L Peter Galusky, Jr PE

5935 Exeter Circle Norcross, GA 30071 | 470 955-5335 | peter@bluerock.pro

April 1, 2021

Bradford Billings
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87504

Re: **2020 Annual Report**
Rice Operating Company – Vacuum SWD System
Vacuum L-26 Vent (1R425-66) T17S, R35E, Section 26 (L)

Sent via E-mail

Mr. Billings:

This letter summarizes progress made over the past calendar year pursuant to the NMOCD approved Corrective Action Plan and Addendum of April 4th, 2011 for this site, which is operated by Rice Operating Company (ROC). The site is located approximately 2.5 miles east of Buckeye, New Mexico at T17S, R35E, Section 26 (L) as shown on the Site Location Map (Appendix - Figure 1). The depth to groundwater (water table) averaged approximately 59 +/- ft below ground surface in the down-gradient monitor well (MW-3) in 2020.

Background and Previous Work

In 2008, ROC conducted field investigation on the former junction box. Soil samples were collected at regular intervals, creating a 30 x 30 x 12 ft deep excavation. Based on this investigation, a 30x30-ft geo-synthetic liner was installed at approximately 4.5 to 5 ft bgs. The liner was padded with a six inches of blow sand both above and below. The excavation was backfilled with blended, excavated soil and contoured to the surrounding area. NMOCD was notified of potential groundwater impact on December 1st, 2008, and a disclosure report was submitted with all the 2008 Junction Box Closures and Disclosures.

Deeper soil sampling was initiated in 2010 which indicated elevated levels of soil chlorides throughout the vadose zone. This was summarized in the September 4th, 2011 Initial Characterization Report and Corrective Action Plan submitted to NMCOD and which recommended the installation of a near-source monitor well. A subsequent Corrective Action Plan and Addendum of April 4th, 2011 was submitted to NMOCD which proposed the installation of a sub-surface synthetic liner to isolate and prevent the downward migration of elevated soil chlorides (Appendix – Figure 2), and the installation additional monitor wells to further delineate groundwater quality. This was approved by NMOCD on April 4th, 2011 and two additional monitoring wells were installed on April 4th, 2011. The liner installation was completed in the summer 2011. A report detailing this work was submitted on August 2nd, 2011 and NMOCD granted soil closure on October 13th, 2011. According to the Additional Groundwater Monitoring and CAP for Groundwater, MW-1 was plugged and replaced with a 4 inch well (MW-1R). Groundwater removal began in July 2012 and has continued through 2019. In 2020, NMOCD granted approval to temporarily cease groundwater recovery.

Results of Groundwater Monitoring

Results of groundwater sampling from 2009 through 2020 are given in the Appendix (Appendix - Figure 3, Tables 1 & 2). Average annual groundwater chloride concentrations in the up-gradient monitor well (MW-2) have remained below 60 mg/l since sampling began in 2011, averaging 40 mg/l in 2020. Groundwater chloride concentrations in the down-gradient monitor well (MW-3) averaged 257 mg/l in 2020, down slightly from 268 mg/l in 2019. Groundwater chloride concentrations in the near-source pumping well (MW-1R) averaged 152 mg/l in 2020. BTEX concentrations have remained below detectable limit since installation. As such, NMOCD granted approval to cease analysis of BTEX. A total of 23,717 bbls of groundwater have been withdrawn from MW-1R since pumping began in 2013 resulting in the removal of approximately 439 kg of groundwater chloride. The withdrawn groundwater has been used for a purposeful use. Groundwater was not pumped from MW-1R during 2020.

Path Forward

It is clear at this point that groundwater chloride concentrations are attenuating near the source due to groundwater withdrawal and natural dilution. Groundwater chloride concentrations in the near-source pumping well (MW-1R) have declined substantially and remained below 250 mg/l since 2015. The decline in groundwater chloride concentrations in the near-source monitor well (MW-1R) are indicative of a diminishing chloride mass at the source which will

have negligible effects further down-gradient away from the site. ROC will continue quarterly sampling in 2021 and will continue groundwater recovery, if warranted.

ROC is the service provider (agent) for the Vacuum 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 Vacuum system is now abandoned. We thus submit this report for your review and consideration.

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

Thank you.

Sincerely,

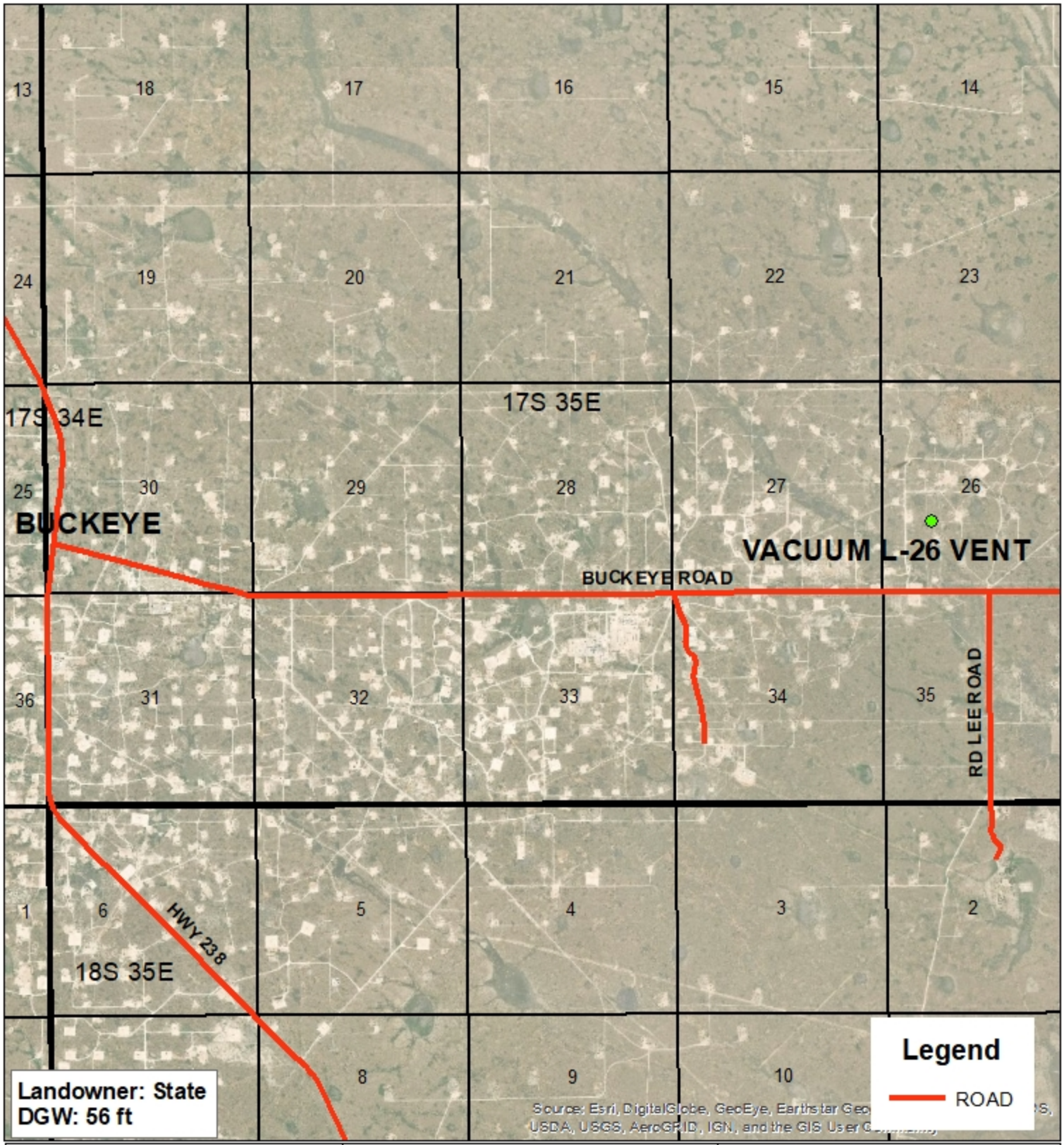
L. Peter (Pete) Galusky, Jr PE

Copy: Rice Operating Company

Attachments: … as noted in text

Geographic Location

FIGURE 1



RICE OPERATING COMPANY
ROC
SINCE 1955

VACUUM L-26 VENT

1R425-66

UL L SECTION 26
T17S R35E
LEA COUNTY, NM

GPS: 32.803423 -103.432869
NAD83 STATE PLANE PROJ
NM EAST ZONE

0 0.5 1 Miles

N
W E
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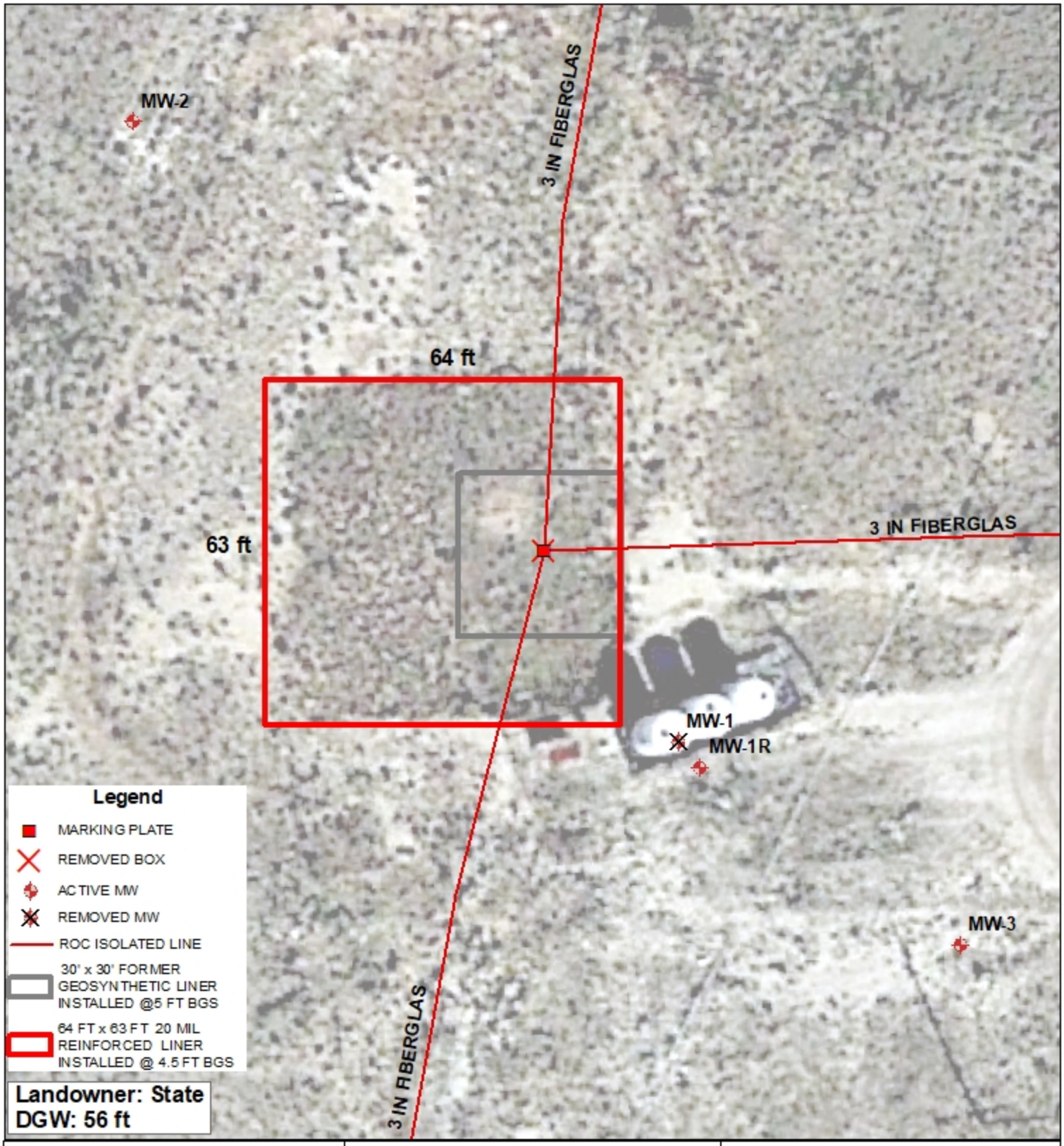
Drawing date: 2/5/20
Drafted by: T. Grieco

FIGURE 2

Site Map



RICE OPERATING COMPANY
ROC
SINCE 1955

VACUUM L-26 VENT

1R425-66

UL L SECTION 26
T-17-S R-35-E
LEA COUNTY, NM

GPS: 32.803423 -103.432869
NAD83 STATE PLANE PROJ
NM EAST ZONE

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Drawing date: 2/5/20
Drafted by: T. Grieco

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FIGURE 3

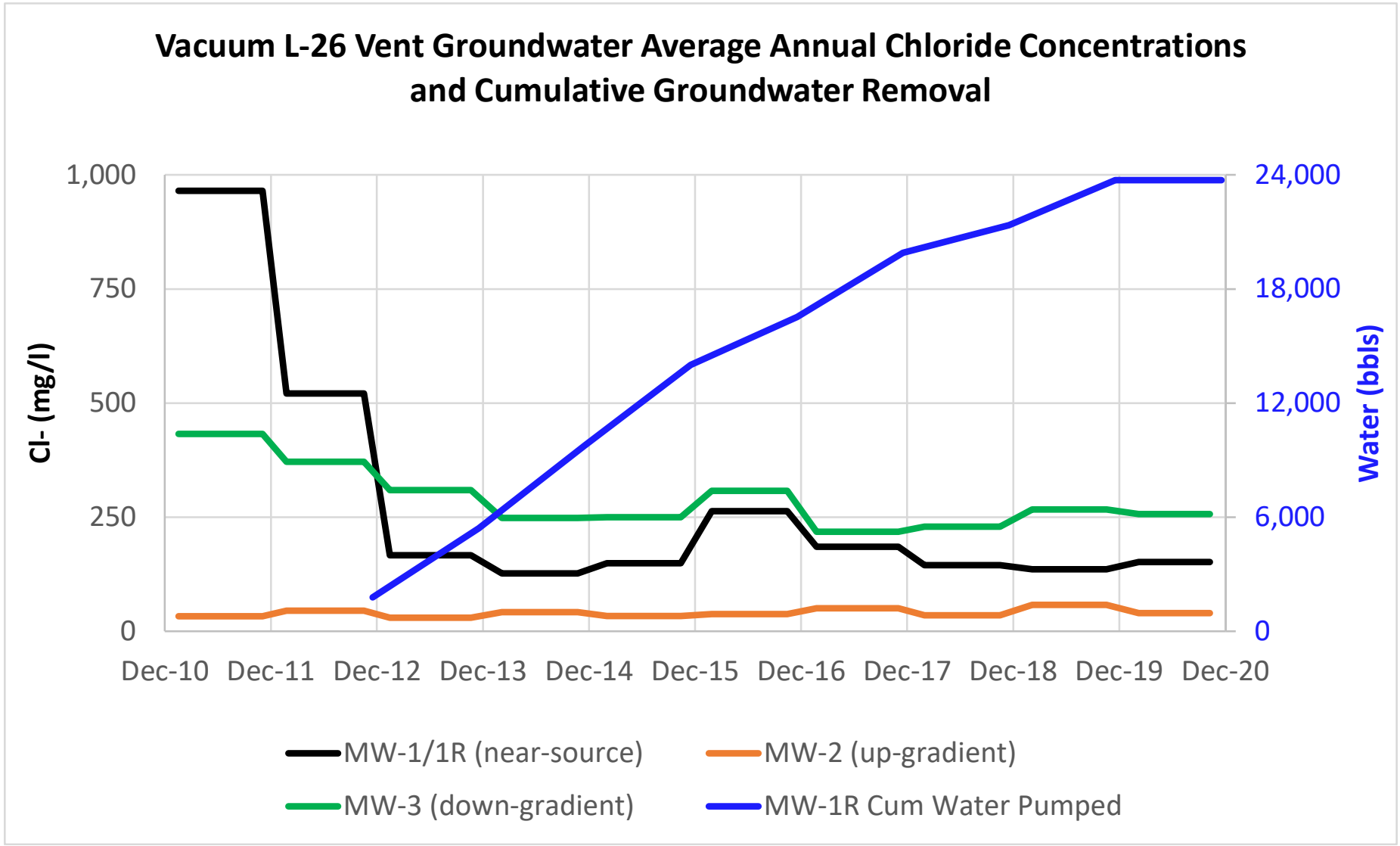
Vacuum L-26 Vent Groundwater Average Annual Chloride Concentrations and Cumulative Groundwater Removal
Cl- (mg/l)
1,000
750
500
250
0
Water (bbls)
24,000
18,000
12,000
6,000
0
Dec-10
Dec-11
Dec-12
Dec-13
Dec-14
Dec-15
Dec-16
Dec-17
Dec-18
Dec-19
Dec-20
MW-1/1R (near-source)
MW-2 (up-gradient)
MW-3 (down-gradient)
MW-1R Cum Water Pumped

Table 1 - Groundwater Summary

Date	MW-1/1R (near-source)	MW-1 (near-source) ann avg	MW-2 (up-gradient)	MW-2 (up-gradient) ann avg	MW-3 (down-gradient)	MW-3 (down-gradient) ann avg
11/22/2010	940					
2/16/2011	960	965		33		433
6/4/2011	1,040	965	32	33	432	433
8/31/2011	940	965	32	33	416	433
12/2/2011	920	965	36	33	450	433
2/22/2012	970	521	92	45	332	372
5/29/2012	710	521	28	45	380	372
8/24/2012	116	521	28	45	400	372
11/15/2012	288	521	32	45	376	372
2/12/2013	300	167	28	30	352	309
5/30/2013	140	167	32	30	320	309
9/6/2013	148	167	32	30	292	309
11/19/2013	80	167	28	30	272	309
3/5/2014	256	127	32	42	256	248
5/29/2014	88	127	72	42	248	248
8/20/2014	80	127	32	42	236	248
11/20/2014	84	127	32	42	252	248
3/2/2015	140	149	32	34	252	250
6/2/2015	44	149	32	34	268	250
8/20/2015	196	149	36	34	164	250
11/10/2015	216	149	36	34	316	250
2/25/2016	200	263	52	38	320	308
5/18/2016	408	263	28	38	324	308
9/12/2016	88	263	40	38	296	308
11/11/2016	356	263	32	38	292	308
2/21/2017	264	185	40	51	200	218
5/23/2017	208	185	96	51	220	218
9/8/2017	108	185	36	51	204	218
11/29/2017	160	185	32	51	248	218
2/27/2018	188	145	40	35	208	229
5/16/2018	240	145	32	35	248	229
9/6/2018	108	145	32	35	224	229
11/14/2018	44	145	36	35	236	229
3/5/2019	160	136	32	58	268	268
5/28/2019	140	136	28	58	260	268
8/29/2019	144	136	144	58	256	268
11/15/2019	100	136	28	58	286	268
3/5/2020	108	152	32	40	248	257
6/15/2020	128	152	72	40	216	257
9/10/2020	120	152	24	40	288	257
11/5/2020	252	152	32	40	276	257

Table 2a- MW 1/1R Groundwater Data

MW	Depth to Water	Total Depth (ft)	Well Volume (gal)	Volume Purged (gal)	Sample Date	Cl (mg/l)	TDS (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethyl Benzene (mg/l)	Total Xylenes (mg/l)	Sulfate (mg/l)	Comments
1	56.5	72.5	2.6	10	11/22/2010	940	2,120	<0.001	<0.001	<0.001	<0.003	79.6	Clear No odor
1	56.6	72.6	2.6	10	2/16/2011	960	2,130	<0.001	<0.001	<0.001	<0.003	64.0	Clear No odor
1	56.7	72.6	2.5	10	6/4/2011	1,040	2,710	<0.001	<0.001	<0.001	<0.003	64.7	Clear No odor
1	56.8	72.6	2.5	10	8/31/2011	940	2,440	<0.001	<0.001	<0.001	<0.003	67.0	Clear No odor
1	56.9	72.6	2.5	10	12/2/2011	920	2,230	<0.001	<0.001	<0.001	<0.003	73.7	Clear No odor
1	57.0	72.6	2.5	10	2/22/2012	970	1,930	<0.001	<0.001	<0.001	<0.003	66.3	Clear No odor
1	57.1	72.6	2.5	10	5/29/2012	710	1,910	<0.001	<0.001	<0.001	<0.003	66.4	Clear No odor
1	XXX	XXX	0.0	Pumping	8/24/2012	116	551	<0.001	<0.001	<0.001	<0.003	63.6	Clear No odor
1	XXX	XXX	0.0	Pumping	11/15/2012	288	960	<0.001	<0.001	<0.001	<0.003	59.5	Clear No odor
1	XXX	XXX	0.0	Pumping	2/12/2013	300	958	<0.001	<0.001	<0.001	<0.003	55.1	Clear No odor
1R	XXX	XXX	0.0	Pumping	5/30/2013	140	651	<0.001	<0.001	<0.001	<0.003	60.0	Clear No odor
1R	XXX	XXX	0.0	Pumping	9/6/2013	148	692	<0.001	<0.001	<0.001	<0.003	50.2	Clear No odor
1R	XXX	XXX	0.0	Pumping	11/19/2013	80	446	<0.001	<0.001	<0.001	<0.003	58.7	Clear No odor
1R	XXX	XXX	0.0	90	3/5/2014	256	806	<0.001	<0.001	<0.001	<0.003	58.6	Clear No odor
1R	XXX	XXX	0.0	Pumping	5/29/2014	88	490	<0.001	<0.001	<0.001	<0.003	59.3	Clear No odor
1R	XXX	XXX	0.0	Pumping	8/20/2014	80	468	<0.001	<0.001	<0.001	<0.003	56.4	Clear No odor
1R	XXX	XXX	0.0	90	11/20/2014	84	498	<0.001	<0.001	<0.001	<0.003	53.7	Clear No odor
1R	XXX	XXX	0.0	90	3/2/2015	140	644	<0.001	<0.001	<0.001	<0.003	46.9	Clear No odor
1R	XXX	XXX	0.0	Pumping	6/2/2015	44	590	<0.001	<0.001	<0.001	<0.003	37.2	Clear No odor
1R	XXX	XXX	0.0	Pumping	8/20/2015	196	676	<0.001	<0.001	<0.001	<0.003	42.0	Clear No odor
1R	XXX	XXX	0.0	Pumping	11/10/2015	216	654	<0.001	<0.001	<0.001	<0.003	47.0	Clear No odor
1R	XXX	XXX	XXX	100	2/25/2016	200	640	<0.001	<0.001	<0.001	<0.003	60.0	Clear No odor
1R	XXX	XXX	XXX	100	5/18/2016	408	1,270	<0.001	<0.001	<0.001	<0.003	112.0	Clear No odor
1R	XXX	XXX	XXX	Running	9/12/2016	88	442	<0.001	<0.001	<0.001	<0.003	61.0	Clear No odor
1R	XXX	XXX	XXX	100	11/11/2016	356	1,140	<0.001	<0.001	<0.001	<0.003	56.0	Clear No odor
1R	XXX	XXX	XXX	100	2/21/2017	264	998	<0.001	<0.001	<0.001	<0.003	58.0	Clear No odor
1R	XXX	XXX	XXX	Running	5/23/2017	208	944	<0.001	<0.001	<0.001	<0.003	55.0	Clear No odor
1R	XXX	XXX	XXX	Running	9/8/2017	108	684	<0.001	<0.001	<0.001	<0.003	58.0	Clear No odor
1R	XXX	XXX	XXX	100	11/29/2017	160	796	<0.001	<0.001	<0.001	<0.003	56.0	Clear No odor
1R	XXX	XXX	XXX	100	2/27/2018	188	810	<0.001	<0.001	<0.001	<0.003	54.4	Clear No odor
1R	XXX	XXX	XXX	100	5/16/2018	240	960	<0.001	<0.001	<0.001	<0.003	58.5	Clear No odor

1R	XXX	XXX	XXX	100	9/6/2018	108	460	<0.001	<0.001	<0.001	<0.003	53.4	Clear No odor
1R	XXX	XXX	XXX	100	11/14/2018	44	520	<0.001	<0.001	<0.001	<0.003	54.3	Clear No odor
1R	XXX	XXX	XXX	100	3/5/2019	160	754	<0.001	<0.001	<0.001	<0.003	54.0	Clear No odor
1R	XXX	XXX	XXX	Running	5/28/2019	140	583	<0.001	<0.001	<0.001	<0.003	55.0	Clear No odor
1R	XXX	XXX	XXX	Running	8/29/2019	144	650	<0.001	<0.001	<0.001	<0.003	54.0	Clear No odor
1R	XXX	XXX	XXX	100	11/15/2019	100	765	<0.001	<0.001	<0.001	<0.003	46.0	Clear No odor
1R	XXX	XXX	XXX	100	3/5/2020	108	774	<0.001	<0.001	<0.001	<0.003	54.9	Clear No odor
1R	XXX	XXX	XXX	100	6/15/2020	128	836	XXX	XXX	XXX	XXX	62.2	Clear No odor
1R	XXX	XXX	XXX	100	9/10/2020	120	730	XXX	XXX	XXX	XXX	52.8	Clear No odor
1R	XXX	XXX	XXX	100	11/5/2020	252	972	XXX	XXX	XXX	XXX	69.0	Clear No odor

Table 2b - MW 2 Groundwater Data

MW	Depth to Water	Total Depth (ft)	Well Volume (gal)	Volume Purged (gal)	Sample Date	Cl (mg/l)	TDS (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethyl Benzene (mg/l)	Total Xylenes (mg/l)	Sulfate (mg/l)	Comments
2	56.8	62.8	1.0	10	6/4/2011	32	457	<0.001	<0.001	<0.001	<0.003	37.0	Clear No odor
2	56.9	62.8	0.9	10	8/31/2011	32	374	<0.001	<0.001	<0.001	<0.003	33.5	Clear No odor
2	57.0	62.8	0.9	10	12/2/2011	36	405	<0.001	<0.001	<0.001	<0.003	40.8	Clear No odor
2	57.1	62.8	0.9	10	2/22/2012	92	408	<0.001	<0.001	<0.001	<0.003	41.6	Clear No odor
2	57.2	62.8	0.9	10	5/29/2012	28	411	<0.001	<0.001	<0.001	<0.003	41.4	Clear No odor
2	57.4	62.8	0.9	10	8/24/2012	28	490	<0.001	<0.001	<0.001	<0.003	27.7	Clear No odor
2	54.5	62.8	1.3	10	11/15/2012	32	518	<0.001	<0.001	<0.001	<0.003	20.3	Clear No odor
2	57.5	62.8	0.8	10	2/12/2013	28	573	<0.001	<0.001	<0.001	<0.003	28.7	Clear No odor
2	57.6	62.8	0.8	10	5/30/2013	32	611	<0.001	<0.001	<0.001	<0.003	28.7	Clear No odor
2	57.8	62.8	0.8	10	9/6/2013	32	646	<0.001	<0.001	<0.001	<0.003	31.0	Clear No odor
2	57.8	62.8	0.8	10	11/19/2013	28	587	<0.001	<0.001	<0.001	<0.003	32.2	Clear No odor
2	57.9	62.8	0.8	10	3/5/2014	32	308	<0.001	<0.001	<0.001	<0.003	61.2	Clear No odor
2	58.0	62.8	0.8	10	5/29/2014	72	454	<0.001	<0.001	<0.001	<0.003	51.9	Clear No odor
2	58.0	62.8	0.8	10	8/19/2014	32	558	<0.001	<0.001	<0.001	<0.003	32.9	Clear No odor
2	57.2	62.8	0.9	10	11/20/2014	32	526	<0.001	<0.001	<0.001	<0.003	31.3	Clear No odor
2	57.1	62.8	0.9	10	3/2/2015	32	546	<0.001	<0.001	<0.001	<0.003	28.2	Clear No odor
2	54.4	62.8	1.3	10	6/2/2015	32	586	<0.001	<0.001	<0.001	<0.003	40.7	Clear No odor
2	57.6	62.8	0.8	10	8/20/2015	36	546	<0.001	<0.001	<0.001	<0.003	35.4	Clear No odor
2	57.8	62.8	0.8	8	11/10/2015	36	510	<0.001	<0.001	<0.001	<0.003	38.6	Clear No odor
2	58.0	62.8	0.8	8	2/25/2016	52	496	<0.001	<0.001	<0.001	<0.003	49.0	Clear No odor
2	58.1	62.8	0.8	6	5/18/2016	28	564	<0.001	<0.001	<0.001	<0.003	48.0	Clear No odor
2	58.2	62.8	0.7	6	9/12/2016	40	432	<0.001	<0.001	<0.001	<0.003	44.0	Clear No odor
2	58.2	62.8	0.7	8	11/11/2016	32	444	<0.001	<0.001	<0.001	<0.003	41.0	Clear No odor
2	58.3	62.8	0.7	10	2/21/2017	40	490	<0.001	<0.001	<0.001	<0.003	44.0	Clear No odor
2	57.6	62.8	0.7	10	5/23/2017	96	512	<0.001	<0.001	<0.001	<0.003	56.0	Clear No odor
2	58.5	62.8	0.7	10	9/8/2017	36	628	<0.001	<0.001	<0.001	<0.003	51.0	Clear No odor
2	58.5	62.8	0.7	10	11/29/2017	32	638	<0.001	<0.001	<0.001	<0.003	47.0	Clear No odor
2	58.6	62.8	0.7	6	2/27/2018	40	622	<0.001	<0.001	<0.001	<0.003	46.9	Clear No odor
2	58.6	62.8	0.7	6	5/16/2018	32	606	<0.001	<0.001	<0.001	<0.003	50.3	Clear No odor
2	58.7	62.8	0.6	6	9/6/2018	32	532	<0.001	<0.001	<0.001	<0.003	50.1	Clear No odor
2	58.8	62.8	0.6	6	11/14/2018	36	664	<0.001	<0.001	<0.001	<0.003	52.2	Clear No odor

2	58.9	62.8	0.6	6	3/5/2019	32	512	<0.001	<0.001	<0.001	<0.003	48.0	Clear No odor
2	59.0	62.8	0.6	6	5/28/2019	28	673	<0.001	<0.001	<0.001	<0.003	48.0	Clear No odor
2	59.2	62.8	0.6	6	8/29/2019	144	622	<0.001	<0.001	<0.001	<0.003	53.0	Clear No odor
2	59.2	62.8	0.6	6	11/15/2019	28	606	<0.001	<0.001	<0.001	<0.003	47.0	Clear No odor
2	59.3	62.8	0.6	6	3/5/2020	32	669	<0.001	<0.001	<0.001	<0.003	48.7	Clear No odor
2	59.5	62.8	0.5	6	6/15/2020	72	793	XXX	XXX	XXX	XXX	53.8	Clear No odor
2	59.6	62.8	0.5	6	9/10/2020	24	686	XXX	XXX	XXX	XXX	43.4	Clear No odor
2	59.6	62.8	0.5	6	11/5/2020	32	560	XXX	XXX	XXX	XXX	68.1	Clear No odor

Table 2c - MW 3 Groundwater Data

MW	Depth to Water	Total Depth (ft)	Well Volume (gal)	Volume Purged (gal)	Sample Date	Cl (mg/l)	TDS (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethyl Benzene (mg/l)	Total Xylenes (mg/l)	Sulfate (mg/l)	Comments
3	56.1	68.9	2.0	10	6/4/2011	432	1,210	<0.001	<0.001	<0.001	<0.003	69.1	Clear No odor
3	52.2	68.9	2.7	10	8/31/2011	416	1,250	<0.001	<0.001	<0.001	<0.003	47.3	Clear No odor
3	56.3	68.9	2.0	10	12/2/2011	450	1,330	<0.001	<0.001	<0.001	<0.003	56.8	Clear No odor
3	56.4	68.9	2.0	10	2/22/2012	332	1,330	<0.001	<0.001	<0.001	<0.003	54.9	Clear No odor
3	56.6	68.9	2.0	10	5/29/2012	380	1,220	<0.001	<0.001	<0.001	<0.003	57.4	Clear No odor
3	56.7	68.9	1.9	10	8/24/2012	400	1,220	<0.001	<0.001	<0.001	<0.003	48.9	Clear No odor
3	56.8	68.9	1.9	10	11/15/2012	376	1,240	<0.001	<0.001	<0.001	<0.003	48.7	Clear No odor
3	56.8	68.9	1.9	10	2/12/2013	352	1,260	<0.001	<0.001	<0.001	<0.003	52.6	Clear No odor
3	56.9	68.9	1.9	10	5/30/2013	320	1,220	<0.001	<0.001	<0.001	<0.003	49.0	Clear No odor
3	56.9	68.9	1.9	10	9/6/2013	292	1,170	<0.001	<0.001	<0.001	<0.003	46.2	Clear No odor
3	57.1	69.9	1.9	10	11/19/2013	272	1,150	<0.001	<0.001	<0.001	<0.003	45.1	Clear No odor
3	57.2	68.9	1.9	10	3/5/2014	256	984	<0.001	<0.001	<0.001	<0.003	47.0	Clear No odor
3	57.3	68.9	1.9	10	5/29/2014	248	826	<0.001	<0.001	<0.001	<0.003	86.2	Clear No odor
3	57.3	68.9	1.9	10	08.19.14	236	1,090	<0.001	<0.001	<0.001	<0.003	38.7	Clear No odor
3	56.5	68.9	2.0	10	11/20/2014	252	1,030	<0.001	<0.001	<0.001	<0.003	32.4	Clear No odor
3	56.4	68.9	2.0	10	03.02.15	252	1,030	<0.001	<0.001	<0.001	<0.003	42.0	Clear No odor
3	56.8	68.9	1.9	10	6/2/2015	268	1,060	<0.001	<0.001	<0.001	<0.003	45.3	Clear No odor
3	57.0	68.9	1.9	10	8/20/2015	164	1,100	<0.001	<0.001	<0.001	<0.003	47.5	Clear No odor
3	57.2	68.9	1.9	10	11/10/2015	316	1,090	<0.001	<0.001	<0.001	<0.003	50.5	Clear No odor
3	57.3	68.9	1.9	10	2/25/2016	320	1,160	<0.001	<0.001	<0.001	<0.003	49.0	Clear No odor
3	57.4	68.9	1.8	8	5/18/2016	324	1,180	<0.001	<0.001	<0.001	<0.003	62.2	Clear No odor
3	57.5	68.9	1.8	10	9/12/2016	296	1,150	<0.001	<0.001	<0.001	<0.003	53.0	Clear No odor
3	57.5	68.9	1.8	10	11/11/2016	292	1,050	<0.001	<0.001	<0.001	<0.003	44.0	Clear No odor
3	57.6	68.9	1.8	10	2/21/2017	200	1,380	<0.001	<0.001	<0.001	<0.003	43.0	Clear No odor
3	57.6	68.9	1.8	10	5/23/2017	220	980	<0.001	<0.001	<0.001	<0.003	59.0	Clear No odor
3	57.9	68.9	1.8	10	9/8/2017	204	942	<0.001	<0.001	<0.001	<0.003	59.0	Clear No odor
3	57.9	68.9	1.8	10	11/29/2017	248	930	<0.001	<0.001	<0.001	<0.003	55.0	Clear No odor
3	57.9	68.9	1.8	10	2/27/2018	208	766	<0.001	<0.001	<0.001	<0.003	51.3	Clear No odor
3	57.9	68.9	1.8	10	5/16/2018	248	962	<0.001	<0.001	<0.001	<0.003	57.7	Clear No odor
3	58.1	68.9	1.7	10	9/6/2018	224	916	<0.001	<0.001	<0.001	<0.003	53.4	Clear No odor
3	58.1	68.9	1.7	10	11/14/2018	236	856	<0.001	<0.001	<0.001	<0.003	57.4	Clear No odor

3	58.2	68.9	1.7	10	3/5/2019	268	968	<0.001	<0.001	<0.001	<0.003	57.0	Clear No odor
3	58.4	68.9	1.7	10	5/28/2019	260	1010	<0.001	<0.001	<0.001	<0.003	60.0	Clear No odor
3	58.2	68.9	1.7	10	8/29/2019	256	938	<0.001	<0.001	<0.001	<0.003	54.0	Clear No odor
3	58.6	68.9	1.7	10	11/15/2019	286	1020	<0.001	<0.001	<0.001	<0.003	56.0	Clear No odor
3	58.7	68.9	1.6	10	3/5/2020	248	1000	<0.001	<0.001	<0.001	<0.003	64.4	Clear No odor
3	58.8	68.9	1.6	10	6/15/2020	216	1010	XXX	XXX	XXX	XXX	78.4	Clear No odor
3	58.9	68.9	1.6	10	9/10/2020	288	1040	XXX	XXX	XXX	XXX	57.4	Clear No odor
3	58.9	68.9	1.6	10	11/5/2020	276	995	XXX	XXX	XXX	XXX	61.6	Clear No odor

CARDINAL Laboratories

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

March 16, 2020

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: VACUUM L-26 VENT

Enclosed are the results of analyses for samples received by the laboratory on 03/10/20 13:58.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/10/2020	Sampling Date:	03/05/2020
Reported:	03/16/2020	Sampling Type:	Water
Project Name:	VACUUM L-26 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC26 L-LEA CTY., NM		

Sample ID: MONITOR WELL #1R (H000750-01)

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	03/11/2020	ND	0.020	102	0.0200	0.861	
Toluene*	<0.001	0.001	03/11/2020	ND	0.020	102	0.0200	1.03	
Ethylbenzene*	<0.001	0.001	03/11/2020	ND	0.020	102	0.0200	1.31	
Total Xylenes*	<0.003	0.003	03/11/2020	ND	0.060	99.7	0.0600	1.69	
Total BTEX	<0.006	0.006	03/11/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *58.2-133*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**108**	4.00	03/11/2020	ND	100	100	100	3.92	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**54.9**	10.0	03/12/2020	ND	21.5	107	20.0	1.41	

TDS 160.1 mg/L Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**774**	5.00	03/16/2020	ND	548	110	500	0.263	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/10/2020	Sampling Date:	03/05/2020
Reported:	03/16/2020	Sampling Type:	Water
Project Name:	VACUUM L-26 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC26 L-LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H000750-02)

BTEX 8021B mg/L Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	03/11/2020	ND	0.020	102	0.0200	0.861	
Toluene*	<0.001	0.001	03/11/2020	ND	0.020	102	0.0200	1.03	
Ethylbenzene*	<0.001	0.001	03/11/2020	ND	0.020	102	0.0200	1.31	
Total Xylenes*	<0.003	0.003	03/11/2020	ND	0.060	99.7	0.0600	1.69	
Total BTEX	<0.006	0.006	03/11/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *58.2-133*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**32.0**	4.00	03/11/2020	ND	100	100	100	3.92	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**48.7**	10.0	03/12/2020	ND	21.5	107	20.0	1.41	

TDS 160.1 mg/L Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**669**	5.00	03/16/2020	ND	548	110	500	0.263	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/10/2020	Sampling Date:	03/05/2020
Reported:	03/16/2020	Sampling Type:	Water
Project Name:	VACUUM L-26 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC26 L-LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H000750-03)

BTEX 8021B mg/L Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	03/11/2020	ND	0.020	102	0.0200	0.861	
Toluene*	<0.001	0.001	03/11/2020	ND	0.020	102	0.0200	1.03	
Ethylbenzene*	<0.001	0.001	03/11/2020	ND	0.020	102	0.0200	1.31	
Total Xylenes*	<0.003	0.003	03/11/2020	ND	0.060	99.7	0.0600	1.69	
Total BTEX	<0.006	0.006	03/11/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *58.2-133*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**248**	4.00	03/11/2020	ND	100	100	100	3.92	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**64.4**	10.0	03/12/2020	ND	21.5	107	20.0	1.41	

TDS 160.1 mg/L Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**1000**	5.00	03/16/2020	ND	548	110	500	0.263	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

Company Name: RICE Operating Company	BILL TO Company: RICE Operating Company — PO#
Project Manager: Katie Jones	Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240
Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240	Phone#: (575) 393-9174 — Fax#: (575)397-1471
Phone #: (575) 393-9174 — Fax #: (575) 397-1471	
Project #: — Project Name: Vacuum L-26 Vent	
Project Location: T17S-R35E-Sec26 L ~ Lea County New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

H000750 LAB # (LAB USE ONLY)

	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE		PRESERVATIVE METHOD: HCL (2 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2020)	TIME	MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005 / TX1005 Extended (C35)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Moisture Content	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	Sulfates	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours
1	Monitor Well #1R	G	3	X					2				1		3/5	14:15		X																X	X	X	
2	Monitor Well #2	G	3	X					2				1		3/5	9:55		X																X	X	X	
3	Monitor Well #3	G	3	X					2				1		3/5	11:20		X																X	X	X	

Relinquished by: Rozanne Johnson — Date: 3/10/20 — Time: 13:58
Received by: Tamara Oldaker — Date: 3-10-20 — Time: 1358

Relinquished by: — Date: — Time:
Received By: (Laboratory Staff) — Date: — Time:

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

Sample Condition: Cool: Yes ✓ / No — Intact: Yes ✓ / No
CHECKED BY: (Initials) V.D.

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

REMARKS:

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

CARDINAL Laboratories

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

June 23, 2020

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: VACUUM L-26 VENT

Enclosed are the results of analyses for samples received by the laboratory on 06/16/20 15:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/16/2020	Sampling Date:	06/15/2020
Reported:	06/23/2020	Sampling Type:	Water
Project Name:	VACUUM L-26 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Kelly Jacobson
Project Location:	T17S-R35E-SEC26 L-LEA CTY., NM		

Sample ID: MONITOR WELL #1R (H001597-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**128**	4.00	06/18/2020	ND	100	100	100	3.92	

Sulfate 375.4 mg/L Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**62.2**	10.0	06/17/2020	ND	20.3	102	20.0	9.52	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**836**	5.00	06/22/2020	ND	480	96.0	500	1.32	

Sample ID: MONITOR WELL #2 (H001597-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**72.0**	4.00	06/18/2020	ND	100	100	100	3.92	

Sulfate 375.4 mg/L Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**53.8**	10.0	06/17/2020	ND	20.3	102	20.0	9.52	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**793**	5.00	06/22/2020	ND	480	96.0	500	1.32	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/16/2020	Sampling Date:	06/15/2020
Reported:	06/23/2020	Sampling Type:	Water
Project Name:	VACUUM L-26 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Kelly Jacobson
Project Location:	T17S-R35E-SEC26 L-LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H001597-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**216**	4.00	06/18/2020	ND	100	100	100	3.92	

Sulfate 375.4 mg/L Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**78.4**	25.0	06/17/2020	ND	20.3	102	20.0	9.52	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**1010**	5.00	06/22/2020	ND	480	96.0	500	1.32	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

Company Name: RICE Operating Company	BILL TO Company: RICE Operating Company PO#
Project Manager: Katie Jones	Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240
Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240	Phone#: (575) 393-9174 Fax#: (575)397-1471
Phone #: (575) 393-9174	Fax #: (575) 397-1471
Project #:	Project Name: Vacuum L-26 Vent
Project Location: T17S-R35E-Sec26 L ~ Lea County New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY) H001597	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL (2 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2020)	TIME	MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005 / TX1005 Extended (C35)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Moisture Content	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	Sulfates	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours
1	Monitor Well #1R	G	1	X								1		6/15	13:50																		X	X	X	
2	Monitor Well #2	G	1	X								1		6/15	9:30																		X	X	X	
3	Monitor Well #3	G	1	X								1		6/15	11:05																		X	X	X	

Relinquished by: Rozanne Johnson	Date: 6/16/2020	Time: 15:45	Received by:
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition: Cool: Yes / No; Intact: Yes / No	CHECKED BY: (Initials)	

Received by: 6-1620 1545

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

REMARKS:

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

CARDINAL Laboratories

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

September 18, 2020

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: VACUUM L-26 VENT

Enclosed are the results of analyses for samples received by the laboratory on 09/15/20 16:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	09/15/2020	Sampling Date:	09/10/2020
Reported:	09/18/2020	Sampling Type:	Water
Project Name:	VACUUM L-26 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC26 L-LEA CTY., NM		

Sample ID: MONITOR WELL #1R (H002444-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**120**	4.00	09/16/2020	ND	96.0	96.0	100	4.08	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**52.8**	10.0	09/16/2020	ND	20.9	104	20.0	10.1	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**730**	5.00	09/18/2020	5.00	830	83.0	1000	1.14	

Sample ID: MONITOR WELL #2 (H002444-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**24.0**	4.00	09/16/2020	ND	96.0	96.0	100	4.08	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**43.4**	10.0	09/16/2020	ND	20.9	104	20.0	10.1	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**686**	5.00	09/18/2020	5.00	830	83.0	1000	1.14	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	09/15/2020	Sampling Date:	09/10/2020
Reported:	09/18/2020	Sampling Type:	Water
Project Name:	VACUUM L-26 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC26 L-LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H002444-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**288**	4.00	09/16/2020	ND	96.0	96.0	100	4.08	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**57.4**	10.0	09/16/2020	ND	20.9	104	20.0	10.1	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**1040**	5.00	09/18/2020	5.00	830	83.0	1000	1.14	

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

Company Name: RICE Operating Company	BILL TO Company: RICE Operating Company PO#
Project Manager: Katie Jones	Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240
Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240	Phone#: (575) 393-9174 Fax#: (575)397-1471
Phone #: (575) 393-9174	Fax #: (575) 397-1471
Project #:	Project Name: Vacuum L-26 Vent
Project Location: T17S-R35E-Sec26 L ~ Lea County New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

H002444 LAB # (LAB USE ONLY)

	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL (4 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2020)	TIME
1	Monitor Well #1R	G	1	X								1		9/10	14:10
2	Monitor Well #2	G	1	X								1		9/10	10:05
3	Monitor Well #3	G	1	X								1		9/10	11:45

ANALYSIS REQUEST
(Circle or Specify Method No.)

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

Relinquished by: Rozanne Johnson	Date: 9/15/2020	Time: 16:10	Received by: Tamara Oldaker
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)

Date: 9-15-20 Time: 1610

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

REMARKS:

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

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

Sample Condition: Cool: Yes / Intact: Yes

CHECKED BY: (Initials) T.O.

CARDINAL Laboratories

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

November 16, 2020

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: VACUUM L-26 VENT

Enclosed are the results of analyses for samples received by the laboratory on 11/10/20 15:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	11/10/2020	Sampling Date:	11/05/2020
Reported:	11/16/2020	Sampling Type:	Water
Project Name:	VACUUM L-26 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC26 L-LEA CTY., NM		

Sample ID: MONITOR WELL #1R (H002981-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**252**	4.00	11/11/2020	ND	100	100	100	0.00	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**69.0**	10.0	11/11/2020	ND	22.8	114	20.0	2.97	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**972**	5.00	11/13/2020	ND	553	111	500	4.83	

Sample ID: MONITOR WELL #2 (H002981-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**32.0**	4.00	11/11/2020	ND	100	100	100	0.00	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**68.1**	10.0	11/11/2020	ND	22.8	114	20.0	2.97	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**560**	5.00	11/13/2020	ND	553	111	500	4.83	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	11/10/2020	Sampling Date:	11/05/2020
Reported:	11/16/2020	Sampling Type:	Water
Project Name:	VACUUM L-26 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC26 L-LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H002981-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**276**	4.00	11/11/2020	ND	100	100	100	0.00	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**61.6**	10.0	11/11/2020	ND	22.8	114	20.0	2.97	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**995**	5.00	11/12/2020	ND	490	98.0	500	2.24	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

Company Name: RICE Operating Company	BILL TO Company: RICE Operating Company PO#
Project Manager: Katie Jones	Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240
Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240	Phone#: (575) 393-9174 Fax#: (575)397-1471
Phone #: (575) 393-9174	Fax #: (575) 397-1471
Project #:	Project Name: Vacuum L-26 Vent
Project Location: T17S-R35E-Sec26 L ~ Lea County New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

H002981

LAB # (LAB USE ONLY)	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL (4 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2020)	TIME
1	Monitor Well #1R	G	1	X								1		11/5	14:20
2	Monitor Well #2	G	1	X								1		11/5	9:55
3	Monitor Well #3	G	1	X								1		11/5	11:40

ANALYSIS REQUEST

(Circle or Specify Method No.)

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

Relinquished by: Rozanne Johnson Date: 11/10/20 Time: 15:10

Received by: Tamara Oldaker Date: 11/10/20 Time: 1510

Relinquished by: Date: Time:

Received By: (Laboratory Staff) Date: Time:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

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

CHECKED BY: (Initials) JO

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

REMARKS:

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

COMMENTS

Action 24249

COMMENTS

Operator:			OGRID:	Action Number:	Action Type:
RICE OPERATING COMPANY	122 W Taylor	Hobbs, NM88240	19174	24249	GROUND WATER ABATEMENT

Created By	Comment	Comment Date
bbillings	Trends continue in good direction. Initiate closure ideas following next year report.	04/19/2021

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 24249

CONDITIONS OF APPROVAL

Operator:	OGRID:	Action Number:	Action Type:
RICE OPERATING COMPANY 122 W Taylor Hobbs, NM88240	19174	24249	GROUND WATER ABATEMENT

OCD Reviewer	Condition
bbillings	Continue as outlined in most recent report, begin considering options leading to closure for discussion next year.