	<0.001	<0.001	<0.003	836	Hydrocarbon sheen Gray to clear Strong odor
1	24.02	38.96	7.1	25	8/26/2019	930		3,360	0.043	<0.001	0.006	<0.003	1,090	Hydrocarbon sheen Gray to clear Strong odor
1	23.32	38.96	7.6	25	11/13/2019	1,060	1,015	3,490	0.022	<0.001	0.004	<0.003	681	Hydrocarbon sheen Gray to clear Strong odor
1	23.21	34.96	7.6	25	3/2/2020	1,000		3,420	0.001	<0.001	<0.001	<0.003	1,500	Hydrocarbon sheen Gray to clear Strong odor
1	24.45	34.96	6.8	25	9/8/2020	960	980	3,330	0.030	<0.001	0.005	<0.003	489	Hydrocarbon sheen Gray to clear Strong odor

1	23.89	38.96	7.2	25	3/4/2021	1,040		3,400	0.001	<0.001	<0.001	<0.003	744	Hydrocarbon sheen Gray to clear Strong odor
1	23.93	38.96	7.2	25	6/8/2021	920		3,300	0.030	0.002	0.006	<0.003	612	Hydrocarbon sheen Gray to clear Strong odor
1	24.35	38.96	6.9	25	9/7/2021	1,100		3,460	<0.001	0.003	<0.001	<0.003	939	Hydrocarbon sheen Gray to clear Strong odor
1	23.91	38.96	7.2	25	11/4/2021	1,050	1,028	3,410	0.005	<0.001	<0.001	<0.003	920	Hydrocarbon sheen Gray to clear Strong odor
1	24.12	38.96	7	25	2/24/2022	1,100		3,300	0.001	<0.001	<0.001	<0.003	770	Hydrocarbon sheen Gray to clear Strong odor
1	24.56	38.96	6.8	25	6/3/2022	1,160		3,360	0.020	<0.001	0.002	<0.003	738	Hydrocarbon sheen Gray to clear Strong odor
1	24.9	38.96	6.5	25	8/30/2022	1,000		3,470	<0.001	<0.001	<0.001	<0.003	800	Hydrocarbon sheen Gray to clear Strong odor
1	24.55	38.96	6.8	25	11/10/2022	950	1,053	3,460	<0.001	<0.001	<0.001	<0.003	843	Hydrocarbon sheen Gray to clear Strong odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	CI	ann. avg CI	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	23.94	33.4	1.5	5	1/18/2008	980		3,205	<0.001	<0.001	<0.001	<0.003	746	Clear Slight odor
2	23.8	33.4	1.5	5	4/9/2008	840		2,990	<0.001	<0.001	<0.001	<0.003	988	Clear Slight odor
2	24.6	33.4	1.4	5	7/21/2008	1,000		3,210	<0.002	<0.002	<0.002	<0.006	796	Clear Slight odor
2	24.29	33.4	1.5	5	10/20/2008	1,010	958	3,270	<0.001	<0.001	<0.001	<0.003	762	Clear Slight odor
2	23.99	33.48	1.5	5	2/5/2009	1,080		3,510	<0.001	<0.001	<0.001	<0.003	815	Clear Slight odor
2	23.87	33.48	1.5	5	5/8/2009	1,120		3,480	<0.001	<0.001	<0.001	<0.003	772	Clear Slight odor
2	24.83	33.48	1.4	5	8/14/2009	1,140		3,550	<0.001	<0.001	<0.001	<0.003	750	Clear Slight odor
2	24.97	33.48	1.4	5	11/4/2009	1,200	1,135	3,570	<0.001	<0.001	<0.001	<0.003	564	Clear Slight odor
2	24.49	33.48	1.4	5	2/17/2010	1,080		3,480	<0.001	<0.001	<0.001	<0.003	929	Clear Slight odor
2	24.09	33.48	1.5	5	5/19/2010	1,180		3,670	<0.001	<0.001	<0.001	<0.003	841	Clear Slight odor
2	23.85	33.48	1.5	5	8/11/2010	1,120		3,520	<0.001	<0.001	<0.001	<0.003	783	Clear Slight odor
2	24.15	33.48	1.5	5	11/4/2010	1,340	1,180	4,210	<0.001	<0.001	<0.001	<0.003	1020	Clear Slight odor
2	23.92	33.49	1.5	6	2/25/2011	1,680		3,390	<0.001	<0.001	<0.001	<0.003	761	Clear Slight odor
2	24.06	33.49	1.5	6	5/20/2011	1,120		3,360	<0.001	<0.001	<0.001	<0.003	724	Clear Slight odor
2	24.88	33.49	1.4	6	8/11/2011	1,140		3,470	<0.001	<0.001	<0.001	<0.003	845	Clear Slight odor
2	24.44	33.49	1.4	6	11/9/2011	1,280	1,305	3,680	<0.001	<0.001	<0.001	<0.003	788	Clear Slight odor
2	24.49	33.49	1.4	6	2/8/2012	1,060		3,290	<0.001	<0.001	<0.001	<0.003	702	Clear Slight odor
2	24.31	33.49	1.5	6	5/20/2012	1,040		3,270	<0.001	<0.001	<0.001	<0.003	695	Clear Slight odor
2	24.88	33.49	1.4	6	8/7/2012	1,020		3,230	<0.001	<0.001	<0.001	<0.003	749	Clear Slight odor
2	24.81	33.49	1.4	6	10/31/2012	1,060	1,045	3,300	<0.001	<0.001	<0.001	<0.003	692	Clear Slight odor
2	24.53	33.49	1.4	6	1/30/2013	1,040		3,220	<0.001	<0.001	<0.001	<0.003	626	Clear Slight odor
2	24.34	33.49	1.5	6	5/15/2013	960		3,230	<0.001	<0.001	<0.001	<0.003	874	Clear Slight odor
2	24.83	33.49	1.4	6	8/14/2013	860		3,010	<0.001	<0.001	<0.001	<0.003	668	Clear Slight odor
2	24.93	33.49	1.4	6	10/31/2013	770	908	2,900	<0.001	<0.001	<0.001	<0.003	670	Clear Slight odor
2	24.54	33.49	1.4	6	2/18/2014	740		2,710	<0.001	<0.001	<0.001	<0.003	664	Clear Slight odor
2	24.39	33.49	1.5	6	4/24/2014	830		2,890	<0.001	<0.001	<0.001	<0.003	638	Clear Slight odor
2	25.28	33.49	1.3	6	7/31/2014	730		2,720	<0.001	<0.001	<0.001	<0.003	646	Clear Slight odor
2	24.53	33.49	1.4	6	11/6/2014	820	780	2,910	<0.001	<0.001	<0.001	<0.003	539	Clear Slight odor
2	24.29	33.49	1.5	6	2/12/2015	950		3,010	<0.001	<0.001	<0.001	<0.003	703	Clear Slight odor
2	23.98	33.49	1.5	6	5/6/2015	860		3,070	<0.001	<0.001	<0.001	<0.003	605	Clear Slight odor
2	24.58	33.49	1.4	6	8/11/2015	939		3,250	<0.001	<0.001	<0.001	<0.003	479	Clear Slight odor
2	24.33	33.49	1.47	6	11/5/2015	980	932	3,490	<0.001	<0.001	<0.001	<0.003	691	Clear Slight odor
2	23.96	33.49	1.5	6	2/10/2016	1,160		3,800	<0.001	<0.001	<0.001	<0.003	720	Clear Slight odor
2	23.79	33.49	1.6	6	5/9/2016	1,160		3,670	<0.001	<0.001	<0.001	<0.003	892	Clear Slight odor
2	24.37	33.49	1.5	6	9/8/2016	1,160		3,700	<0.001	<0.001	<0.001	<0.003	826	Clear Slight odor
2	23.93	33.49	1.5	6	11/8/2016	960	1,110	3,080	<0.001	<0.001	<0.001	<0.003	716	Clear Slight odor

2	23.67	33.49	1.6	6	2/16/2017	920		2,900	<0.001	<0.001	<0.001	<0.003	771	Clear Slight odor
2	23.47	33.49	1.6	6	4/28/2017	900		2,980	<0.001	<0.001	<0.001	<0.003	802	Clear Slight odor
2	24.06	33.49	1.6	6	9/5/2017	920		3,110	<0.001	<0.001	<0.001	<0.003	713	Clear Slight odor
2	24.01	33.49	1.6	6	11/8/2017	830	893	3,030	0.002	<0.001	<0.001	<0.003	705	Clear Slight odor
2	23.53	33.49	1.6	6	2/23/2018	1,070		3,110	<0.001	<0.001	<0.001	<0.003	776	Clear Slight odor
2	23.59	33.49	1.6	6	5/8/2018	1,240		3,780	<0.001	<0.001	<0.001	<0.003	945	Clear Slight odor
2	24.73	33.49	1.4	6	8/30/2018	1,080		3,370	<0.001	<0.001	<0.001	<0.003	838	Clear Slight odor
2	24.19	33.49	1.5	6	11/8/2018	980	1,093	2,240	<0.001	<0.001	<0.001	<0.003	926	Clear Slight odor
2	23.78	33.49	1.6	6	2/27/2019	950		2,700	<0.001	<0.001	<0.001	<0.003	871	Clear Slight odor
2	23.74	33.49	1.6	6	5/22/2019	1,000		3,220	<0.001	<0.001	<0.001	<0.003	800	Clear Slight odor
2	24.78	33.49	1.4	6	8/26/2019	870		2,850	<0.001	<0.001	<0.001	<0.003	1,170	Clear Slight odor
2	24.44	33.49	1.4	6	11/13/2019	830	913	2,920	<0.001	<0.001	<0.001	<0.003	670	Clear Slight odor
2	23.88	33.49	1.5	6	3/2/2020	800		2,840	<0.001	<0.001	<0.001	<0.003	885	Clear Slight odor
2	24.98	33.49	1.4	6	9/8/2020	800	800	2,830	<0.001	<0.001	<0.001	<0.003	545	Clear Slight odor
2	24.53	33.49	1.4	6	3/4/2021	900		2,830	<0.001	<0.001	<0.001	<0.003	730	Clear Slight odor
2	24.56	33.49	1.4	6	6/8/2021	1,000		3,010	<0.001	<0.001	<0.001	<0.003	636	Clear Slight odor
2	25.02	33.49	1.4	6	9/7/2021	1,000		3,080	<0.001	<0.001	<0.001	<0.003	881	Clear Slight odor
2	24.53	33.49	1.4	6	11/4/2021	950	963	3,020	<0.001	<0.001	<0.001	<0.003	843	Clear Slight odor
2	24.77	33.49	1.4	6	2/24/2022	1,040		3,070	<0.001	<0.001	<0.001	<0.003	728	Clear Slight odor
2	25.18	33.49	1.3	6	6/3/2022	1,120		3,020	<0.001	<0.001	<0.001	<0.003	872	Clear Slight odor
2	25.68	33.49	1.5	6	8/30/2022	840		2,730	<0.001	<0.001	<0.001	<0.003	572	Clear Slight odor
2	25.18	33.49	1.3	6	11/10/2022	640	910	2,590	<0.001	<0.001	<0.001	<0.003	628	Clear Slight odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	ann. avg Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	23.38	33.75	1.7	5	1/18/2008	1,420		4,175	0.002	<0.001	0.002	<0.003	670	RISER HAS BEEN HIT Clear Strong odor
3	23.8	33.75	1.6	5	4/9/2008	1,220		3,720	0.002	<0.001	0.002	<0.003	1070	Clear Strong odor RISER HAS BEEN REPLACED
3	24.14	33.75	1.5	5	7/21/2008	2,140		5,570	<0.002	<0.002	<0.002	<0.006	978	Clear Strong odor
3	23.74	33.75	1.6	6	10/20/2008	1,940	1,680	5,170	0.001	<0.001	<0.001	<0.003	890	Clear Strong odor
3	23.4	33.74	1.7	6	2/5/2009	1,480		4,330	<0.001	<0.001	<0.001	<0.003	837	Clear Strong odor
3	23.31	33.74	1.7	6	5/8/2009	1,840		4,800	<0.001	<0.001	<0.001	<0.003	802	Clear Strong odor
3	24.39	33.74	1.5	6	8/14/2009	2,570		6,580	0.002	0.001	<0.001	<0.003	1060	Clear Strong odor
3	24.52	33.74	1.5	6	11/4/2009	2,050	1,985	4,890	0.004	<0.001	<0.001	<0.003	804	Clear Strong odor
3	23.95	33.75	1.6	6	2/17/2010	1,420		4,200	0.005	<0.001	<0.001	<0.003	1050	Clear Strong odor
3	23.52	33.75	1.6	6	5/19/2010	1,640		4,680	0.005	<0.001	<0.001	<0.003	974	Clear Strong odor
3	23.36	33.75	1.7	6	8/11/2010	2,150		5,430	0.002	<0.001	<0.001	<0.003	962	Hydrocarbon sheen Clear Strong odor
3	23.77	33.75	1.6	6	11/4/2010	2,150	1,840	5,760	0.003	<0.001	<0.001	<0.003	1190	Hydrocarbon sheen Clear Strong odor
3	23.39	33.75	1.7	6	2/25/2011	1,580		4,540	0.002	<0.001	<0.001	<0.003	933	Hydrocarbon sheen Clear Strong odor
3	23.72	33.75	1.6	6	5/20/2011	1,880		5,050	0.002	<0.001	<0.001	<0.003	967	Hydrocarbon sheen Clear Strong odor
3	24.62	33.75	1.5	6	8/11/2011	1,580		4,880	<0.001	<0.001	<0.001	<0.003	870	Hydrocarbon sheen Clear Strong odor
3	24.38	33.75	1.5	6	11/9/2011	1,660	1,675	4,550	0.001	<0.001	0.002	<0.003	904	Hydrocarbon sheen Clear Strong odor
3	23.98	33.75	1.6	6	2/8/2012	1,480		4,090	0.003	<0.001	<0.001	<0.003	835	Hydrocarbon sheen Clear Strong odor
3	23.82	33.75	1.6	6	5/20/2012	1,400		3,890	0.001	<0.001	<0.001	<0.003	740	Hydrocarbon sheen Clear Strong odor
3	24.48	33.75	1.5	6	8/7/2012	1,920		5,120	0.002	0.003	0.002	<0.003	833	Hydrocarbon sheen Clear Strong odor
3	24.28	33.75	1.5	6	10/31/2012	1,840	1,660	4,830	<0.001	<0.001	<0.001	<0.003	913	Hydrocarbon sheen Clear Strong odor
3	24.03	33.75	1.6	6	1/30/2013	1,240		3,850	<0.001	<0.001	<0.001	<0.003	803	Hydrocarbon sheen Clear Strong odor
3	23.81	33.75	1.6	6	5/14/2013	1,250		3,720	<0.001	<0.001	<0.001	<0.003	885	Hydrocarbon sheen Clear Strong odor

3	24.41	33.75	1.5	6	8/14/2013	1,580		4,720	<0.001	0.001	<0.001	<0.003	976	Hydrocarbon sheen Clear Strong odor
3	24.43	33.75	1.5	6	10/31/2013	1,080	1,288	3,540	<0.001	<0.001	<0.001	<0.003	771	Hydrocarbon sheen Clear Strong odor
3	24.04	33.75	1.6	6	2/18/2014	1,040		3,440	<0.001	<0.001	<0.001	<0.003	808	Hydrocarbon sheen Clear Strong odor
3	23.81	33.75	1.6	6	4/24/2014	1,020		3,560	<0.001	<0.001	<0.001	<0.003	735	Hydrocarbon sheen Clear Strong odor
3	24.93	33.75	1.4	6	7/31/2014	1,080		3,750	<0.001	<0.001	<0.001	<0.003	852	Hydrocarbon sheen Clear Strong odor
3	23.93	33.75	1.6	6	11/6/2014	1,780	1,230	4,910	<0.001	<0.001	<0.001	<0.003	889	Hydrocarbon sheen Gray to clear Strong odor
3	23.73	33.75	1.6	6	2/12/2015	1,520		4,830	<0.001	<0.001	<0.001	<0.003	1,120	Hydrocarbon sheen Clear Strong odor
3	23.42	33.75	1.7	6	5/6/2015	1,260		3,900	<0.001	<0.001	<0.001	<0.003	939	Hydrocarbon sheen Clear Strong odor
3	24.19	33.75	1.5	6	8/11/2015	1,660		5,050	<0.001	<0.001	<0.001	<0.003	651	Hydrocarbon sheen Clear Strong odor
3	23.94	33.75	1.5	6	11/5/2015	1,520	1,490	5,110	<0.001	<0.001	<0.001	<0.003	915	Hydrocarbon sheen Clear Strong odor
3	23.58	33.75	1.6	6	2/10/2016	1,280		3,980	<0.001	<0.001	<0.001	<0.003	768	Hydrocarbon sheen Clear Strong odor
3	23.22	33.75	1.7	6	5/9/2016	1,380		3,910	<0.001	<0.001	<0.001	<0.003	829	Hydrocarbon sheen Clear Strong odor
3	23.74	33.75	1.6	6	9/8/2016	1,060		3,680	0.006	<0.001	<0.001	<0.003	829	Hydrocarbon sheen Clear Strong odor
3	23.29	33.75	1.7	6	11/8/2016	1,140	1,215	3,350	0.026	<0.001	0.005	0.003	808	Hydrocarbon sheen Clear Strong odor
3	23.03	33.75	1.7	6	2/16/2017	1,140		3,670	0.001	<0.001	<0.001	<0.003	928	Hydrocarbon sheen Clear Strong odor
3	22.77	33.75	1.8	6	4/28/2017	1,108		3,680	0.023	<0.001	0.003	<0.003	999	Hydrocarbon sheen Clear Strong odor
3	23.57	33.75	1.8	6	9/5/2017	1,060		3,230	0.041	<0.001	0.006	<0.003	707	Hydrocarbon sheen Clear Strong odor
3	23.53	33.75	1.8	6	11/8/2017	1,030	1,085	3,770	0.015	<0.001	0.002	<0.003	856	Hydrocarbon sheen Clear Strong odor
3	22.95	33.75	1.7	6	2/23/2018	990		3,290	0.018	<0.001	0.002	<0.003	948	Hydrocarbon sheen Clear Strong odor

3	23.09	33.75	1.7	6	5/8/2018	1,340		3,580	<0.001	<0.001	0.002	<0.003	999	Hydrocarbon sheen Clear Strong odor
3	24.42	33.75	1.5	6	8/30/2018	1,080		3,560	0.034	<0.001	0.006	<0.003	806	Hydrocarbon sheen Clear Strong odor
3	23.93	33.75	1.6	6	11/8/2018	1,100	1,128	3,340	0.035	<0.001	0.002	<0.003	1,370	Hydrocarbon sheen Clear Strong odor
3	23.19	33.75	1.7	6	2/27/2019	1,200		3,300	0.007	<0.001	<0.001	<0.003	1,080	Hydrocarbon sheen Clear Strong odor
3	23.2	33.75	1.7	6	5/22/2019	1,090		3,670	0.006	<0.001	<0.001	<0.003	920	Hydrocarbon sheen Clear Strong odor
3	24.24	33.75	1.5	6	8/26/2019	1,040		3,460	0.068	0.002	0.003	<0.003	1,150	Hydrocarbon sheen Clear Strong odor
3	23.97	33.75	1.6	6	11/13/2019	1,040	1,093	3,540	0.017	<0.001	0.003	<0.003	724	Hydrocarbon sheen Clear Strong odor
3	23.31	33.75	1.7	6	3/2/2020	1,060		3,420	0.002	<0.001	0.003	<0.003	1,580	Hydrocarbon sheen Clear Strong odor
3	24.61	33.75	1.5	6	9/8/2020	980	1,020	3,340	0.058	<0.001	0.012	<0.003	582	Hydrocarbon sheen Clear Strong odor
3	24.16	33.75	1.5	6	3/4/2021	1,080		3,380	0.001	<0.001	<0.001	<0.003	860	Hydrocarbon sheen Clear Strong odor
3	24.2	33.75	1.5	6	6/8/2021	960		3,500	0.013	<0.001	0.002	<0.003	738	Hydrocarbon sheen Clear Strong odor
3	24.55	33.75	1.5	6	9/7/2021	1,060		3,460	0.002	0.002	<0.001	<0.003	996	Hydrocarbon sheen Clear Strong odor
3	24.18	33.75	1.5	6	11/4/2021	950	1,013	3,350	<0.001	<0.001	<0.001	<0.003	930	Hydrocarbon sheen Clear Strong odor
3	24.55	33.75	1.5	6	2/24/2022	1,120		3,400	0.001	<0.001	<0.001	<0.003	783	Hydrocarbon sheen Clear Strong odor
3	24.8	33.75	1.4	6	6/3/2022	1,120		3,280	0.013	<0.001	0.002	<0.003	949	Hydrocarbon sheen Clear Strong odor
3	25.29	33.75	1.4	6	8/30/2022	1,090		3,480	<0.001	<0.001	<0.001	<0.003	730	Hydrocarbon sheen Clear Strong odor
3	24.72	33.75	1.4	6	11/10/2022	840	1,043	3,370	<0.001	<0.001	<0.001	<0.003	802	Hydrocarbon sheen Clear Strong odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	CI	ann. avg CI	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
4	22.39	33.92	1.8	6	10/20/2008	1,120	1,120	3,700	<0.001	<0.001	<0.001	<0.003	812	Clear Slight odor
4	22.08	34.33	2	6	2/5/2009	1,200		3,640	<0.001	<0.001	<0.001	<0.003	746	Clear Slight odor
4	22	34.33	2	8	5/8/2009	1,340		3,720	<0.001	<0.001	<0.001	<0.003	694	Clear Slight odor
4	23.12	34.33	1.8	8	8/14/2009	1,240		3,770	<0.001	<0.001	<0.001	<0.003	648	Clear Slight odor
4	23.19	34.33	1.8	8	11/4/2009	1,200	1,245	3,710	0.001	<0.001	0.004	<0.003	555	Clear Slight odor
4	22.62	34.34	1.9	8	2/17/2010	1,380		3,920	<0.001	<0.001	<0.001	<0.003	825	Clear Slight odor
4	22.22	34.34	1.9	8	5/19/2010	1,340		3,750	<0.001	<0.001	<0.001	<0.003	760	Clear Slight odor
4	22.04	34.34	2	8	8/11/2010	1,380		3,870	<0.001	<0.001	<0.001	<0.003	692	Clear Slight odor
4	22.49	34.34	1.9	8	11/4/2010	1,280	1,345	3,610	0.001	<0.001	<0.001	<0.003	698	Clear Slight odor
4	22.09	34.36	2	8	2/25/2011	1,440		4,160	<0.001	<0.001	<0.001	<0.003	800	Clear No odor
4	22.43	34.36	1.9	8	5/20/2011	1,500		4,000	<0.001	<0.001	<0.001	<0.003	781	Clear Slight odor
4	23.38	34.36	1.8	8	8/11/2011	1,400		4,080	0.004	<0.001	<0.001	<0.003	544	Clear Slight odor
4	23.08	34.36	1.8	8	11/9/2011	1,480	1,455	4,030	0.002	<0.001	<0.001	<0.003	771	Clear Slight odor
4	22.65	34.36	1.9	8	2/8/2012	1,500		4,150	0.002	<0.001	<0.001	<0.003	808	Clear Slight odor
4	22.49	34.36	1.9	8	5/20/2012	1,360		3,990	<0.001	<0.001	<0.001	<0.003	910	Clear Slight odor
4	23.23	34.36	1.8	8	8/7/2012	1,360		3,960	0.001	<0.001	<0.001	<0.003	792	Clear Slight odor
4	22.96	34.36	1.8	8	10/31/2012	1,400	1,405	4,090	<0.001	<0.001	<0.001	<0.003	773	Clear Slight odor
4	22.68	34.36	1.9	8	1/30/2013	1,220		4,000	<0.001	<0.001	<0.001	<0.003	638	Clear Slight odor
4	22.49	34.36	1.9	8	5/14/2013	1,340		4,060	<0.001	<0.001	<0.001	<0.003	854	Clear Slight odor
4	23.13	34.36	1.8	8	8/14/2013	1,400		4,060	<0.001	<0.001	<0.001	<0.003	878	Clear Slight odor
4	23.12	34.36	1.8	8	10/31/2013	1,180	1,285	3,730	<0.001	<0.001	<0.001	<0.003	780	Clear Slight odor
4	22.73	34.36	1.9	8	2/18/2014	1,200		3,510	<0.001	<0.001	<0.001	<0.003	765	Clear Slight odor
4	22.59	34.36	1.9	8	4/24/2014	1,240		3,630	<0.001	<0.001	<0.001	<0.003	593	Clear Slight odor
4	23.68	34.36	1.7	8	7/31/2014	1,220		3,740	<0.001	<0.001	<0.001	<0.003	758	Clear Slight odor
4	22.62	34.36	1.9	8	11/6/2014	920	1,145	3,410	<0.001	<0.001	<0.001	<0.003	501	Clear Slight odor
4	22.38	34.36	1.9	8	2/12/2015	1,080		3,520	<0.001	<0.001	<0.001	<0.003	784	Clear Slight odor
4	22.15	34.36	2	8	5/6/2015	1,040		3,420	<0.001	<0.001	<0.001	<0.003	719	Clear Slight odor
4	22.98	34.36	1.8	8	8/11/2015	1,120		3,930	<0.001	<0.001	<0.001	<0.003	580	Clear Slight odor
4	22.72	34.36	1.8	8	11/5/2015	1,140	1,095	3,640	<0.001	<0.001	<0.001	<0.003	782	Clear Slight odor
4	22.21	34.36	1.9	8	2/10/2016	1,080		3,520	<0.001	<0.001	<0.001	<0.003	703	Clear Slight odor
4	21.94	34.36	2.0	8	5/9/2016	1,140		3,460	<0.001	<0.001	<0.001	<0.003	797	Clear Slight odor
4	22.42	34.36	1.9	8	9/8/2016	1,260		3,800	<0.001	<0.001	<0.001	<0.003	693	Clear Slight odor
4	21.98	34.36	2.0	8	11/8/2016	1,320	1,200	3,610	0.001	<0.001	<0.001	<0.003	732	Clear Slight odor
4	21.81	34.36	2	8	2/16/2017	1,160		3,680	<0.001	<0.001	<0.001	<0.003	960	Clear Slight odor
4	21.58	34.36	2	8	4/28/2017	1,200		3,780	<0.001	<0.001	<0.001	<0.003	856	Clear Slight odor
4	22.29	34.36	2	8	9/5/2017	1,340		4,040	<0.001	<0.001	<0.001	<0.003	798	Clear Slight odor

4	22.26	34.36	2	8	11/8/2017	1,360	1,265	3,930	0.003	<0.001	<0.001	<0.003	903	Clear Slight odor
4	21.66	34.36	2	8	2/23/2018	1,170		3,470	<0.001	<0.001	<0.001	<0.003	863	Clear Slight odor
4	21.8	34.36	2	8	5/8/2018	1,500		3,730	<0.001	<0.001	<0.001	<0.003	892	Clear Slight odor
4	23.15	34.36	1.8	8	8/30/2018	1,460		4,030	<0.001	<0.001	<0.001	<0.003	956	Clear Slight odor
4	22.35	34.36	1.9	8	11/8/2018	1,240	1,343	2,800	<0.001	<0.001	<0.001	<0.003	968	Clear Slight odor
4	21.91	34.36	2	8	2/27/2019	1,400		3,790	<0.001	<0.001	<0.001	<0.003	1,080	Clear Slight odor
4	21.97	34.36	2	8	5/22/2019	1,230		3,650	<0.001	<0.001	<0.001	<0.003	908	Clear Slight odor
4	23.22	34.36	1.8	8	8/26/2019	1,240		3,970	<0.001	<0.001	<0.001	<0.003	742	Clear Slight odor
4	22.65	34.36	1.9	8	11/13/2019	1,320	1,298	3,910	<0.001	<0.001	<0.001	<0.003	756	Clear Slight odor
4	22.01	34.36	2	8	3/2/2020	1,220		3,850	<0.001	0.001	<0.001	<0.003	1,940	Clear Slight odor
4	23.93	34.36	1.7	8	9/8/2020	1,220	1,220	3,660	0.001	<0.001	<0.001	<0.003	709	Clear Slight odor
4	22.68	34.36	1.9	8	3/4/2021	1,180		3,640	0.002	<0.001	<0.001	<0.003	804	Clear Slight odor
4	22.71	34.36	1.9	8	6/8/2021	1,100		3,660	<0.001	<0.001	<0.001	<0.003	737	Clear Slight odor
4	23.2	34.36	1.8	8	9/7/2021	1,280		3,700	0.002	0.001	<0.001	<0.003	953	Clear Slight odor
4	22.69	34.36	1.9	8	11/4/2021	1,150	1,178	3,640	0.001	<0.001	<0.001	<0.003	913	Clear Slight odor
4	22.94	34.36	1.8	8	2/24/2022	1,220		3,560	<0.001	<0.001	<0.001	<0.003	736	Clear Slight odor
4	23.5	34.36	1.7	8	6/3/2022	1,220		3,520	<0.001	<0.001	<0.001	<0.003	963	Clear Slight odor
4	24.03	34.36	1.7	8	8/30/2022	1,240		3,440	<0.001	<0.001	<0.001	<0.003	777	Clear Slight odor
4	23.39	34.36	1.8	8	11/10/2022	1,110	1,198	3,380	<0.001	<0.001	<0.001	<0.003	762	Clear Slight odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	ann. avg Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
5	23.06	37.6	2.3	8	10/20/2008	1,220	1,220	4,060	<0.001	<0.001	<0.001	<0.003	894	Clear Slight odor
5	22.71	37.62	2.4	8	2/5/2009	1,180		3,940	<0.001	<0.001	<0.001	<0.003	902	Clear Slight odor
5	22.61	37.62	2.4	8	5/8/2009	1,320		3,840	<0.001	<0.001	<0.001	<0.003	858	Clear Slight odor
5	23.66	37.62	2.2	8	8/14/2009	1,240		3,740	<0.001	<0.001	<0.001	<0.003	730	Clear Slight odor
5	23.82	37.62	2.2	8	11/4/2009	1,260	1,250	3,640	<0.001	<0.001	<0.001	<0.003	600	Clear Slight odor
5	23.38	37.65	2.3	8	2/17/2010	1,260		3,800	<0.001	<0.001	<0.001	<0.003	940	Clear Slight odor
5	22.84	37.65	2.4	8	5/19/2010	1,340		3,660	<0.001	<0.001	<0.001	<0.003	783	Clear Slight odor
5	22.64	37.65	2.4	8	8/11/2010	1,400		3,690	<0.001	<0.001	<0.001	<0.003	785	Clear Slight odor
5	23.05	37.65	2.3	8	11/4/2010	1,560	1,390	4,210	0.082	0.002	0.004	<0.006	881	Clear Slight odor
5	22.71	37.65	2.4	8	2/25/2011	1,600		4,390	<0.001	<0.001	<0.001	<0.003	829	Clear No odor
5	22.97	37.65	2.3	8	5/20/2011	1,680		4,380	<0.001	<0.001	<0.001	<0.003	877	Clear Slight odor
5	23.91	37.65	2.2	8	8/11/2011	1,600		4,420	<0.001	<0.001	<0.001	<0.003	799	Clear Slight odor
5	23.88	37.65	2.2	8	11/9/2011	1,600	1,620	4,460	<0.001	<0.001	<0.001	<0.003	974	Clear Slight odor
5	23.31	37.65	2.3	8	2/8/2012	1,560		4,430	<0.001	<0.001	<0.001	<0.003	973	Clear Slight odor
5	23.12	37.65	2.3	8	5/20/2012	1,480		4,190	<0.001	<0.001	<0.001	<0.003	1,030	Clear Slight odor
5	23.87	37.65	2.2	8	8/7/2012	1,320		3,840	<0.001	<0.001	0.001	<0.003	935	Clear Slight odor
5	23.65	37.65	2.2	8	10/31/2012	1,240	1,400	3,820	<0.001	<0.001	<0.001	<0.003	750	Clear Slight odor
5	23.33	37.65	2.3	8	1/30/2013	1,140		3,730	<0.001	<0.001	<0.001	<0.003	686	Clear Slight odor
5	23.11	37.65	2.3	8	5/14/2013	1,200		3,850	<0.001	<0.001	<0.001	<0.003	961	Clear Slight odor
5	23.68	37.65	2.2	8	8/14/2013	1,070		3,600	<0.001	<0.001	<0.001	<0.003	802	Clear Slight odor
5	23.77	37.65	2.2	8	10/31/2013	1,000	1,103	3,460	<0.001	<0.001	<0.001	<0.003	750	Clear Slight odor
5	23.35	37.65	2.3	8	2/18/2014	1,000		3,540	<0.001	<0.001	<0.001	<0.003	850	Clear Slight odor
5	23.22	37.65	2.3	8	4/24/2014	1,060		3,690	<0.001	<0.001	<0.001	<0.003	860	Clear Slight odor
5	24.27	37.65	2.1	8	7/31/2014	1,040		3,520	<0.001	<0.001	<0.001	<0.003	955	Clear Slight odor
5	23.26	37.65	2.3	8	11/6/2014	1,100	1,050	3,500	<0.001	<0.001	<0.001	<0.003	549	Clear Slight odor
5	23	37.65	2.3	8	2/12/2015	1,040		3,760	<0.001	<0.001	<0.001	<0.003	869	Clear Slight odor
5	22.67	37.65	2.4	8	5/6/2015	1,200		4,090	<0.001	<0.001	<0.001	<0.003	977	Clear Slight odor
5	23.45	37.65	2.3	8	8/11/2015	1,220		4,350	<0.001	<0.001	<0.001	<0.003	1,270	Clear Slight odor
5	23.18	37.65	2.3	8	11/5/2015	1,360	1,205	4,060	<0.001	<0.001	<0.001	<0.003	353	Clear Slight odor
5	22.74	37.65	2.3	8	2/10/2016	1,240		4,160	<0.001	<0.001	<0.001	<0.003	1,060	Clear Slight odor
5	22.52	37.65	2.4	8	5/9/2016	1,080		3,860	<0.001	<0.001	<0.001	<0.003	979	Clear Slight odor
5	23.13	37.65	2.3	8	9/8/2016	1,120		3,790	<0.001	<0.001	<0.001	<0.003	905	Clear Slight odor
5	22.62	37.65	2.4	8	11/8/2016	1,300	1,185	4,010	<0.001	<0.001	<0.001	<0.003	1,020	Clear Slight odor
5	22.38	37.65	2.4	8	2/16/2017	1,180		3,710	<0.001	<0.001	<0.001	<0.003	975	Clear Slight odor
5	22.18	37.65	2.5	8	4/28/2017	1,180		3,760	<0.001	<0.001	<0.001	<0.003	1,050	Clear Slight odor
5	22.88	37.65	2.5	8	9/5/2017	1,160		3,940	<0.001	<0.001	<0.001	<0.003	941	Clear Slight odor

5	22.82	37.65	2.5	8	11/8/2017	1,060	1,145	3,570	<0.001	<0.001	<0.001	<0.003	926	Clear Slight odor
5	22.28	37.65	2.5	8	2/23/2018	1,060		3,690	<0.001	<0.001	<0.001	<0.003	974	Clear Slight odor
5	22.35	37.65	2.4	8	5/8/2018	1,230		3,890	<0.001	<0.001	<0.001	<0.003	1,120	Clear Slight odor
5	23.71	37.65	2.2	8	8/30/2018	1,140		3,500	<0.001	<0.001	<0.001	<0.003	958	Clear Slight odor
5	23.02	37.65	2.3	8	11/8/2018	1,140	1,143	3,290	<0.001	<0.001	<0.001	<0.003	992	Clear Slight odor
5	22.54	34.65	2.4	8	2/27/2019	1,280		3,450	<0.001	<0.001	<0.001	<0.003	1,230	Clear Slight odor
5	22.57	34.65	2.4	8	5/22/2019	1,280		4,110	<0.001	<0.001	<0.001	<0.003	1,060	Clear Slight odor
5	23.74	34.65	2.2	8	8/26/2019	1,100		3,610	<0.001	<0.001	<0.001	<0.003	806	Clear Slight odor
5	23.32	34.65	2.3	8	11/13/2019	1,040	1,175	3,420	<0.001	<0.001	<0.001	<0.003	792	Clear Slight odor
5	22.65	37.65	2.4	8	3/2/2020	1,090		3,530	<0.001	0.002	<0.001	<0.003	1,800	Clear Slight odor
5	23.37	37.65	2.3	8	9/8/2020	980	1,035	3,350	<0.001	<0.001	<0.001	<0.003	629	Clear Slight odor
5	23.33	37.65	2.3	8	3/4/2021	1,040		3,350	<0.001	<0.001	<0.001	<0.003	715	Clear Slight odor
5	22.37	37.65	2.3	8	6/8/2021	960		3,540	<0.001	<0.001	<0.001	<0.003	758	Clear Slight odor
5	23.88	37.65	2.2	8	9/7/2021	590		3,360	<0.001	<0.001	<0.001	<0.003	860	Clear Slight odor
5	22.35	37.65	2.4	8	11/4/2021	1,050	910	3,440	<0.001	<0.001	<0.001	<0.003	934	Clear Slight odor
5	24.1	37.65	2.2	8	2/24/2022	1,080		3,350	<0.001	<0.001	<0.001	<0.003	725	Clear Slight odor
5	24.64	37.65	2.1	8	6/3/2022	1,060		3,400	<0.001	<0.001	<0.001	<0.003	992	Clear Slight odor
5	24.07	37.65	2.2	8	8/30/2022	1,060		3,340	<0.001	<0.001	<0.001	<0.003	790	Clear Slight odor
5	24.07	37.65	2.2	8	11/10/2022	960	1,040	3,380	<0.001	<0.001	<0.001	<0.003	772	Clear Slight odor



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

March 08, 2022

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JUNCTION H - 20

Enclosed are the results of analyses for samples received by the laboratory on 03/01/22 14:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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Analytical Results For:

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

Received:	03/01/2022	Sampling Date:	02/24/2022
Reported:	03/08/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #1 (H220790-01)

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	03/04/2022	ND	0.021	104	0.0200	1.41	
Toluene*	<0.001	0.001	03/04/2022	ND	0.020	100	0.0200	1.78	
Ethylbenzene*	<0.001	0.001	03/04/2022	ND	0.020	101	0.0200	0.638	
Total Xylenes*	<0.003	0.003	03/04/2022	ND	0.063	105	0.0600	0.517	
Total BTEX	<0.006	0.006	03/04/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	1100	4.00	03/02/2022	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*	770	250	03/03/2022	ND	18.9	94.4	20.0	3.69	

TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	3300	5.00	03/03/2022	ND	496	99.2	500	1.94	

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	03/01/2022	Sampling Date:	02/24/2022
Reported:	03/08/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #2 (H220790-02)

BTX 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	03/04/2022	ND	0.021	104	0.0200	1.41	
Toluene*	<0.001	0.001	03/04/2022	ND	0.020	100	0.0200	1.78	
Ethylbenzene*	<0.001	0.001	03/04/2022	ND	0.020	101	0.0200	0.638	
Total Xylenes*	<0.003	0.003	03/04/2022	ND	0.063	105	0.0600	0.517	
Total BTX	<0.006	0.006	03/04/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 77.1-124

Chloride, SM4500CI-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	1040	4.00	03/02/2022	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*	728	250	03/03/2022	ND	18.9	94.4	20.0	3.69		

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	3070	5.00	03/03/2022	ND	496	99.2	500	1.94		

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	03/01/2022	Sampling Date:	02/24/2022
Reported:	03/08/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #3 (H220790-03)

BTX 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	03/04/2022	ND	0.021	104	0.0200	1.41	
Toluene*	<0.001	0.001	03/04/2022	ND	0.020	100	0.0200	1.78	
Ethylbenzene*	<0.001	0.001	03/04/2022	ND	0.020	101	0.0200	0.638	
Total Xylenes*	<0.003	0.003	03/04/2022	ND	0.063	105	0.0600	0.517	
Total BTX	<0.006	0.006	03/04/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	1120	4.00	03/02/2022	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*	783	250	03/03/2022	ND	18.9	94.4	20.0	3.69	

TDS 160.1		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	3400	5.00	03/07/2022	ND	505	101	500	1.60		

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	03/01/2022	Sampling Date:	02/24/2022
Reported:	03/08/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #4 (H220790-04)

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	03/04/2022	ND	0.021	104	0.0200	1.41		
Toluene*	<0.001	0.001	03/04/2022	ND	0.020	100	0.0200	1.78		
Ethylbenzene*	<0.001	0.001	03/04/2022	ND	0.020	101	0.0200	0.638		
Total Xylenes*	<0.003	0.003	03/04/2022	ND	0.063	105	0.0600	0.517		
Total BTEX	<0.006	0.006	03/04/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 77.1-124

Chloride, SM4500CI-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	1220	4.00	03/02/2022	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*	736	250	03/03/2022	ND	18.9	94.4	20.0	3.69		

TDS 160.1		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	3560	5.00	03/07/2022	ND	505	101	500	1.60		

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	03/01/2022	Sampling Date:	02/24/2022
Reported:	03/08/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #5 (H220790-05)

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	03/04/2022	ND	0.021	104	0.0200	1.41	
Toluene*	<0.001	0.001	03/04/2022	ND	0.020	100	0.0200	1.78	
Ethylbenzene*	<0.001	0.001	03/04/2022	ND	0.020	101	0.0200	0.638	
Total Xylenes*	<0.003	0.003	03/04/2022	ND	0.063	105	0.0600	0.517	
Total BTEX	<0.006	0.006	03/04/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 77.1-124

Chloride, SM4500CI-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	1080	4.00	03/02/2022	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*	725	250	03/03/2022	ND	18.9	94.4	20.0	3.69		

TDS 160.1		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	3350	5.00	03/07/2022	ND	505	101	500	1.60		

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager

Cardinal Laboratories, Inc.

LAB Order ID # _____

BILL TO	Company:	PO#
---------	----------	-----

RICE Operating Company

Address: _____ (Street, City, Zip)

122 W Taylor Street ~ Hobbs, New Mexico 88240

Phone#: Fax#:

(575) 393-9174 (575) 397-1471

Fax #:
(575) 397-1471

Project #:	Project Name:
	EME Junction H-20

Project Location:
T20S-R37E-Sec20 H ~ Lea County - New Mexico

Sampler Signature: Rozanne Johnson (575)631-9310

(Circle or Specify Method No.)

Turn Around Time ~ 24 Hours

Received by: Date: Time:

Received by: Samora Alda Date: 3-1-22 Time: 1455

Received By: (Laboratory Staff) Date: Time:

Phone Results		Yes		No
---------------	--	-----	--	----

Fax Results	Yes	No
-------------	-----	----

No Additional Fax Number:

Sample Condition

CHECKED BY:

Sampler - UPS - Bus - Other:

	Cool	Intact
Yes	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes
No	<input type="checkbox"/> No	<input type="checkbox"/> No

(Initials)

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



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

June 13, 2022

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JUNCTION H - 20

Enclosed are the results of analyses for samples received by the laboratory on 06/08/22 12:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	06/08/2022	Sampling Date:	06/03/2022
Reported:	06/13/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #1 (H222436-01)

BTEX 8021B		mg/L		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.020	0.001	06/09/2022	ND	0.019	95.6	0.0200	1.42	
Toluene*	<0.001	0.001	06/09/2022	ND	0.021	104	0.0200	1.88	
Ethylbenzene*	0.002	0.001	06/09/2022	ND	0.019	97.1	0.0200	0.534	
Total Xylenes*	<0.003	0.003	06/09/2022	ND	0.054	90.0	0.0600	0.00556	
Total BTEX	0.022	0.006	06/09/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.3 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	1160	4.00	06/09/2022	ND	100	100	100	0.00	QM-07

Sulfate 375.4		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	738	250	06/10/2022	ND	18.7	93.6	20.0	8.94	

TDS 160.1		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	3360	5.00	06/10/2022	ND	501	100	500	0.628	

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	06/08/2022	Sampling Date:	06/03/2022
Reported:	06/13/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #2 (H222436-02)

BTEX 8021B		mg/L		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	06/09/2022	ND	0.019	95.6	0.0200	1.42		
Toluene*	<0.001	0.001	06/09/2022	ND	0.021	104	0.0200	1.88		
Ethylbenzene*	<0.001	0.001	06/09/2022	ND	0.019	97.1	0.0200	0.534		
Total Xylenes*	<0.003	0.003	06/09/2022	ND	0.054	90.0	0.0600	0.00556		
Total BTEX	<0.006	0.006	06/09/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 77.1-124

Chloride, SM4500CI-B		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	1120	4.00	06/09/2022	ND	100	100	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*	872	125	06/10/2022	ND	18.7	93.6	20.0	8.94		

TDS 160.1		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	3020	5.00	06/10/2022	ND	501	100	500	0.628		

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	06/08/2022	Sampling Date:	06/03/2022
Reported:	06/13/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #3 (H222436-03)

BTX 8021B		mg/L		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.013	0.001	06/09/2022	ND	0.019	95.6	0.0200	1.42	
Toluene*	<0.001	0.001	06/09/2022	ND	0.021	104	0.0200	1.88	
Ethylbenzene*	0.002	0.001	06/09/2022	ND	0.019	97.1	0.0200	0.534	
Total Xylenes*	<0.003	0.003	06/09/2022	ND	0.054	90.0	0.0600	0.00556	
Total BTX	0.015	0.006	06/09/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.8 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	1120	4.00	06/09/2022	ND	100	100	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*	949	125	06/10/2022	ND	18.7	93.6	20.0	8.94	

TDS 160.1		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	3280	5.00	06/13/2022	ND	501	100	500	0.628	

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	06/08/2022	Sampling Date:	06/03/2022
Reported:	06/13/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #4 (H222436-04)

BTEX 8021B		mg/L		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	06/09/2022	ND	0.019	95.6	0.0200	1.42		
Toluene*	<0.001	0.001	06/09/2022	ND	0.021	104	0.0200	1.88		
Ethylbenzene*	<0.001	0.001	06/09/2022	ND	0.019	97.1	0.0200	0.534		
Total Xylenes*	<0.003	0.003	06/09/2022	ND	0.054	90.0	0.0600	0.00556		
Total BTEX	<0.006	0.006	06/09/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	1220	4.00	06/09/2022	ND	100	100	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*	963	125	06/10/2022	ND	18.7	93.6	20.0	8.94		

TDS 160.1		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	3520	5.00	06/13/2022	ND	501	100	500	0.628		

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	06/08/2022	Sampling Date:	06/03/2022
Reported:	06/13/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #5 (H222436-05)

BTEX 8021B		mg/L		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	06/09/2022	ND	0.019	95.6	0.0200	1.42		
Toluene*	<0.001	0.001	06/09/2022	ND	0.021	104	0.0200	1.88		
Ethylbenzene*	<0.001	0.001	06/09/2022	ND	0.019	97.1	0.0200	0.534		
Total Xylenes*	<0.003	0.003	06/09/2022	ND	0.054	90.0	0.0600	0.00556		
Total BTEX	<0.006	0.006	06/09/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	1060	4.00	06/09/2022	ND	100	100	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*	992	125	06/10/2022	ND	18.7	93.6	20.0	8.94		

TDS 160.1		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	3400	5.00	06/10/2022	ND	501	100	500	0.628		

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Celey D. Keene, Lab Director/Quality Manager

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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.
BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "C. D. Keene".

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 H-20		
Project Location: T20S-R37E-Sec20 H ~ Lea County - New Mexico		Sampler Signature: <i>Rozanne Johnson</i> (575) 631-9310		

ANALYSIS REQUEST

(Circle or Specify Method No.)

LAB # (LAB USE ONLY) H222436	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX				PRESERVATIVE METHOD					SAMPLING		MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005 / TX1005 Extended (C35)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Moisture Content	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	Sulfates	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours	
				WATER	SOIL	AIR	SLUDGE	HCL (4-40ml VOA)	HNO3	NaHSO4	H2SO4	ICE (1-1 Liter HDPE)	NONE	DATE (2022)																							TIME
1	Monitor Well #1	G	5	X				4				1		6/3	13:40	X																		X	X	X	
2	Monitor Well #2	G	5	X				4				1		6/3	8:50	X																		X	X	X	
3	Monitor Well #3	G	5	X				4				1		6/3	11:15	X																		X	X	X	
4	Monitor Well #4	G	5	X				4				1		6/3	15:00	X																		X	X	X	
5	Monitor Well #5	G	5	X				4				1		6/3	10:00	X																		X	X	X	
																								</													

Relinquished by: <i>Rozanne Johnson</i> Date: <i>6/8/2022</i> Time: <i>10:00</i>	Received by: <i>June Form</i> Date: <i>6/8/2022</i> Time: <i>10:05</i>
Relinquished by: <i>June Form</i> Date: <i>6/8/2022</i> Time: <i>12:50</i>	Received by: <i>June Form</i> Date: <i>6-8-22</i> Time: <i>1250</i>
Delivered By: (Circle One) UPS	Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
CHECKED BY: <i>JO</i> (Initials)	

Phone Results	Yes	No
Fax Results	Yes	No
Additional Fax Number:		
REMARKS:		
Email Results: kjones@riceswd.com rozanne@sdacres.com		



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

September 08, 2022

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JUNCTION H - 20

Enclosed are the results of analyses for samples received by the laboratory on 08/31/22 15:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	08/31/2022	Sampling Date:	08/30/2022
Reported:	09/08/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #1 (H224005-01)

BTEX 8021B		mg/L		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	09/01/2022	ND	0.019	97.3	0.0200	4.88	
Toluene*	<0.001	0.001	09/01/2022	ND	0.019	94.5	0.0200	4.98	
Ethylbenzene*	<0.001	0.001	09/01/2022	ND	0.018	91.4	0.0200	4.56	
Total Xylenes*	<0.003	0.003	09/01/2022	ND	0.058	97.3	0.0600	5.83	
Total BTEX	<0.006	0.006	09/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	1000	4.00	09/01/2022	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*	800	125	09/07/2022	ND	19.2	96.0	20.0	1.68		

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	3470	5.00	09/07/2022	ND	529	106	500	4.14		

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 08/31/2022
 Reported: 09/08/2022
 Project Name: EME JUNCTION H - 20
 Project Number: NONE GIVEN
 Project Location: T20S-R37E-SEC20 H-LEA CO NM

Sampling Date: 08/30/2022
 Sampling Type: Water
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: MONITOR WELL #2 (H224005-02)

BTEX 8021B		mg/L		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	09/01/2022	ND	0.019	97.3	0.0200	4.88	
Toluene*	<0.001	0.001	09/01/2022	ND	0.019	94.5	0.0200	4.98	
Ethylbenzene*	<0.001	0.001	09/01/2022	ND	0.018	91.4	0.0200	4.56	
Total Xylenes*	<0.003	0.003	09/01/2022	ND	0.058	97.3	0.0600	5.83	
Total BTEX	<0.006	0.006	09/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	840	4.00	09/01/2022	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*	572	125	09/07/2022	ND	19.2	96.0	20.0	1.68		

TDS 160.1		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	2730	5.00	09/06/2022	ND	529	106	500	4.14		

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 08/31/2022
 Reported: 09/08/2022
 Project Name: EME JUNCTION H - 20
 Project Number: NONE GIVEN
 Project Location: T20S-R37E-SEC20 H-LEA CO NM

Sampling Date: 08/30/2022
 Sampling Type: Water
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: MONITOR WELL #3 (H224005-03)

BTEX 8021B		mg/L		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	09/01/2022	ND	0.019	97.3	0.0200	4.88		
Toluene*	<0.001	0.001	09/01/2022	ND	0.019	94.5	0.0200	4.98		
Ethylbenzene*	<0.001	0.001	09/01/2022	ND	0.018	91.4	0.0200	4.56		
Total Xylenes*	<0.003	0.003	09/01/2022	ND	0.058	97.3	0.0600	5.83		
Total BTEX	<0.006	0.006	09/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	1090	4.00	09/01/2022	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*	730	250	09/07/2022	ND	19.2	96.0	20.0	1.68	

TDS 160.1		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	3480	5.00	09/06/2022	ND	529	106	500	4.14		

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	08/31/2022	Sampling Date:	08/30/2022
Reported:	09/08/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #4 (H224005-04)

BTEX 8021B		mg/L		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	09/01/2022	ND	0.019	97.3	0.0200	4.88	
Toluene*	<0.001	0.001	09/01/2022	ND	0.019	94.5	0.0200	4.98	
Ethylbenzene*	<0.001	0.001	09/01/2022	ND	0.018	91.4	0.0200	4.56	
Total Xylenes*	<0.003	0.003	09/01/2022	ND	0.058	97.3	0.0600	5.83	
Total BTEX	<0.006	0.006	09/01/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 77.1-124

Chloride, SM4500CI-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	1240	4.00	09/01/2022	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*	777	125	09/07/2022	ND	19.2	96.0	20.0	1.68		

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	3440	5.00	09/07/2022	ND	529	106	500	4.14		

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 08/31/2022
 Reported: 09/08/2022
 Project Name: EME JUNCTION H - 20
 Project Number: NONE GIVEN
 Project Location: T20S-R37E-SEC20 H-LEA CO NM

Sampling Date: 08/30/2022
 Sampling Type: Water
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: MONITOR WELL #5 (H224005-05)

BTEX 8021B		mg/L		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	09/01/2022	ND	0.019	97.3	0.0200	4.88		
Toluene*	<0.001	0.001	09/01/2022	ND	0.019	94.5	0.0200	4.98		
Ethylbenzene*	<0.001	0.001	09/01/2022	ND	0.018	91.4	0.0200	4.56		
Total Xylenes*	<0.003	0.003	09/01/2022	ND	0.058	97.3	0.0600	5.83		
Total BTEX	<0.006	0.006	09/01/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	1060	4.00	09/01/2022	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*	790	125	09/07/2022	ND	19.2	96.0	20.0	1.68	

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	3340	5.00	09/07/2022	ND	529	106	500	4.14		

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

QR-04	The RPD for the BS/BSD was outside of historical limits.
BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "C. D. Keene".

Celey D. Keene, Lab Director/Quality Manager

Cardinal Laboratories, Inc.

Released to Imaging: 11/29/2023 2:03:36 PM



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

November 18, 2022

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: EME JUNCTION H - 20

Enclosed are the results of analyses for samples received by the laboratory on 11/15/22 14:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/15/2022	Sampling Date:	11/10/2022
Reported:	11/18/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #1 (H225398-01)

BTEX 8021B		mg/L		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	11/16/2022	ND	0.019	94.8	0.0200	1.52		
Toluene*	<0.001	0.001	11/16/2022	ND	0.019	95.0	0.0200	0.522		
Ethylbenzene*	<0.001	0.001	11/16/2022	ND	0.018	90.4	0.0200	2.87		
Total Xylenes*	<0.003	0.003	11/16/2022	ND	0.056	92.6	0.0600	1.88		
Total BTEX	<0.006	0.006	11/16/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.4 % 77.1-124

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	950	4.00	11/16/2022	ND	104	104	100	0.00		

Sulfate 375.4		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	843	250	11/17/2022	ND	16.9	84.7	20.0	1.79		

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	3460	5.00	11/17/2022	ND	530	106	500	0.890		

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/15/2022	Sampling Date:	11/10/2022
Reported:	11/18/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #2 (H225398-02)

BTEX 8021B		mg/L		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	11/16/2022	ND	0.019	94.8	0.0200	1.52	
Toluene*	<0.001	0.001	11/16/2022	ND	0.019	95.0	0.0200	0.522	
Ethylbenzene*	<0.001	0.001	11/16/2022	ND	0.018	90.4	0.0200	2.87	
Total Xylenes*	<0.003	0.003	11/16/2022	ND	0.056	92.6	0.0600	1.88	
Total BTEX	<0.006	0.006	11/16/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 84.2 % 77.1-124

Chloride, SM4500CI-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	640	4.00	11/16/2022	ND	104	104	100	0.00	

Sulfate 375.4		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	628	125	11/17/2022	ND	16.9	84.7	20.0	1.79		

TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	2590	5.00	11/17/2022	ND	530	106	500	0.890	

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/15/2022	Sampling Date:	11/10/2022
Reported:	11/18/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #3 (H225398-03)

BTEX 8021B		mg/L		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	11/16/2022	ND	0.019	94.8	0.0200	1.52		
Toluene*	<0.001	0.001	11/16/2022	ND	0.019	95.0	0.0200	0.522		
Ethylbenzene*	<0.001	0.001	11/16/2022	ND	0.018	90.4	0.0200	2.87		
Total Xylenes*	<0.003	0.003	11/16/2022	ND	0.056	92.6	0.0600	1.88		
Total BTEX	<0.006	0.006	11/16/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.7 % 77.1-124

Chloride, SM4500CI-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	840	4.00	11/16/2022	ND	104	104	100	0.00		

Sulfate 375.4		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	802	250	11/17/2022	ND	16.9	84.7	20.0	1.79		

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	3370	5.00	11/17/2022	ND	530	106	500	0.890		

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/15/2022	Sampling Date:	11/10/2022
Reported:	11/18/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #4 (H225398-04)

BTEX 8021B		mg/L		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	11/16/2022	ND	0.019	94.8	0.0200	1.52	
Toluene*	<0.001	0.001	11/16/2022	ND	0.019	95.0	0.0200	0.522	
Ethylbenzene*	<0.001	0.001	11/16/2022	ND	0.018	90.4	0.0200	2.87	
Total Xylenes*	<0.003	0.003	11/16/2022	ND	0.056	92.6	0.0600	1.88	
Total BTEX	<0.006	0.006	11/16/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 89.2 % 77.1-124

Chloride, SM4500CI-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	1110	4.00	11/16/2022	ND	104	104	100	0.00	

Sulfate 375.4		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	762	250	11/17/2022	ND	16.9	84.7	20.0	1.79		

TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	3380	5.00	11/17/2022	ND	530	106	500	0.890	

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	11/15/2022	Sampling Date:	11/10/2022
Reported:	11/18/2022	Sampling Type:	Water
Project Name:	EME JUNCTION H - 20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T20S-R37E-SEC20 H-LEA CO NM		

Sample ID: MONITOR WELL #5 (H225398-05)

BTEX 8021B		mg/L		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	11/16/2022	ND	0.019	94.8	0.0200	1.52	
Toluene*	<0.001	0.001	11/16/2022	ND	0.019	95.0	0.0200	0.522	
Ethylbenzene*	<0.001	0.001	11/16/2022	ND	0.018	90.4	0.0200	2.87	
Total Xylenes*	<0.003	0.003	11/16/2022	ND	0.056	92.6	0.0600	1.88	
Total BTEX	<0.006	0.006	11/16/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 89.2 % 77.1-124

Chloride, SM4500CI-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	960	4.00	11/16/2022	ND	104	104	100	0.00	

Sulfate 375.4		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	772	250	11/17/2022	ND	16.9	84.7	20.0	1.79		

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	3380	5.00	11/17/2022	ND	530	106	500	0.890		

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager

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

CONDITIONS

Action 202257

CONDITIONS

Operator: RICE OPERATING COMPANY 122 W Taylor Hobbs, NM 88240	OGRID:
	19174
	Action Number: 202257
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the 2022 Annual Report and Path Forward: Content Satisfactory 1. NMOCD suggests requesting a meeting to discuss options going forward for high chlorides in groundwater at the site. 2. Discontinuing chloride detection in groundwater monitoring samples at the site is currently not approved. 3. Please continue to conduct groundwater monitoring at the site until eight (8) consecutive sampling events and lab analyses demonstrate below NMWQCC standards in 20.6.2.3108 of the NMAC 4. Please submit the 2023 Annual Groundwater Monitoring Report by April 1, 2024.	11/29/2023