REVIEWED
By Nelson Velez at 3:18 pm, May 23, 2023

L Peter Galusky, Jr PE

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

Review of 2022 Annual Groundwater Report: **Content satisfactory**

1. Continue sampling MW #1 for chloride and total dissolved solids until eight (8) consecutive quarters below the allowable concentrations are achieved.
2. Terminate sampling from MW #2, MW #3, and MW #4 for all constituents of concern.
3. Continue sampling RW #1 for chloride until eight (8) consecutive quarters below the allowable concentrations are achieved.
3. Submit next annual report upon meeting the conditions above or no later than April 1, 2024.

March 31, 2023

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

RE: **2022 Annual Report**
Rice Operating Company
Vacuum K-35-1 Boot, UL K, Sec 35, T17S, R35E
OCD Case Number 1R425-03

Sent by E-mail

Mr. Velez:

This letter summarizes remediation history and progress made for this project over the past calendar year. Location and site schematic maps are given in the Appendix (Figures 1 and 2, respectively). Groundwater data are summarized in Figure 3 and Table 1 of the Appendix. The complete groundwater dataset for this site is given in Table 2 of the Appendix.

OCD granted termination of soil remediation requirements (soil closure) on October 13th, 2011, allowing for the cessation of groundwater withdrawals and stipulating that groundwater monitoring must continue semi-annually at wells MW-2, MW-3 and MW-4.

A Groundwater Recovery Notification was submitted to the NMOCD on September 4th, 2013 and NMOCD approved the notification on September 5th, 2013. Groundwater recovery began from RW-1 on September 13th, 2013. According to the NMOCD approved Groundwater Recovery Notification, ROC began sampling all the wells (MW-1, MW-2, MW-3, MW-4, and RW-1) on a semi-annual (twice a year) basis in 2013, and a quarterly basis in 2014. In 2020, NMOCD granted approval to temporarily cease groundwater recovery and reduce the sampling interval to semi-annual. ROC subsequently resumed groundwater recovery and quarterly sampling in 2021.

A summary of results for our work in 2022 is given below.

- Approximately 36,862 barrels of chloride-affected groundwater have been withdrawn from a near-source recovery well (RW-1) from 2008 through 2022 resulting in the removal of an estimated 2,448 kg of chlorides. Recovered groundwater has been used for a beneficial use.

- The average annual groundwater chloride concentration in the near/at-source monitor well, MW-4, dropped significantly from 122 mg/l in 2021 to 60 mg/l in 2022.

- The average annual groundwater chloride concentration in the down-gradient monitor well, MW-2 was essentially unchanged, measuring 58 mg/l in 2021 vs 59 mg/l in 2022.

- The average annual groundwater chloride concentration in the down-gradient recovery well, RW-1, dropped from 189 mg/l in 2021 to 159 mg/l in 2022.

- The average annual groundwater chloride concentration in the up-gradient monitor well (MW-3) dropped from 145 mg/l in 2021 to 83 mg/l in 2022.

ROC will continue quarterly groundwater sampling and groundwater recovery during 2023, reporting to NMOCD the results by April of next year. At that point we will propose a path forward to include a recommendation as to whether groundwater withdrawals should continue or whether the pumping objectives have been essentially met. Six quarters of chloride, TDS, and sulfate concentrations being below WQCC standard have been observed.

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

Please do not hesitate to contact either myself or Rice Operating Company if you have any questions or need additional information.

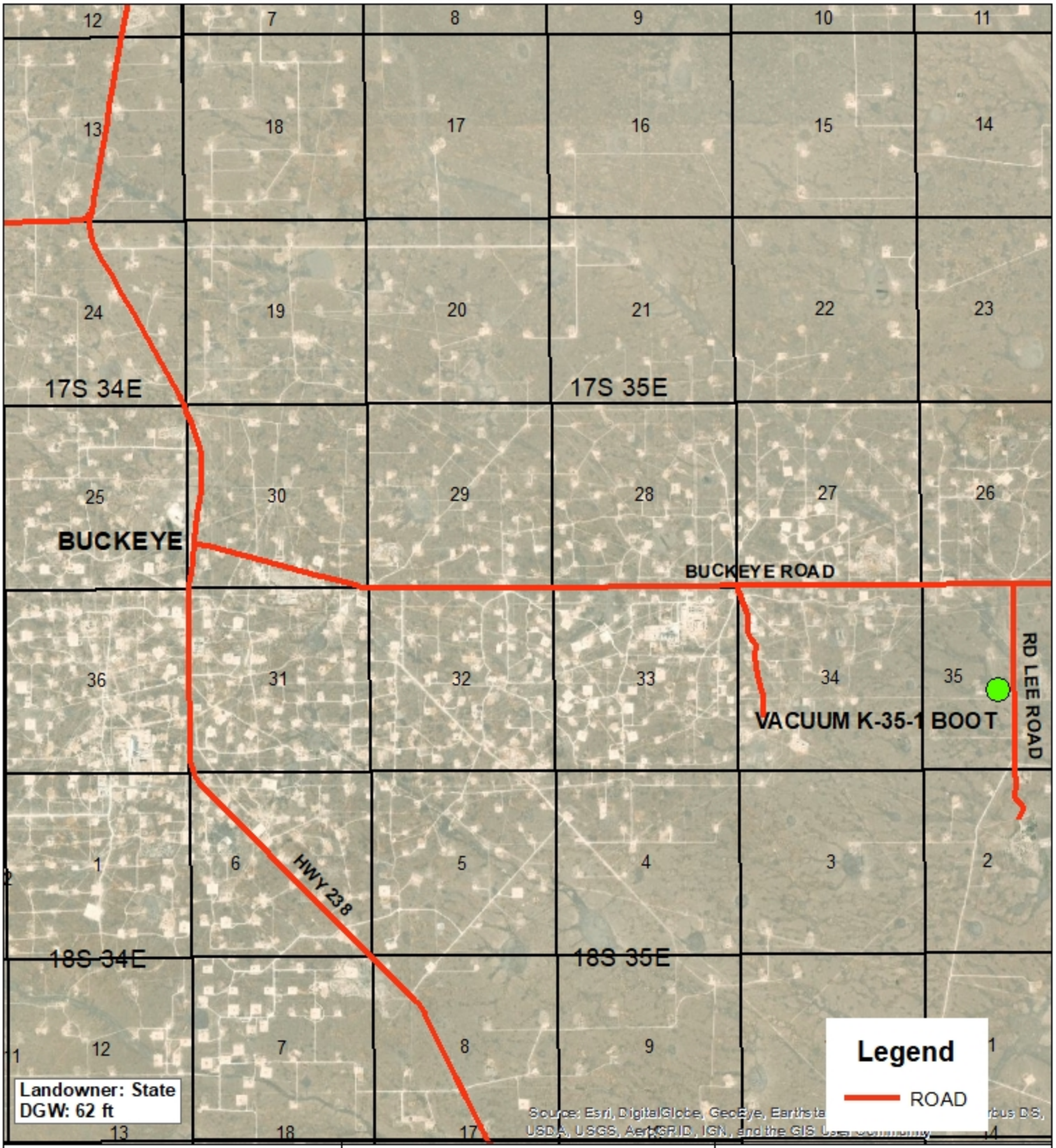
Sincerely,

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

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

Geographic Location

Figure 1



RICE OPERATING COMPANY
ROC
SINCE 1955

VACUUM K-35-1 JCT BOOT

1R425-03

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

GPS: 32.790071 -103.429898
NAD83 STATE PLANE PROJ
NM EAST ZONE

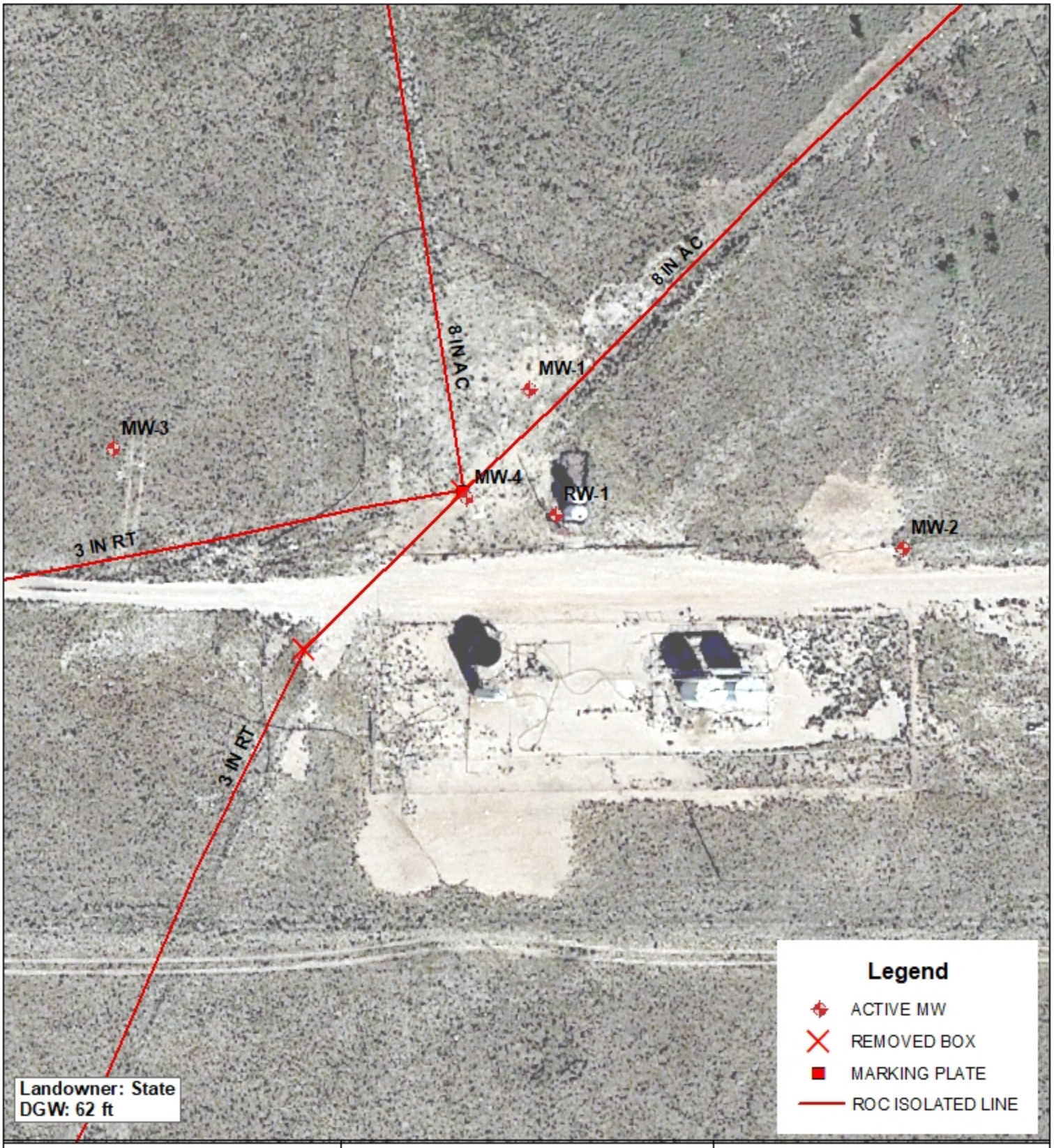
0 0.5 1 Miles

N
W E
S

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

Site Map

Figure 2



RICE OPERATING COMPANY
ROC
SINCE 1955

VACUUM
K-35-1 JCT BOOT

1R425-03

UL K SECTION 35
T-17-S R-35-E
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NAD83 STATE PLANE PROJ
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0 50 100
Feet

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W E
S

Drawing date: 2/5/20
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Figure 3

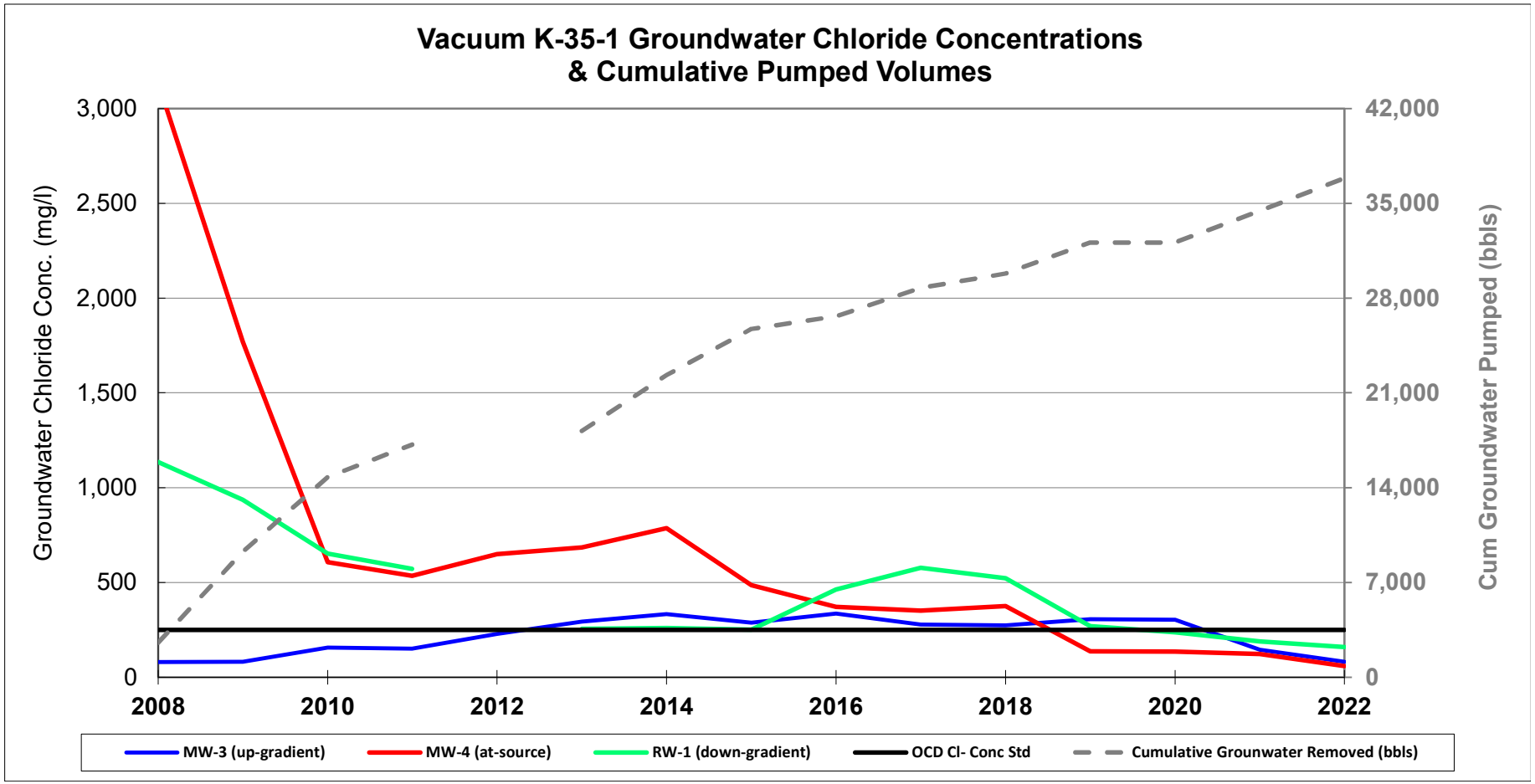
Vacuum K-35-1 Groundwater Chloride Concentrations
& Cumulative Pumped Volumes
Groundwater Chloride Conc. (mg/l)
Cum Groundwater Pumped (bbls)
3,000
2,500
2,000
1,500
1,000
500
0
42,000
35,000
28,000
21,000
14,000
7,000
0
2008
2010
2012
2014
2016
2018
2020
2022
MW-3 (up-gradient)
MW-4 (at-source)
RW-1 (down-gradient)
OCD Cl- Conc Std
Cumulative Grounwater Removed (bbls)

Table 1

Vacuum K-35-1 Groundwater Data

Average Annual Groundwater Chloride Concentrations (mg/l)
and Cumulative Groundwater Volume (bbls) **and Chloride Mass Removed** (kg)

year	MW-1 (downgradient well)	MW-2 (down-gradient well)	MW-3 (up-gradient)	MW-4 (at-source)	RW-1 (down-gradient)	OCD Cl- Conc Std	Cumulative Grounwater Removed (bbls)	Cumulative Groundwater Chloride Mass Removed (kg)
2006	684	26	153			250		
2007	1,138	27	138	5,988		250		
2008	1,330	43	81	3,135	1,135	250	2,551	467
2009	1,210	28	83	1,770	935	250	9,286	1,262
2010	795	32	157	608	653	250	14,779	1,651
2011	662	34	152	535	572	250	17,185	1,834
2012		36	228	650		250		
2013	1,040	36	294	685	256	250	18,185	1,884
2014	733	36	333	788	260	250	22,320	2,058
2015	423	44	288	486	251	250	25,720	2,196
2016	630	46	337	372	463	250	26,660	2,238
2017	968	54	279	352	577	250	28,750	2,297
2018	1,305	39	274	376	523	250	29,820	2,317
2019	748	50	307	137	269	250	32,110	2,359
2020	358	40	304	136	238	250	32,110	
2021	314	58	145	122	189	250	34,445	2,405
2022	182	59	83	60	159	250	36,862	2,448

Table 2

ROC - Vacuum K-35-1 boot (1R425-03)
Unit Letter K, Section 35, T17S, R35E

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
1	55.06	66.95	1.9	10	6/28/2006	508		1,101	<0.002	<0.002	<0.002	<0.006	54.3	
1	55.15	66.95	1.9	10	10/19/2006	859	684	1,650	<0.001	<0.001	<0.001	<0.001	59.3	Silt to clear with no odor. Field conductivity results have increased since last sampling
1	55.4	66.85	1.8	8	2/21/2007	1,080		2,160	<0.001	<0.001	<0.001	<0.001	77.9	Silt to clear No odor
1	55.51	66.85	1.8	8	5/22/2007	923		2,330	<0.001	<0.001	<0.001	<0.001	79.8	Silt to clear No odor
1	55.74	66.85	1.8	8	8/7/2007	1,150		2,980	<0.001	<0.001	<0.001	<0.002	57.8	Silt to clear No odor
1	55.75	66.85	1.8	8	10/16/2007	1,400	1,138	2,634	<0.001	<0.001	<0.001	<0.001	70	Silt to clear No odor
1	55.92	66.8	1.7	8	1/30/2008	1,300		2,540	<0.001	<0.001	<0.001	<0.003	69.8	Silt to clear No odor
1	55.91	66.8	1.7	8	4/30/2008	1,440		2,800	<0.002	<0.002	<0.002	<0.006	78.6	Silt to clear No odor
1	56.21	66.8	1.7	8	7/30/2008	1,360		2,680	<0.001	<0.001	<0.001	<0.003	39	Silt to clear No odor
1	56.36	66.8	1.7	8	11/10/2008	1,220	1,330	2,400	<0.001	<0.001	<0.001	<0.003	74.8	Silt to clear No odor
1	55.92	66.85	1.7	8	1/30/2009	1,280		2,580	<0.001	<0.001	<0.001	<0.003	74	Silt to clear No odor
1	56.44	67.18	1.7	8	5/1/2009	1,420		2,170	<0.001	<0.001	<0.001	<0.003	68.8	Silt to clear No odor
1	56.61	67.18	1.7	6	8/4/2009	940		2,250	<0.001	<0.001	<0.001	<0.003	70.1	Silt to clear No odor
1	56.84	67.18	1.7	6	10/20/2009	1,200	1,210	2,520	<0.001	<0.001	<0.001	<0.003	70.1	Silt to clear No odor
1	56.92	67.09	1.6	6	1/27/2010	1,180		2,430	<0.001	<0.001	<0.001	<0.003	77.8	Silt to clear No odor
1	56.95	67.09	1.6	6	4/28/2010	460		1,050	<0.001	<0.001	<0.001	<0.003	64.1	Silt to clear No odor
1	57.13	67.09	1.6	6	7/29/2010	980		1,840	<0.001	<0.001	<0.001	<0.003	73.9	Silt to clear No odor
1	57.28	67.09	1.6	6	10/26/2010	560	795	1,330	<0.001	<0.001	<0.001	<0.003	81.2	Silt to clear No odor
1	57.24	67.12	1.6	6	2/16/2011	800		1,750	<0.001	<0.001	<0.001	<0.003	68	Silt to clear No odor
1	57.15	67.12	1.6	6	6/1/2011	396		965	<0.001	<0.001	<0.001	<0.003	69.4	Silt to clear No odor
1	57.21	67.12	1.6	6	8/30/2011	352		888	<0.001	<0.001	<0.001	<0.003	75.7	Silt to clear No odor
1	57.19	67.12	1.6	6	12/1/2011	1,100	662	2,310	<0.001	<0.001	<0.001	<0.003	76.3	Silt to clear No odor
1	57.89	67.12	1.5	6	11/15/2013	1,040	1,040	2,250	XXX	XXX	XXX	XXX	69.4	Silt to clear No odor
1	57.98	67.12	1.5	6	3/4/2014	920		2,030	XXX	XXX	XXX	XXX	79.9	Silt to clear No odor
1	58.08	67.12	1.4	6	6/3/2014	800		1,720	XXX	XXX	XXX	XXX	55.2	Silt to clear No odor
1	58.16	67.12	1.4	6	8/28/2014	750		1,840	XXX	XXX	XXX	XXX	73.3	Silt to clear No odor
1	57.75	67.12	1.5	6	11/21/2014	460	733	1,070	XXX	XXX	XXX	XXX	43.3	Silt to clear No odor
1	57.67	67.12	1.5	6	3/3/2015	499		1,230	XXX	XXX	XXX	XXX	74.6	Silt to clear No odor
1	58.21	67.12	1.4	6	6/3/2015	470		1,250	XXX	XXX	XXX	XXX	75.6	Silt to clear No odor
1	58.43	67.12	1.4	6	8/22/2015	292		1,090	XXX	XXX	XXX	XXX	42.6	Silt to clear No odor
1	58.54	67.12	1.37	6	11/8/2015	432	423	1,210	XXX	XXX	XXX	XXX	76.3	Silt to clear No odor
1	58.53	67.12	1.4	6	2/26/2016	830		1,660	XXX	XXX	XXX	XXX	74	Silt to clear No odor
1	58.58	67.12	1.4	6	5/21/2016	740		2,040	XXX	XXX	XXX	XXX	68	Silt to clear No odor
1	58.51	67.12	1.4	6	9/10/2016	520		1,560	XXX	XXX	XXX	XXX	71	Silt to clear No odor
1	58.74	67.12	1.3	6	11/10/2016	430	630	1,030	XXX	XXX	XXX	XXX	73	Silt to clear No odor

Table 2

1	58.77	67.12	1.3	6	2/22/2017	850		1,840	XXX	XXX	XXX	XXX	79	Silt to clear No odor
1	58.77	67.12	1.3	6	5/25/2017	960		2,490	XXX	XXX	XXX	XXX	76	Silt to clear No odor
1	58.86	67.12	1.3	6	9/16/2017	1,040		2,330	XXX	XXX	XXX	XXX	76	Silt to clear No odor
1	58.91	67.12	1.3	6	12/2/2017	1,020	968	2,240	XXX	XXX	XXX	XXX	77	Silt to clear No odor
1	58.94	67.12	1.3	6	2/28/2018	1,300		2,310	XXX	XXX	XXX	XXX	77.8	Silt to clear No odor
1	59.05	67.12	1.3	6	5/15/2018	1,300		2,670	XXX	XXX	XXX	XXX	94	Silt to clear No odor
1	59.28	67.12	1.3	6	9/8/2018	1,120		2,640	XXX	XXX	XXX	XXX	77.5	Silt to clear No odor
1	59.58	67.12	1.2	6	11/13/2018	1,500	1,305	2,340	XXX	XXX	XXX	XXX	73	Silt to clear No odor
1	59.95	67.12	1.1	6	3/6/2019	870		1,840	XXX	XXX	XXX	XXX	72	Silt to clear No odor
1	59.93	67.12	1.2	6	5/29/2019	900		2,270	XXX	XXX	XXX	XXX	69	Silt to clear No odor
1	60.28	67.12	1.1	6	9/6/2019	640		1,660	XXX	XXX	XXX	XXX	73	Silt to clear No odor
1	60.26	67.12	1.1	6	11/16/2019	580	748	1,230	XXX	XXX	XXX	XXX	66	Silt to clear No odor
1	60.28	67.12	1.1	6	3/7/2020	328		824	XXX	XXX	XXX	XXX	71.8	Silt to clear No odor
1	60.43	67.12	1.1	6	9/12/2020	388	358	982	XXX	XXX	XXX	XXX	57.8	Silt to clear No odor
1	61.12	67.12	1	6	3/13/2021	352		909	XXX	XXX	XXX	XXX	61.4	Silt to clear No odor
1	61.65	67.12	0.9	6	6/19/2021	660		1,430	XXX	XXX	XXX	XXX	75.8	Silt to clear No odor
1	62.12	67.12	0.8	6	9/11/2021	88		474	XXX	XXX	XXX	XXX	72	Silt to clear No odor
1	62.12	67.12	0.8	6	11/15/2021	156	314	523	XXX	XXX	XXX	XXX	77.5	Silt to clear No odor
1	61.74	67.12	0.9	6	3/11/2022	192		570	XXX	XXX	XXX	XXX	56.2	Silt to clear No odor
1	61.63	67.12	0.9	6	6/8/2022	168		542	XXX	XXX	XXX	XXX	64.2	Silt to clear No odor
1	61.76	67.12	0.9	6	9/12/2022	156		535	XXX	XXX	XXX	XXX	63.2	Silt to clear No odor
1	62.24	67.12	0.8	6	12/5/2022	212	182	632	XXX	XXX	XXX	XXX	31	Silt to clear No odor

Table 2

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
2	54.51	65.2	1.7	10	10/19/2006	26	26	354	<0.001	<0.001	<0.001	<0.001	61.9	Clear some sand with no odor
2	54.75	65.45	1.7	8	2/21/2007	29		348	<0.001	<0.001	<0.001	<0.001	59.2	clear some sand with no odor
2	54.86	65.45	1.7	8	5/22/2007	25		376	<0.001	<0.001	<0.001	<0.001	47.9	clear some sand with no odor
2	55.12	65.45	1.7	8	8/7/2007	27		354	<0.001	<0.001	<0.001	<0.002	54.2	Clear Some Sand No Odor
2	XXX	XXX	XXX	8	10/16/2007	28	27	382	<0.001	<0.001	<0.001	<0.003	59.4	RISER AND PAD DISPLACED DEPTH READINGS NOT ACCURATE Clear some sand No odor
2	XXX	XXX	XXX	8	1/30/2008	80		418	<0.001	<0.001	<0.001	<0.003	72.9	Clear some sand No odor Well casing has been displaced
2	56.1	65.45	1.5	8	4/30/2008	32		417	<0.002	<0.002	<0.002	<0.006	64.7	Clear some sand No odor Well casing is displaced
2	56.34	65.45	1.5	8	7/30/2008	32		336	<0.001	<0.001	<0.001	<0.003	67	Clear some sand No odor
2	56.59	64.45	1.4	8	11/10/2008	28	43	397	<0.001	<0.001	<0.001	<0.003	69.4	Clear some sand No odor
2	56.58	65.39	1.4	8	1/30/2009	28		379	<0.001	<0.001	<0.001	<0.003	60	Clear some sand No odor
2	56.57	65.61	1.4	8	5/1/2009	28		299	<0.001	<0.001	<0.001	<0.003	60.5	Clear some sand No odor
2	56.84	65.61	1.4	6	8/4/2009	28		411	<0.001	<0.001	<0.001	<0.003	58.6	Clear some sand No odor
2	56.99	65.61	1.4	6	10/20/2009	28	28	406	<0.001	<0.001	<0.001	<0.003	58.6	Clear some sand No odor
2	57.1	65.6	1.4	6	1/27/2010	32		372	<0.001	<0.001	<0.001	<0.003	74.1	Clear some sand No odor
2	57.13	65.6	1.4	6	4/28/2010	32		396	<0.001	<0.001	<0.001	<0.003	75.8	Clear pumping some sand No odor
2	57.22	65.6	1.3	6	7/29/2010	32		423	<0.001	<0.001	<0.001	<0.003	64.2	Clear some sand No odor
2	57.36	65.6	1.3	6	10/26/2010	32	32	386	<0.001	<0.001	<0.001	<0.003	69.1	Clear some sand No odor
2	57.44	65.85	1.3	6	2/16/2011	32		407	<0.001	<0.001	<0.001	<0.003	57	Clear some sand No odor
2	57.38	65.85	1.4	6	6/1/2011	32		383	<0.001	<0.001	<0.001	<0.003	61.6	Clear some sand No odor
2	57.41	65.85	1.4	6	8/30/2011	32		362	<0.001	<0.001	<0.001	<0.003	59.2	Clear some sand No odor
2	57.51	65.85	1.3	6	12/1/2011	40	34	391	<0.001	<0.001	<0.001	<0.003	70.3	Clear some sand No odor
2	57.74	65.85	1.3	6	5/29/2012	36		434	XXX	XXX	XXX	XXX	65.7	Clear some sand No odor
2	57.92	65.85	1.3	6	11/15/2012	36	36	389	XXX	XXX	XXX	XXX	60.5	Clear some sand No odor
2	57.9	65.85	1.3	6	5/28/2013	36		424	XXX	XXX	XXX	XXX	66.1	Clear some sand No odor
2	58.09	65.85	1.2	6	11/15/2013	36	36	408	XXX	XXX	XXX	XXX	62.2	Clear some sand No odor
2	58.19	65.85	1.2	6	3/4/2014	32		520	XXX	XXX	XXX	XXX	36.6	Clear some sand No odor
2	58.26	65.85	1.2	6	6/3/2014	36		280	XXX	XXX	XXX	XXX	53.2	Clear some sand No odor
2	58.34	65.85	1.2	6	8/28/2014	44		432	XXX	XXX	XXX	XXX	56.1	Clear some sand No odor
2	57.95	65.85	1.3	6	11/21/2014	32	36	346	XXX	XXX	XXX	XXX	47.8	Clear some sand No odor
2	57.9	65.85	1.3	6	3/3/2015	40		372	XXX	XXX	XXX	XXX	45.4	Clear some sand No odor
2	58.28	65.85	1.2	6	6/3/2015	60		450	XXX	XXX	XXX	XXX	29.8	Clear some sand No odor
2	58.59	65.85	1.2	6	8/22/2015	36		436	XXX	XXX	XXX	XXX	41.2	Clear some sand No odor
2	58.66	65.85	1.15	6	11/8/2015	40	44	436	XXX	XXX	XXX	XXX	57.1	Clear some sand No odor
2	58.75	65.85	1.1	6	2/26/2016	48		450	XXX	XXX	XXX	XXX	60.6	Clear some sand No odor
2	58.79	65.85	1.4	6	5/21/2016	32		354	XXX	XXX	XXX	XXX	56.6	Clear some sand No odor

Table 2

2	58.78	65.85	1.4	6	9/10/2016	36		420	XXX	XXX	XXX	XXX	50	Clear some sand No odor
2	58.95	65.85	1.1	6	11/10/2016	68	46	444	XXX	XXX	XXX	XXX	32	Clear some sand No odor
2	58.98	65.85	1.1	6	2/22/2017	40		414	XXX	XXX	XXX	XXX	59	Clear some sand No odor
2	58.97	65.85	1.1	6	5/25/2017	84		586	XXX	XXX	XXX	XXX	53	Clear some sand No odor
2	59.1	65.85	1.1	6	9/16/2017	60		458	XXX	XXX	XXX	XXX	75	Clear some sand No odor
2	59.14	65.85	1.1	6	12/2/2017	32	54	390	XXX	XXX	XXX	XXX	59	Clear some sand No odor
2	59.2	65.85	1.1	6	2/28/2018	44		228	XXX	XXX	XXX	XXX	62.5	Clear some sand No odor
2	59.3	65.85	1	6	5/15/2018	36		208	XXX	XXX	XXX	XXX	68.4	Clear some sand No odor
2	59.45	65.85	1	6	9/8/2018	36		376	XXX	XXX	XXX	XXX	63.2	Clear some sand No odor
2	59.72	65.85	1	6	11/13/2018	40	39	258	XXX	XXX	XXX	XXX	57.6	Clear some sand No odor
2	60.1	65.85	0.9	6	3/6/2019	44		436	XXX	XXX	XXX	XXX	62	Clear some sand No odor
2	60.11	65.85	0.9	6	5/29/2019	32		453	XXX	XXX	XXX	XXX	63	Clear some sand No odor
2	60.31	65.85	0.9	6	9/6/2019	48		504	XXX	XXX	XXX	XXX	53	Clear some sand No odor
2	60.44	65.85	0.9	6	11/16/2019	76	50	485	XXX	XXX	XXX	XXX	71	Clear some sand No odor
2	60.42	65.85	0.9	6	3/7/2020	40		422	XXX	XXX	XXX	XXX	57.1	Clear some sand No odor
2	60.6	65.85	0.8	6	9/12/2020	40	40	414	XXX	XXX	XXX	XXX	49.7	Clear some sand No odor
2	61.2	65.85	0.7	6	3/13/2021	76		431	XXX	XXX	XXX	XXX	62.1	Clear some sand No odor
2	61.69	65.85	0.7	6	6/19/2021	56		416	XXX	XXX	XXX	XXX	51.4	Clear some sand No odor
2	62.06	65.85	0.6	6	9/11/2021	52		467	XXX	XXX	XXX	XXX	50.8	Clear some sand No odor
2	62.06	65.85	0.6	6	11/15/2021	48	58	382	XXX	XXX	XXX	XXX	84.5	Clear some sand No odor
2	61.79	65.85	0.6	6	3/11/2022	56		384	XXX	XXX	XXX	XXX	68.2	Clear some sand No odor
2	61.76	65.85	0.7	6	6/8/2022	52		436	XXX	XXX	XXX	XXX	71.4	Clear some sand No odor
2	61.81	65.85	0.6	6	9/12/2022	60		408	XXX	XXX	XXX	XXX	49.5	Clear some sand No odor
2	62.3	65.85	0.6	6	12/5/2022	68	59	431	XXX	XXX	XXX	XXX	66.7	Clear some sand No odor

Table 2

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	57.05	67.6	1.7	10	6/28/2006	140		540	<0.002	<0.002	<0.002	<0.002	117	
3	57.12	67.6	1.7	10	10/19/2006	165	153	570	<0.001	<0.001	<0.001	<0.001	75.8	Clear some sand No odor
3	57.35	66.72	1.5	8	2/21/2007	178		550	<0.001	<0.001	<0.001	<0.001	82	Clear some sand No odor
3	57.46	66.72	1.5	8	5/22/2007	128		530	<0.001	<0.001	<0.001	<0.001	61.4	Clear some sand No odor
3	57.75	66.72	1.4	8	8/7/2007	134		536	<0.001	<0.001	<0.001	<0.001	69	Clear some sand No odor
3	57.76	66.72	1.4	8	10/16/2007	112	138	537	<0.001	<0.001	<0.001	<0.003	83.1	Clear some sand No odor
3	57.92	66.75	1.4	8	1/30/2008	88		510	<0.001	<0.001	<0.001	<0.003	79.2	Some sand to clear No odor
3	57.88	66.75	1.4	8	4/30/2008	84		543	<0.002	<0.002	<0.002	<0.006	88.4	Clear some sand No odor
3	58.17	66.75	1.4	8	7/30/2008	76		418	<0.001	<0.001	<0.001	<0.003	77	Clear some sand No odor
3	58.4	66.75	1.3	8	11/10/2008	76	81	448	<0.001	<0.001	<0.001	<0.003	81.4	Clear some sand No odor
3	58.46	66.42	1.3	8	1/30/2009	76		442	<0.001	<0.001	<0.001	<0.003	68.7	Clear some sand No odor
3	58.45	66.42	1.3	8	5/1/2009	84		477	<0.001	<0.001	<0.001	<0.003	64	Clear some sand No odor
3	58.6	66.42	1.3	8	8/4/2009	72		424	<0.001	<0.001	<0.001	<0.003	63.8	Clear some sand No odor
3	58.88	66.42	1.2	8	10/20/2009	100	83	466	<0.001	<0.001	<0.001	<0.003	59.5	Clear some sand No odor
3	58.93	66.41	1.2	8	4/28/2010	152		534	<0.001	<0.001	<0.001	<0.003	74.7	Clear some sand No odor
3	58.92	66.41	1.2	8	3/27/2010	128		469	<0.001	<0.001	<0.001	<0.003	68	Clear some sand No odor
3	59.18	66.41	1.2	8	7/29/2010	184		608	<0.001	<0.001	<0.001	<0.003	84.5	Clear some sand No odor
3	59.35	66.41	1.1	8	10/26/2010	164	157	621	<0.001	<0.001	<0.001	<0.003	95.4	Clear some sand No odor
3	59.24	66.83	1.2	8	2/16/2011	128		522	<0.001	<0.001	<0.001	<0.003	63.7	Clear some sand No odor
3	59.12	66.83	1.2	8	6/1/2011	148		539	<0.001	<0.001	<0.001	<0.003	91.1	Clear some sand No odor
3	59.19	66.83	1.2	8	8/30/2011	156		560	<0.001	<0.001	<0.001	<0.003	91.7	Clear some sand No odor
3	59.2	66.83	1.2	8	12/1/2011	176	152	595	<0.001	<0.001	<0.001	<0.003	92.4	Clear some sand No odor
3	59.55	66.83	1.2	8	5/29/2012	204		676	XXX	XXX	XXX	XXX	71.9	Clear some sand No odor
3	59.63	66.83	1.2	8	11/15/2012	252	228	742	XXX	XXX	XXX	XXX	91.2	Clear some sand No odor
3	59.68	66.83	1.1	8	5/28/2013	280		823	XXX	XXX	XXX	XXX	81.7	Clear some sand No odor
3	59.82	66.83	1.1	8	11/15/2013	308	294	856	XXX	XXX	XXX	XXX	74	Clear some sand No odor
3	59.98	66.83	1.1	8	3/4/2014	312		790	XXX	XXX	XXX	XXX	96	Clear some sand No odor
3	60.07	66.83	1.1	8	6/3/2014	356		910	XXX	XXX	XXX	XXX	96.6	Clear some sand No odor
3	60.08	66.83	1.1	8	8/28/2014	328		926	XXX	XXX	XXX	XXX	84	Clear some sand No odor
3	59.74	66.83	1.1	8	11/21/2014	336	333	764	XXX	XXX	XXX	XXX	74.4	Clear some sand No odor
3	59.67	66.83	1.1	8	3/3/2015	304		848	XXX	XXX	XXX	XXX	89	Clear some sand No odor
3	60.2	66.83	1.1	8	6/3/2015	244		1,040	XXX	XXX	XXX	XXX	42.5	Clear some sand No odor
3	60.44	66.83	1	8	8/22/2015	284		964	XXX	XXX	XXX	XXX	41.8	Clear some sand No odor
3	60.62	66.83	0.99	8	11/8/2015	320	288	1,090	XXX	XXX	XXX	XXX	48.1	Clear some sand No odor
3	60.58	66.83	1	8	2/26/2016	430		1,110	XXX	XXX	XXX	XXX	76	Clear some sand No odor
3	60.62	66.83	1	8	5/21/2016	284		1,110	XXX	XXX	XXX	XXX	30.4	Clear some sand No odor
3	60.64	66.83	1	8	9/10/2016	332		964	XXX	XXX	XXX	XXX	64	Clear some sand No odor
3	60.78	66.83	1	8	11/10/2016	300	337	852	XXX	XXX	XXX	XXX	93	Clear some sand No odor
3	60.74	66.83	1	8	2/22/2017	280		1,110	XXX	XXX	XXX	XXX	71	Clear some sand No odor

Table 2

3	60.75	66.83	1	8	5/25/2017	296		886	XXX	XXX	XXX	XXX	84	Clear some sand No odor
3	60.85	66.83	1	8	9/16/2017	320		898	XXX	XXX	XXX	XXX	99	Clear some sand No odor
3	60.89	66.83	1	8	12/2/2017	220	279	926	XXX	XXX	XXX	XXX	56	Clear some sand No odor
3	60.92	66.83	0.9	8	2/28/2018	328		700	XXX	XXX	XXX	XXX	123	Clear some sand No odor
3	61.03	66.83	0.9	8	5/15/2018	180		468	XXX	XXX	XXX	XXX	56.2	Clear some sand No odor
3	61.23	66.83	0.9	8	9/8/2018	288		816	XXX	XXX	XXX	XXX	118	Clear some sand No odor
3	61.64	66.83	0.8	8	11/13/2018	300	274	697	XXX	XXX	XXX	XXX	126	Clear some sand No odor
3	62.02	66.83	0.8	6	3/6/2019	324		906	XXX	XXX	XXX	XXX	115	Clear some sand No odor
3	61.95	66.83	0.8	6	5/29/2019	312		889	XXX	XXX	XXX	XXX	114	Clear some sand No odor
3	62.32	66.83	0.7	6	9/6/2019	320		942	XXX	XXX	XXX	XXX	93	Clear some sand No odor
3	62.27	66.83	0.7	6	11/16/2019	272	307	833	XXX	XXX	XXX	XXX	162	Clear some sand No odor
3	60.23	66.83	1.1	6	3/7/2020	312		810	XXX	XXX	XXX	XXX	97.8	Clear some sand No odor
3	62.51	66.83	0.7	6	9/12/2020	296	304	703	XXX	XXX	XXX	XXX	76.7	Clear some sand No odor
3	63.28	66.83	0.6	6	3/13/2021	224		698	XXX	XXX	XXX	XXX	79.4	Clear some sand No odor
3	63.82	66.83	0.6	6	6/19/2021	148		579	XXX	XXX	XXX	XXX	83.2	Clear some sand No odor
3	64.33	66.83	0.4	6	9/11/2021	116		526	XXX	XXX	XXX	XXX	77.5	Clear some sand No odor
3	64.33	66.83	0.4	6	11/15/2021	92	145	459	XXX	XXX	XXX	XXX	88.2	Clear some sand No odor
3	63.78	66.83	0.5	6	3/11/2022	96		445	XXX	XXX	XXX	XXX	70.1	Clear some sand No odor
3	63.6	66.83	0.5	6	6/8/2022	88		428	XXX	XXX	XXX	XXX	74.2	Clear some sand No odor
3	63.77	66.83	0.5	6	9/12/2022	96		467	XXX	XXX	XXX	XXX	68.2	Clear some sand No odor
3	64.26	66.83	0.4	6	12/5/2022	52	83	462	XXX	XXX	XXX	XXX	54.5	Clear some sand No odor

Table 2

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
4	57.59	68.33	1.7	8	2/21/2007	6,770		9,320	<0.001	<0.001	<0.001	<0.001	178	Clear some sand No odor
4	58.16	68.33	1.6	10	5/22/2007	6,390		10,400	<0.001	<0.001	<0.001	<0.001	183	Clear some sand No odor
4	58.39	68.33	1.6	8	8/7/2007	6,790		13,000	<0.001	<0.001	<0.001	<0.002	89.5	Clear some sand No odor
4	58.41	68.33	1.6	8	10/16/2007	4,000	5,988	7,420	<0.001	<0.001	<0.001	<0.003	91.4	Clear some sand No odor
4	58.56	68.35	1.6	8	1/30/2008	4,550		8,260	<0.001	<0.001	<0.001	<0.003	89.9	Some sand to clear No odor
4	58.08	68.35	1.6	8	4/30/2008	3,450		6,430	<0.002	<0.002	<0.002	<0.006	99.2	Clear some sand No odor
4	58.36	68.35	1.6	8	7/30/2008	2,580		4,990	<0.001	<0.001	<0.001	<0.003	109	Clear some sand No odor
4	58.47	68.35	1.6	8	11/10/2008	1,960	3,135	3,860	<0.001	<0.001	<0.001	<0.003	81.8	Clear some sand No odor
4	58.49	68.27	1.6	8	1/30/2009	2,080		3,540	<0.001	<0.001	<0.001	<0.003	88.9	Clear some sand No odor
4	58.59	68.27	1.5	8	5/1/2009	2,300		4,600	<0.001	<0.001	<0.001	<0.003	74.5	Clear some sand No odor
4	58.73	68.27	1.5	6	8/4/2009	1,500		2,960	<0.001	<0.001	<0.001	<0.003	75.8	Clear some sand No odor
4	58.89	68.27	1.5	6	10/20/2009	1,200	1,770	2,540	<0.001	<0.001	<0.001	<0.003	72.7	Clear some sand No odor
4	59.08	68.16	1.5	8	4/28/2010	460		1,250	<0.001	<0.001	<0.001	<0.003	69.9	Clear some sand No odor
4	59.04	68.16	1.5	8	1/27/2010	800		1,800	<0.001	<0.001	<0.001	<0.003	86	Clear some sand No odor
4	59.27	66.16	1.4	8	7/29/2010	650		1,430	<0.001	<0.001	<0.001	<0.003	76.9	Clear some sand No odor
4	59.42	68.16	1.4	8	10/26/2010	520	608	1,300	<0.001	<0.001	<0.001	<0.003	75	Clear some sand No odor
4	59.15	68.15	1.4	8	2/16/2011	680		1,600	<0.001	<0.001	<0.001	<0.003	72	Clear some sand No odor
4	59.19	68.15	1.4	8	6/1/2011	380		941	<0.001	<0.001	<0.001	<0.003	69.1	Clear some sand No odor
4	59.35	68.15	1.4	8	8/30/2011	380		908	<0.001	<0.001	<0.001	<0.003	71.8	Clear some sand No odor
4	59.32	68.15	1.4	8	12/1/2011	700	535	1,470	<0.001	<0.001	<0.001	<0.003	78.3	Clear some sand No odor
4	59.64	68.15	1.4	8	5/29/2012	610		1,560	XXX	XXX	XXX	XXX	81.5	Clear some sand No odor
4	59.72	68.15	1.3	8	11/15/2012	690	650	1,660	XXX	XXX	XXX	XXX	80.6	Clear some sand No odor
4	59.83	68.15	1.3	8	5/28/2013	650		1,550	XXX	XXX	XXX	XXX	71	Clear some sand No odor
4	59.99	68.15	1.3	8	11/15/2013	720	685	1,630	XXX	XXX	XXX	XXX	75.5	Clear some sand No odor
4	60.07	68.15	1.3	8	3/4/2014	870		1,560	XXX	XXX	XXX	XXX	81.8	Clear some sand No odor
4	60.23	68.15	1.3	8	6/3/2014	810		1,730	XXX	XXX	XXX	XXX	78.8	Clear some sand No odor
4	60.31	68.15	1.3	8	8/28/2014	830		1,840	XXX	XXX	XXX	XXX	75.5	Clear some sand No odor
4	59.87	68.15	1.3	8	11/21/2014	640	788	1,350	XXX	XXX	XXX	XXX	67.5	Clear some sand No odor
4	59.79	68.15	1.3	8	3/3/2015	750		1,770	XXX	XXX	XXX	XXX	50	Clear some sand No odor
4	60.35	68.15	1.2	8	6/3/2015	510		1,210	XXX	XXX	XXX	XXX	71.6	Clear some sand No odor
4	60.55	68.15	1.2	8	8/22/2015	340		1,220	XXX	XXX	XXX	XXX	49.4	Clear some sand No odor
4	60.68	68.15	1.2	8	11/8/2015	344	486	1,210	XXX	XXX	XXX	XXX	59.6	Clear some sand No odor
4	60.72	68.15	1.2	8	2/26/2016	440		1,050	XXX	XXX	XXX	XXX	82	Clear some sand No odor
4	60.78	68.15	1.2	8	5/21/2016	280		1,100	XXX	XXX	XXX	XXX	34.1	Clear some sand No odor
4	60.67	68.15	1.2	8	9/10/2016	336		980	XXX	XXX	XXX	XXX	77	Clear some sand No odor
4	60.91	68.15	1.2	8	11/10/2016	430	372	1,150	XXX	XXX	XXX	XXX	69	Clear some sand No odor
4	60.9	68.15	1.2	8	2/22/2017	256		1,010	XXX	XXX	XXX	XXX	56	Clear some sand No odor
4	60.91	68.15	1.2	8	5/25/2017	392		974	XXX	XXX	XXX	XXX	63	Clear some sand No odor

Table 2

4	61.01	68.15	1.1	8	9/16/2017	460		1,240	XXX	XXX	XXX	XXX	79	Clear some sand No odor
4	61.05	68.15	1.1	8	12/2/2017	300	352	836	XXX	XXX	XXX	XXX	74	Clear some sand No odor
4	61.07	68.15	1.1	8	2/28/2018	320		892	XXX	XXX	XXX	XXX	132	Clear some sand No odor
4	61.17	68.15	1.1	8	5/15/2018	228		868	XXX	XXX	XXX	XXX	57.9	Clear some sand No odor
4	61.4	68.15	1.1	6	9/8/2018	610		1,260	XXX	XXX	XXX	XXX	74	Clear some sand No odor
4	61.69	68.15	1	6	11/13/2018	344	376	713	XXX	XXX	XXX	XXX	76	Clear some sand No odor
4	62.07	68.15	1	6	3/6/2019	128		496	XXX	XXX	XXX	XXX	74	Clear some sand No odor
4	62.08	68.15	1	6	5/29/2019	132		599	XXX	XXX	XXX	XXX	72	Clear some sand No odor
4	62.41	68.15	0.9	6	9/6/2019	148		572	XXX	XXX	XXX	XXX	68	Clear some sand No odor
4	62.37	64.15	0.9	6	11/16/2019	140	137	564	XXX	XXX	XXX	XXX	74	Clear some sand No odor
4	62.36	68.15	0.9	6	3/7/2020	132		543	XXX	XXX	XXX	XXX	77.6	Clear some sand No odor
4	62.57	68.15	0.9	6	9/12/2020	140	136	514	XXX	XXX	XXX	XXX	71.4	Clear some sand No odor
4	63.27	68.15	0.8	6	3/13/2021	156		594	XXX	XXX	XXX	XXX	66.1	Clear some sand No odor
4	63.81	68.15	0.7	6	6/19/2021	96		492	XXX	XXX	XXX	XXX	69.5	Clear some sand No odor
4	63.79	68.15	0.7	6	9/11/2021	84		457	XXX	XXX	XXX	XXX	70.1	Clear some sand No odor
4	64.79	68.15	0.5	6	11/15/2021	152	122	536	XXX	XXX	XXX	XXX	79	Clear some sand No odor
4	63.85	68.15	0.7	6	3/11/2022	36		344	XXX	XXX	XXX	XXX	60.6	Clear some sand No odor
4	63.75	68.15	0.7	6	6/8/2022	52		382	XXX	XXX	XXX	XXX	70.2	Clear some sand No odor
4	63.87	68.15	0.7	6	9/12/2022	72		430	XXX	XXX	XXX	XXX	62	Clear some sand No odor
4	64.36	68.15	0.8	6	12/5/2022	80	60	421	XXX	XXX	XXX	XXX	63	Clear some sand No odor

Table 2

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
RW-1	XXX	92.9	XXX	XXX	7/30/2008	1,070		2,200	<0.001	<0.001	<0.001	<0.003	61	Clear some sand No odor
RW-1	XXX	92.9	XXX	XXX	11/10/2008	1,200	1,135	2,360	<0.001	<0.001	<0.001	<0.003	57.9	Clear some sand No odor
RW-1	XXX	92.9	XXX	XXX	1/30/2009	1,680		3,170	<0.001	<0.001	<0.001	<0.003	103	Clear No odor
RW-1	XXX	92.9	XXX	50	5/1/2009	750		1,570	<0.001	<0.001	<0.001	<0.003	54.3	Clear No odor
RW-1	XXX	92.9	XXX	50	8/4/2009	580		1,290	<0.001	<0.001	<0.001	<0.003	60.5	Clear No odor
RW-1	XXX	92.2	XXX	50	10/20/2009	730	935	1,620	<0.001	<0.001	<0.001	<0.003	59	Clear No odor
RW-1	XXX	92.9	XXX	XXX	4/28/2010	490		1,160	<0.001	<0.001	<0.001	<0.003	72.1	Clear No odor
RW-1	XXX	92.9	XXX	100	1/27/2010	1,220		2,360	<0.001	<0.001	<0.001	<0.003	82.8	Clear No odor
RW-1	XXX	92.9	XXX	Pumping	7/29/2010	570		1,330	<0.001	<0.001	<0.001	<0.003	65.2	Clear No odor
RW-1	XXX	92..90	XXX	Pumping	10/26/2010	332	653	888	<0.001	<0.001	<0.001	<0.003	58.5	Clear No odor
RW-1	XXX	92.9	XXX	100	2/16/2011	750		1,670	<0.001	<0.001	<0.001	<0.003	71.3	Clear No odor
RW-1	XXX	92.9	XXX	100	6/1/2011	476		1,130	<0.001	<0.001	<0.001	<0.003	60.5	Clear No odor
RW-1	XXX	92.9	XXX	100	8/30/2011	490		1,090	<0.001	<0.001	<0.001	<0.003	63.1	Clear No odor
RW-1	XXX	92.9	XXX	100	12/1/2011	XXX	572	XXX	XXX	XXX	XXX	XXX	XXX	Well not sampled Solar pump down
RW-1	XXX	XXX	XXX	XXX	9/6/2013	212		645	XXX	XXX	XXX	XXX	XXX	XXX
RW-1	XXX	92.9	XXX	100	11/15/2013	300	256	779	XXX	XXX	XXX	XXX	65.5	Clear No Odor
RW-1	XXX	92.9	XXX	100	3/4/2014	364		902	XXX	XXX	XXX	XXX	85	Clear No odor
RW-1	XXX	92.9	XXX	Running	6/3/2014	300		838	XXX	XXX	XXX	XXX	60	Clear No odor
RW-1	XXX	92.9	XXX	Running	8/28/2014	292		762	XXX	XXX	XXX	XXX	58.6	Clear No odor
RW-1	XXX	92.9	XXX	100	11/21/2014	84	260	376	XXX	XXX	XXX	XXX	51.2	Clear No odor
RW-1	XXX	92.9	XXX	100	3/3/2015	252		1,040	XXX	XXX	XXX	XXX	45.9	Clear No odor
RW-1	XXX	92.9	XXX	Running	6/3/2015	240		1,010	XXX	XXX	XXX	XXX	49.1	Clear No odor
RW-1	XXX	92.9	XXX	Running	8/22/2015	292		812	XXX	XXX	XXX	XXX	59.7	Clear No odor
RW-1	XXX	92.9	0	Running	11/8/2015	220	251	636	XXX	XXX	XXX	XXX	60.2	Clear No odor
RW-1	XXX	92.9	XXX	100	2/26/2016	570		1,200	XXX	XXX	XXX	XXX	72	Clear No odor
RW-1	XXX	92.9	XXX	100	5/21/2016	620		1,580	XXX	XXX	XXX	XXX	57	Clear No odor
RW-1	XXX	92.9	XXX	Running	9/10/2016	368		1,060	XXX	XXX	XXX	XXX	65	Clear No odor
RW-1	XXX	92.9	XXX	100	11/10/2016	292	463	1,040	XXX	XXX	XXX	XXX	49	Clear No odor
RW-1	XXX	92.9	XXX	100	2/22/2017	690		1,610	XXX	XXX	XXX	XXX	68	Clear No odor
RW-1	XXX	92.9	XXX	Running	5/25/2017	810		2,020	XXX	XXX	XXX	XXX	76	Clear No odor
RW-1	XXX	92.9	XXX	Running	9/16/2017	156		558	XXX	XXX	XXX	XXX	61	Clear No odor
RW-1	XXX	92.9	XXX	100	12/2/2017	652	577	1,610	XXX	XXX	XXX	XXX	77	Clear No odor
RW-1	XXX	92.9	XXX	100	2/28/2018	680		1,500	XXX	XXX	XXX	XXX	102	Clear No odor
RW-1	XXX	92.9	XXX	100	5/15/2018	820		1,270	XXX	XXX	XXX	XXX	78.1	Clear No odor
RW-1	XXX	92.9	XXX	100	9/8/2018	112		452	XXX	XXX	XXX	XXX	56	Clear No odor
RW-1	XXX	92.9	XXX	100	11/13/2018	480	523	970	XXX	XXX	XXX	XXX	80.2	Clear No odor
RW-1	XXX	92.9	XXX	100	3/6/2019	820		1,840	XXX	XXX	XXX	XXX	73	Clear No odor
RW-1	XXX	92.9	XXX	Running	5/29/2019	108		465	XXX	XXX	XXX	XXX	56	Clear No odor
RW-1	XXX	92.9	XXX	Running	9/6/2019	108		490	XXX	XXX	XXX	XXX	53	Clear No odor
RW-1	XXX	92.9	XXX	100	11/16/2019	40	269	428	XXX	XXX	XXX	XXX	155	Clear No odor
RW-1	XXX	92.9	XXX	100	3/7/2020	212		642	XXX	XXX	XXX	XXX	68.6	Clear No odor

Table 2

RW-1	XXX	92.9	XXX	100	9/12/2020	264	238	764	XXX	XXX	XXX	XXX	78.4	Clear No odor
RW-1	XXX	92.9	XXX	100	3/13/2021	328		791	XXX	XXX	XXX	XXX	62.6	Clear No odor
RW-1	XXX	92.9	XXX	Running	6/19/2021	120		473	XXX	XXX	XXX	XXX	66.2	Clear No odor
RW-1	XXX	92.9	XXX	Running	9/11/2021	148		564	XXX	XXX	XXX	XXX	53.5	Clear No odor
RW-1	XXX	92.9	XXX	100	11/15/2021	160	189	538	XXX	XXX	XXX	XXX	74.7	Clear No odor
RW-1	XXX	92.9	XXX	100	3/11/2022	224		649	XXX	XXX	XXX	XXX	55.4	Clear No odor
RW-1	XXX	92.9	XXX	Running	6/8/2022	80		404	XXX	XXX	XXX	XXX	79.3	Clear No odor
RW-1	XXX	92.9	XXX	Running	9/12/2022	176		622	XXX	XXX	XXX	XXX	60.1	Clear No odor
RW-1	XXX	92.9	XXX	100	12/5/2022	156	159	772	XXX	XXX	XXX	XXX	32.3	Clear No odor

CARDINAL Laboratories

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

March 22, 2022

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: VACUUM JUNCTION K-35-1

Enclosed are the results of analyses for samples received by the laboratory on 03/16/22 14:10.

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 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:	03/16/2022	Sampling Date:	03/11/2022
Reported:	03/22/2022	Sampling Type:	Water
Project Name:	VACUUM JUNCTION K-35-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC35 K LEA COUNTY, NM		

Sample ID: MONITOR WELL #1 (H221050-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**192**	4.00	03/17/2022	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*	**56.2**	25.0	03/21/2022	ND	19.8	99.2	20.0	2.24	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**570**	5.00	03/18/2022	ND	527	105	500	0.0419	

Sample ID: MONITOR WELL #2 (H221050-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**56.0**	4.00	03/17/2022	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*	**68.2**	25.0	03/21/2022	ND	19.8	99.2	20.0	2.24	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**384**	5.00	03/18/2022	ND	527	105	500	0.0419	

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:	03/16/2022	Sampling Date:	03/11/2022
Reported:	03/22/2022	Sampling Type:	Water
Project Name:	VACUUM JUNCTION K-35-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC35 K LEA COUNTY, NM		

Sample ID: MONITOR WELL #3 (H221050-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**96.0**	4.00	03/17/2022	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*	**70.1**	25.0	03/21/2022	ND	19.8	99.2	20.0	2.24	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**445**	5.00	03/21/2022	ND	527	105	500	0.0419	

Sample ID: MONITOR WELL #4 (H221050-04)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**36.0**	4.00	03/17/2022	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*	**60.6**	25.0	03/21/2022	ND	19.8	99.2	20.0	2.24	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**344**	5.00	03/18/2022	ND	527	105	500	0.0419	

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:	03/16/2022	Sampling Date:	03/11/2022
Reported:	03/22/2022	Sampling Type:	Water
Project Name:	VACUUM JUNCTION K-35-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC35 K LEA COUNTY, NM		

Sample ID: RECOVERY WELL #1 (H221050-05)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**224**	4.00	03/17/2022	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*	**55.4**	25.0	03/21/2022	ND	19.8	99.2	20.0	2.24	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**649**	5.00	03/18/2022	ND	527	105	500	0.0419	

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 Junction K-35-1
Project Location: T17S-R35E-Sec35 K ~ Lea County New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

H221050

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 (2022)	TIME
1	Monitor Well #1	G	1	X								1		3/11	13:15
2	Monitor Well #2	G	1	X								1		3/11	9:00
3	Monitor Well #3	G	1	X								1		3/11	10:15
4	Monitor Well #4	G	1	X								1		3/11	11:55
5	Recovery Well #1	G	1	X								1		3/11	16:25

ANALYSIS REQUEST

(Circle or Specify Method No.)

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

Relinquished by: Rozanne Johnson	Date: 3/16/2022	Time: 14:10	Received by: Tamara Oldaker	Date: 3-16-22 Time: 1410
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)	Date: Time:

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

REMARKS:

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

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Sample Condition	Cool	Intact
Yes	✓	✓
No		

CHECKED BY: (Initials) TO

CARDINAL Laboratories

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

June 16, 2022

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: VACUUM JUNCTION K-35-1

Enclosed are the results of analyses for samples received by the laboratory on 06/13/22 10:35.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	06/13/2022	Sampling Date:	06/08/2022
Reported:	06/16/2022	Sampling Type:	Water
Project Name:	VACUUM JUNCTION K-35-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC35 K LEA COUNTY, NM		

Sample ID: MONITOR WELL #1 (H222510-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**168**	4.00	06/13/2022	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*	**64.2**	25.0	06/15/2022	ND	18.8	93.8	20.0	3.31	

TDS 160.1 mg/L Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**542**	5.00	06/14/2022	ND	514	103	500	7.31	

Sample ID: MONITOR WELL #2 (H222510-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**52.0**	4.00	06/13/2022	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*	**71.4**	10.0	06/15/2022	ND	18.8	93.8	20.0	3.31	

TDS 160.1 mg/L Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**436**	5.00	06/15/2022	ND	514	103	500	7.31	

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:	06/13/2022	Sampling Date:	06/08/2022
Reported:	06/16/2022	Sampling Type:	Water
Project Name:	VACUUM JUNCTION K-35-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC35 K LEA COUNTY, NM		

Sample ID: MONITOR WELL #3 (H222510-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**88.0**	4.00	06/13/2022	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*	**74.2**	25.0	06/15/2022	ND	18.8	93.8	20.0	3.31	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**428**	5.00	06/14/2022	ND	514	103	500	7.31	

Sample ID: MONITOR WELL #4 (H222510-04)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**52.0**	4.00	06/13/2022	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*	**70.2**	25.0	06/15/2022	ND	18.8	93.8	20.0	3.31	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**382**	5.00	06/15/2022	ND	514	103	500	7.31	

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:	06/13/2022	Sampling Date:	06/08/2022
Reported:	06/16/2022	Sampling Type:	Water
Project Name:	VACUUM JUNCTION K-35-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC35 K LEA COUNTY, NM		

Sample ID: RECOVERY WELL #1 (H222510-05)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**80.0**	4.00	06/13/2022	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*	**79.3**	10.0	06/15/2022	ND	18.8	93.8	20.0	3.31	

TDS 160.1 mg/L Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**404**	5.00	06/15/2022	ND	514	103	500	7.31	

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 Junction K-35-1
Project Location: T17S-R35E-Sec35 K ~ Lea County New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

H22 2510 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 (2022)	TIME
1	Monitor Well #1	G	1	X								1		6/8	12:50
2	Monitor Well #2	G	1	X								1		6/8	8:15
3	Monitor Well #3	G	1	X								1		6/8	9:40
4	Monitor Well #4	G	1	X								1		6/8	11:00
5	Recovery Well #1	G	1	X								1		6/8	13:20

ANALYSIS REQUEST

(Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005 / TX1005 Extended (C35)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Moisture Content	Cations (Ca, Mg, Na, K)	Anions (Cl, SO_4, CO_3, HCO_3)	Sulfates	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours
																		X	X	X	
																		X	X	X	
																		X	X	X	
																		X	X	X	
																		X	X	X	

Relinquished by: Rozanne Johnson Date: 6/13/2022 Time: 10:35

Received by: Tamara Oldaker 6-13-22 1035

Relinquished by: Date: Time:

Received By: (Laboratory Staff) Date: Time:

Phone Results: Yes No

Fax Results: Yes No Additional Fax Number:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

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

CHECKED BY: (Initials) T.O.

REMARKS:

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

CARDINAL Laboratories

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

September 20, 2022

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: VACUUM JUNCTION K-35-1

Enclosed are the results of analyses for samples received by the laboratory on 09/14/22 15:25.

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 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:	09/14/2022	Sampling Date:	09/12/2022
Reported:	09/20/2022	Sampling Type:	Water
Project Name:	VACUUM JUNCTION K-35-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC35 K LEA COUNTY, NM		

Sample ID: MONITOR WELL #1 (H224248-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**156**	4.00	09/16/2022	ND	104	104	100	3.92	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**63.2**	25.0	09/19/2022	ND	21.0	105	20.0	1.14	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**535**	5.00	09/19/2022	ND	561	112	500	0.717	

Sample ID: MONITOR WELL #2 (H224248-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**60.0**	4.00	09/16/2022	ND	104	104	100	3.92	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**49.5**	25.0	09/19/2022	ND	21.0	105	20.0	1.14	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**408**	5.00	09/19/2022	ND	561	112	500	0.717	

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:	09/14/2022	Sampling Date:	09/12/2022
Reported:	09/20/2022	Sampling Type:	Water
Project Name:	VACUUM JUNCTION K-35-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC35 K LEA COUNTY, NM		

Sample ID: MONITOR WELL #3 (H224248-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**96.0**	4.00	09/16/2022	ND	104	104	100	3.92	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**68.2**	25.0	09/19/2022	ND	21.0	105	20.0	1.14	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**467**	5.00	09/19/2022	ND	561	112	500	0.717	

Sample ID: MONITOR WELL #4 (H224248-04)

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	09/16/2022	ND	104	104	100	3.92	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**62.0**	25.0	09/19/2022	ND	21.0	105	20.0	1.14	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**430**	5.00	09/19/2022	ND	561	112	500	0.717	

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:	09/14/2022	Sampling Date:	09/12/2022
Reported:	09/20/2022	Sampling Type:	Water
Project Name:	VACUUM JUNCTION K-35-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC35 K LEA COUNTY, NM		

Sample ID: RECOVERY WELL #1 (H224248-05)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**176**	4.00	09/16/2022	ND	104	104	100	3.92	

Sulfate 375.4 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**60.1**	25.0	09/19/2022	ND	21.0	105	20.0	1.14	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**622**	5.00	09/19/2022	ND	561	112	500	0.717	

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 Junction K-35-1
Project Location: T17S-R35E-Sec35 K ~ Lea County New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

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 (2022)	TIME
H224248-1	Monitor Well #1	G	1	X								1		9/12	14:45
-2	Monitor Well #2	G	1	X								1		9/12	9:40
-3	Monitor Well #3	G	1	X								1		9/12	11:05
-4	Monitor Well #4	G	1	X								1		9/12	12:50
-5	Recovery Well #1	G	1	X								1		9/12	15:05

ANALYSIS REQUEST

(Circle or Specify Method No.)

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

Relinquished by: Rozanne Johnson	Date: 9/14/2022	Time: 15:25	Received by: Tamara Oldaker	Date: 9-14-22	Time:
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)	Date:	Time:

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

REMARKS:

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

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

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

CHECKED BY: (Initials) TO

CARDINAL Laboratories

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

December 14, 2022

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: VACUUM JUNCTION K-35-1

Enclosed are the results of analyses for samples received by the laboratory on 12/08/22 15:26.

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 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:	12/08/2022	Sampling Date:	12/05/2022
Reported:	12/14/2022	Sampling Type:	Water
Project Name:	VACUUM JUNCTION K-35-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T17S-R35E-SEC35 K LEA COUNTY, NM		

Sample ID: MONITOR WELL #1 (H225794-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**212**	4.00	12/09/2022	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*	**31.0**	10.0	12/09/2022	ND	18.9	94.4	20.0	6.71	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**632**	5.00	12/13/2022	ND	504	102	495	0.807	

Sample ID: MONITOR WELL #2 (H225794-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**68.0**	4.00	12/09/2022	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*	**66.7**	10.0	12/09/2022	ND	18.9	94.4	20.0	6.71	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**431**	5.00	12/13/2022	ND	504	102	495	0.807	

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:	12/08/2022	Sampling Date:	12/05/2022
Reported:	12/14/2022	Sampling Type:	Water
Project Name:	VACUUM JUNCTION K-35-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T17S-R35E-SEC35 K LEA COUNTY, NM		

Sample ID: MONITOR WELL #3 (H225794-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**52.0**	4.00	12/09/2022	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*	**54.5**	10.0	12/09/2022	ND	18.9	94.4	20.0	6.71	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**462**	5.00	12/13/2022	ND	504	102	495	0.807	

Sample ID: MONITOR WELL #4 (H225794-04)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**80.0**	4.00	12/09/2022	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*	**63.0**	10.0	12/09/2022	ND	18.9	94.4	20.0	6.71	

TDS 160.1 mg/L Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**421**	5.00	12/13/2022	ND	504	102	495	0.807	

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:	12/08/2022	Sampling Date:	12/05/2022
Reported:	12/14/2022	Sampling Type:	Water
Project Name:	VACUUM JUNCTION K-35-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T17S-R35E-SEC35 K LEA COUNTY, NM		

Sample ID: RECOVERY WELL #1 (H225794-05)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**156**	4.00	12/09/2022	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*	**32.3**	10.0	12/09/2022	ND	18.9	94.4	20.0	6.71	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**772**	5.00	12/13/2022	ND	504	102	495	0.807	

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 Junction K-35-1	
Project Location: T17S-R35E-Sec35 K ~ Lea County New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

H225794

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 (2022)	TIME
1	Monitor Well #1	G	1	X								1		12/5	13:25
2	Monitor Well #2	G	1	X								1		12/5	9:05
3	Monitor Well #3	G	1	X								1		12/5	10:45
4	Monitor Well #4	G	1	X								1		12/5	12:10
5	Recovery Well #1	G	1	X								1		12/5	16:10

ANALYSIS REQUEST

(Circle or Specify Method No.)

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

Relinquished by: Rozanne Johnson — Date: 12/8/2022 — Time: 15:25

Received by: — Date: — Time:

Relinquished by: — Date: — Time:

Received By: (Laboratory Staff) Jodi Henson — Date: 12/8/22 — Time: 15:26

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

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

CHECKED BY: (Initials) JH

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

CONDITIONS

Action 202305

CONDITIONS

Operator:	OGRID:
RICE OPERATING COMPANY 122 W Taylor Hobbs, NM 88240	19174
	Action Number: 202305
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Review of 2022 Annual Groundwater Report: Content satisfactory 1. Continue sampling MW #1 for chloride and total dissolved solids until eight (8) consecutive quarters below the allowable concentrations are achieved. 2. Terminate sampling from MW #2, MW #3, and MW #4 for all constituents of concern. 3. Continue sampling RW #1 for chloride until eight (8) consecutive quarters below the allowable concentrations are achieved. 3. Submit next annual report upon meeting the conditions above or no later than April 1, 2024.	5/23/2023