

# L Peter Galusky, Jr PE

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April 1<sup>st</sup>, 2024

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

RE: **2023 Annual Report**  
Rice Operating Company – Vacuum SWD System  
**Vacuum K-35-1 Boot** (1R425-03): UL K, Sec 35  
NMOCD Application ID: 202305, Incident ID: nA

Sent by E-mail

Mr. Velez:

This letter summarizes remediation history and progress for the calendar year, pursuant to NMOCD’s approval email letter. The location, site schematic and groundwater flow maps are attached as Exhibits 3, respectively. Groundwater data are summarized in the attached. The complete groundwater dataset for this site is given in the attached. The depth at the site is approximately 62 ft below ground surface.

OCD granted termination of soil remediation requirements, allowing for the cessation of groundwater withdrawals. 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 4<sup>th</sup>, 2013, and NMOCD approved the notification on September 5<sup>th</sup>, 2013. Groundwater recovery began from RW-1 on September 13<sup>th</sup>, 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 2023 is given below.

**REVIEWED**  
By Mike Buchanan at 9:13 am, Feb 26, 2025

Review of the 2023 Annual Report for Rice Operating Company (ROC)--Vacuum-K35-1: content is satisfactory.  
1. Seeking closure will require ROC to submit an official Completion and Termination Report--if that hasn't already been submitted. The report will need to demonstrate all requirements in 19.15.30.19 NMAC paragraphs (A) and (B).  
2. Include the most up-to-date groundwater data and all relevant data for the site to demonstrate closure status.  
3. Please submit the report within sixty (60) days from receipt of this notification.

...ect over the past (Exhibit 1). Site xlix, Figures 1, 2 and 4 and Table 1. The groundwater ... The groundwater ... October 13<sup>th</sup>, 2011, groundwater

## Rice Operating Company Vacuum K-35-1 Boot Annual Report

- Approximately 39,468 barrels of chloride-affected groundwater have been withdrawn from a near-source recovery well (RW-1) from 2008 through 2023 resulting in the removal of an estimated 2,489 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, remained low at 60 mg/l in 2022 and 76 mg/l in 2023.
- The average annual groundwater chloride concentration in the down-gradient monitor well, MW-2 was essentially unchanged, 59 mg/l in 2022 versus 60 mg/l in 2023.
- The average annual groundwater chloride concentration in the down-gradient recovery well, RW-1, dropped from 159 mg/l in 2022 to 136 mg/l in 2023.
- The average annual groundwater chloride concentration in the up-gradient monitor well (MW-3) rose slightly from 83 mg/l in 2022 to 98 mg/l in 2023.

ROC submitted a Termination Request to NMOCD for this project on October 9<sup>th</sup>, 2023, based on eight consecutive quarters of monitoring well data below WQCC standards. Since then, two additional quarters of data below WQCC standards have been observed. The additional data obtained since then and reported here further buttress our rationale for requesting closure. NMOCD granted approval of the Termination Request on March 27<sup>th</sup>, 2024, pending further clarification from NMOCD. ROC will continue quarterly groundwater sampling during 2024, as we await further clarification from NMOCD.

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.

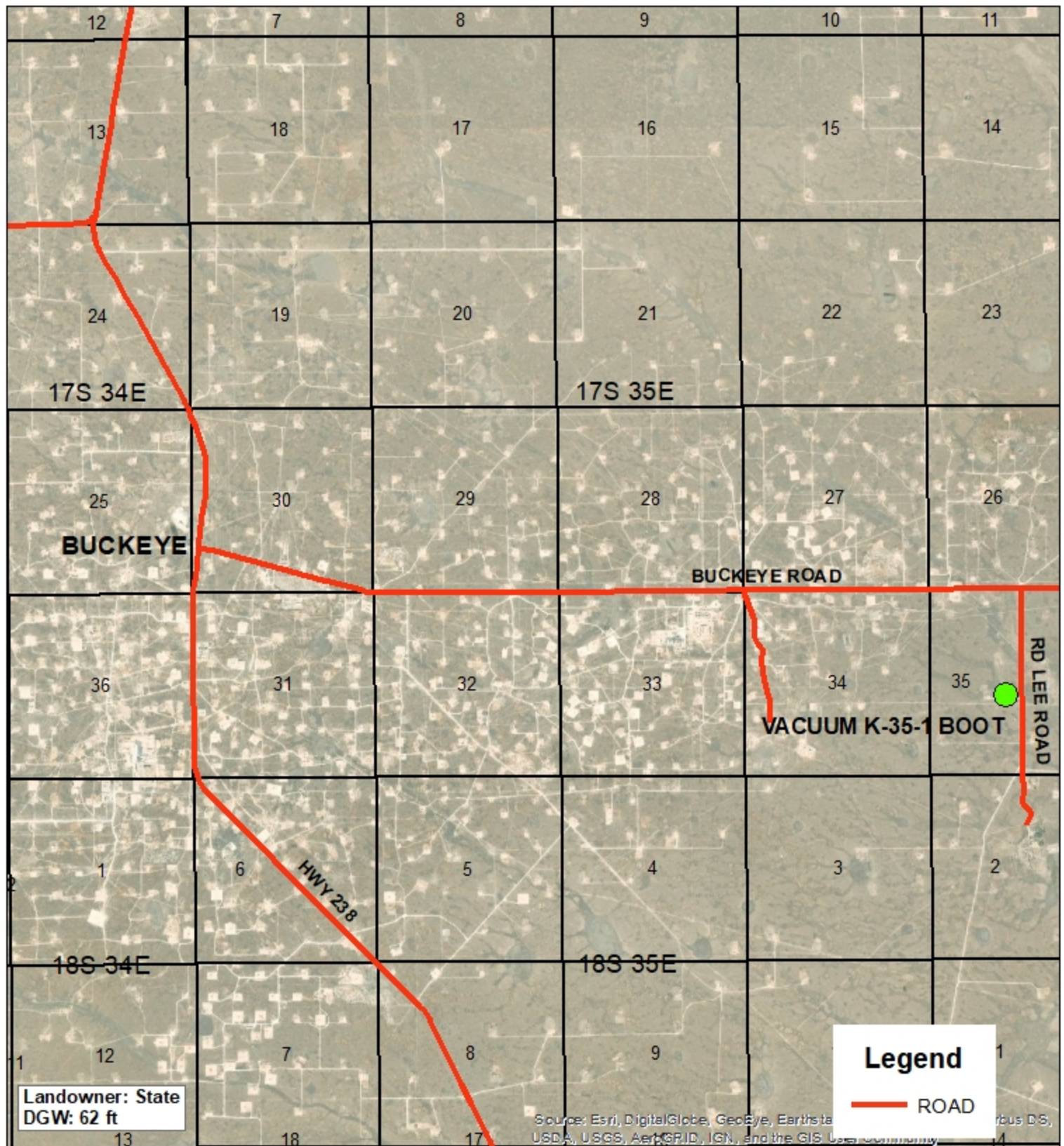
Sincerely,



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

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

## Geographic Location



# VACUUM K-35-1 JCT BOOT

1R425-03

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

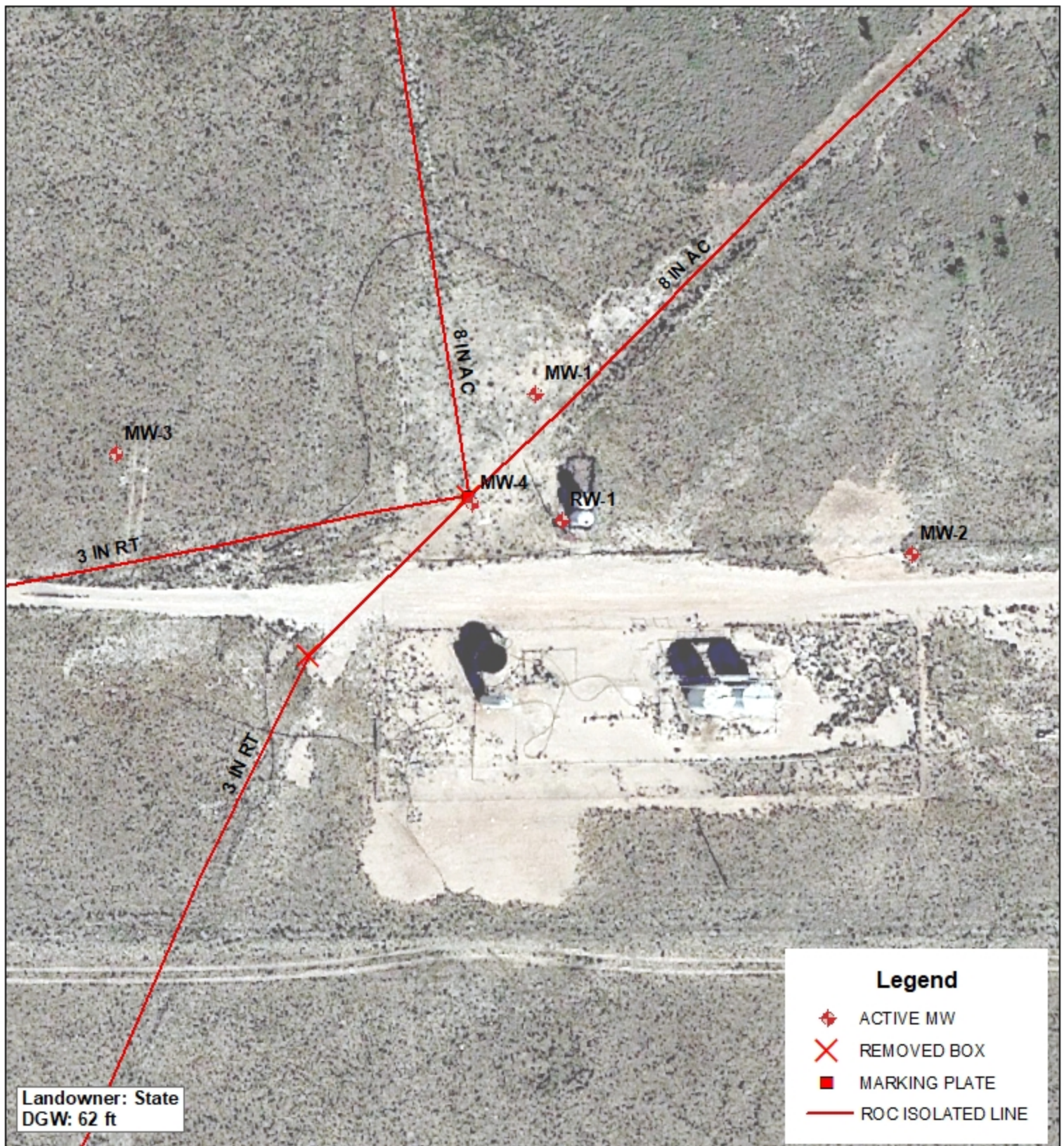
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NAD83 STATE PLANE PROJ  
NM EAST ZONE

0 0.5 1  
Miles

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



## Site Map

**VACUUM  
K-35-1 JCT BOOT**

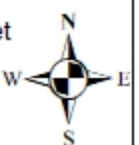
1R425-03

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

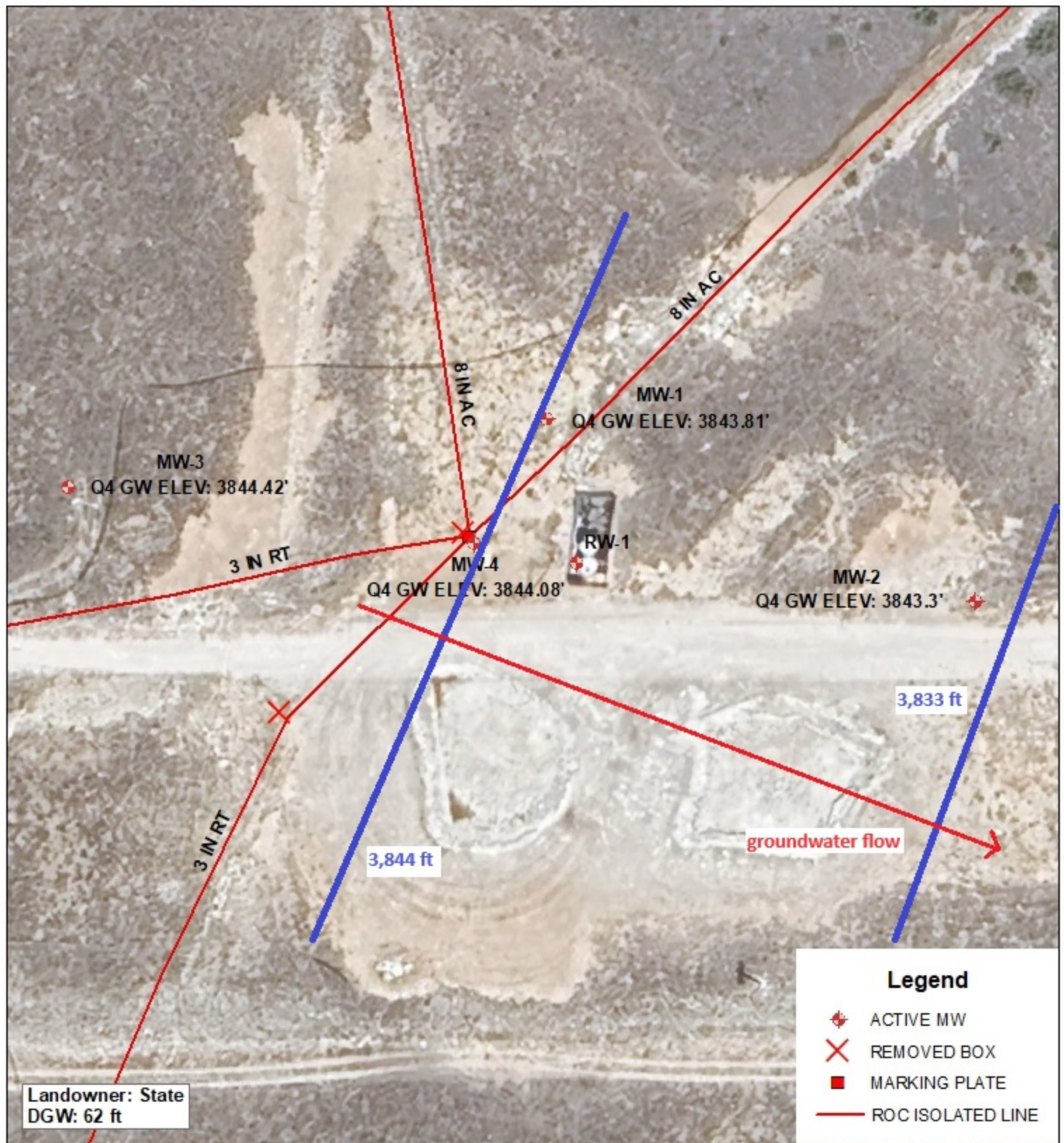
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NAD83 STATE PLANE PROJ  
NM EAST ZONE

0 50 100  
Feet

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



## Groundwater Elevation



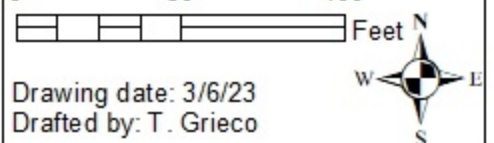
# VACUUM K-35-1 JCT BOOT

1R425-03

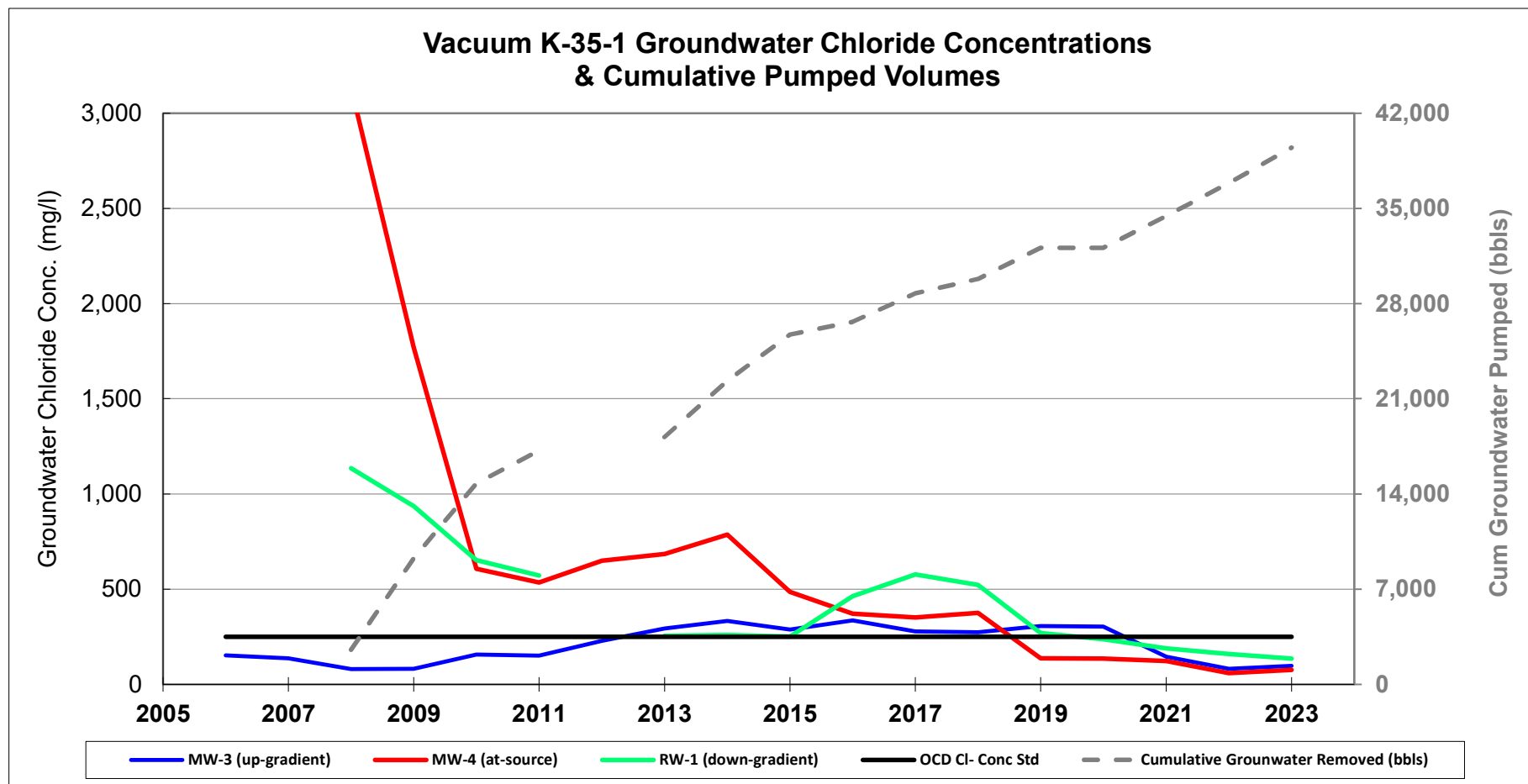
UL K SECTION 35  
T-17-S R-35-E  
LEA COUNTY, NM

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

0 50 100



Drawing date: 3/6/23  
Drafted by: T. Grieco



**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	1,127	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
2023	174	60	98	76	136	250	39,468	2,489

## 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					2/21/2007	1,080		2,160	<0.001	<0.001	<0.001	<0.001	77.9	
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

## 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	CI	ann. avg CI	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
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
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
1	62.34	67.12	0.8	6	3/15/2023	144		616	XXX	XXX	XXX	XXX	63.8	Silt to clear No odor
1	62.39	67.12	0.8	6	6/7/2023	220		702	XXX	XXX	XXX	XXX	62.8	Silt to clear No odor
1	62.19	67.12	0.8	5	9/13/2023	156		604	XXX	XXX	XXX	XXX	71.5	Silt to clear No odor
1	62.09	67.12	0.8	6	10/14/2023	176	174	684	XXX	XXX	XXX	XXX	71.3	Silt to clear No odor

## 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
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

## 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
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
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
2	62.45	65.85	0.5	6	3/15/2023	60		363	XXX	XXX	XXX	XXX	64.6	Clear some sand No odor
2	62.51	65.85	0.5	6	6/7/2023	60		434	XXX	XXX	XXX	XXX	71.8	Clear some sand No odor
2	62.3	65.85	0.6	5	9/13/2023	60		375	XXX	XXX	XXX	XXX	68.6	Clear some sand No odor
2	62.2	65.85	0.6	5	10/14/2023	60	60	408	XXX	XXX	XXX	XXX	71.2	Clear some sand No odor

## 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
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

## 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
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
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
3	64.43	66.83	0.4	6	3/15/2023	68		378	XXX	XXX	XXX	XXX	59.1	Clear some sand No odor
3	64.49	66.83	0.4	6	6/7/2023	96		519	XXX	XXX	XXX	XXX	69.8	Clear some sand No odor
3	64.22	66.83	0.4	5	9/13/2023	132		527	XXX	XXX	XXX	XXX	77.4	Clear some sand No odor
3	64.12	66.83	0.4	5	10/14/2023	96	98	557	XXX	XXX	XXX	XXX	59	Clear some sand No odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	ann. avg Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
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

## 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
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

## 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
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
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
4	64.47	68.15	0.6	6	3/15/2023	56		375	XXX	XXX	XXX	XXX	59.6	Clear some sand No odor
4	64.55	68.15	0.6	6	6/7/2023	64		402	XXX	XXX	XXX	XXX	69.2	Clear some sand No odor
4	64.3	68.15	0.6	5	9/13/2023	104		498	XXX	XXX	XXX	XXX	96.8	Clear some sand No odor
4	64.2	68.15	0.6	5	10/14/2023	80	76	542	XXX	XXX	XXX	XXX	66.3	Clear some sand No odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	ann. avg Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
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

## 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
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

## 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
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
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
RW-1	XXX	92.9	XXX	100	3/15/2023	236		563	XXX	XXX	XXX	XXX	69.5	Clear No odor
RW-1	XXX	92.9	XXX	Running	6/7/2023	140		568	XXX	XXX	XXX	XXX	61.9	Clear No odor
RW-1	XXX	92.9	XXX	Running	9/13/2023	120		490	XXX	XXX	XXX	XXX	63.8	Clear No odor
RW-1	XXX	92.9	XXX	Running	10/14/2023	48	136	394	XXX	XXX	XXX	XXX	66.5	Clear No odor



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

March 28, 2023

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 03/20/23 16:00.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 03/20/2023  
 Reported: 03/28/2023  
 Project Name: VACUUM JUNCTION K-35-1  
 Project Number: NOT GIVEN  
 Project Location: T17S-R35E-SEC35 K LEA COUNTY, NM

Sampling Date: 03/15/2023  
 Sampling Type: Water  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: MONITOR WELL #1 (H231253-01)**

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	144	4.00	03/21/2023	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*	63.8	10.0	03/21/2023	ND	23.0	115	20.0	3.59		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	616	5.00	03/22/2023	ND	800	80.0	1000	0.377		

**Sample ID: MONITOR WELL #2 (H231253-02)**

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	03/21/2023	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*	64.6	10.0	03/21/2023	ND	23.0	115	20.0	3.59		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	363	5.00	03/27/2023	ND	833	83.3	1000	9.95		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 03/20/2023  
 Reported: 03/28/2023  
 Project Name: VACUUM JUNCTION K-35-1  
 Project Number: NOT GIVEN  
 Project Location: T17S-R35E-SEC35 K LEA COUNTY, NM

Sampling Date: 03/15/2023  
 Sampling Type: Water  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: MONITOR WELL #3 (H231253-03)**

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	03/21/2023	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*	59.1	10.0	03/21/2023	ND	23.0	115	20.0	3.59		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	378	5.00	03/27/2023	ND	833	83.3	1000	9.95		

**Sample ID: MONITOR WELL #4 (H231253-04)**

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	03/21/2023	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*	59.6	10.0	03/21/2023	ND	23.0	115	20.0	3.59		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	375	5.00	03/28/2023	ND	833	83.3	1000	9.95		

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 03/20/2023  
 Reported: 03/28/2023  
 Project Name: VACUUM JUNCTION K-35-1  
 Project Number: NOT GIVEN  
 Project Location: T17S-R35E-SEC35 K LEA COUNTY, NM

Sampling Date: 03/15/2023  
 Sampling Type: Water  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: RECOVERY WELL #1 (H231253-05)**

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	236	4.00	03/21/2023	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*	69.5	10.0	03/21/2023	ND	23.0	115	20.0	3.59		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	563	5.00	03/28/2023	ND	833	83.3	1000	9.95		

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Celey D. Keene, Lab Director/Quality Manager



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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

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

Celey D. Keene, Lab Director/Quality Manager

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

# Cardinal Laboratories, Inc.

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID #

Company Name: <b>RICE Operating Company</b>		BILL TO Company: PO# <b>RICE Operating Company</b>	
Project Manager: <b>Katie Jones</b>		Address: (Street, City, Zip) <b>122 W Taylor Street ~ Hobbs, New Mexico 88240</b>	
Address: (Street, City, Zip) <b>122 W Taylor Street ~ Hobbs, New Mexico 88240</b>		Phone#: <b>(575) 393-9174</b>	Fax#: <b>(575)397-1471</b>
Phone #: <b>(575) 393-9174</b>		Fax #: <b>(575) 397-1471</b>	

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

## ANALYSIS REQUEST

(Circle or Specify Method No.)

[illegible]

Relinquished by: Rozanne Johnson	Date: 3/20/2023	Time: 14:40	Received by: James Johnson	Date: 3/20/2023	Time: 14:41
Relinquished by: James Johnson	Date: 3/20/2023	Time:	Received By: (Laboratory Staff)	Date:	Time:
Delivered By: (Circle One)			Sample Condition	CHECKED BY:	
			Cool	Intact	
			Yes	Yes	(Initials)
			No	No	
Sampler - UPS - Bus - Other:					

Phone Results	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Fax Results	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No      Additional Fax Number: _____

## REMARKS:

**Email Results:** [kjones@riceswd.com](mailto:kjones@riceswd.com)  
[rozanne@sdacres.com](mailto:rozanne@sdacres.com)



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

June 15, 2023

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 06/08/23 16:32.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in dark ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" being more prominent.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/08/2023  
 Reported: 06/15/2023  
 Project Name: VACUUM JUNCTION K-35-1  
 Project Number: NOT GIVEN  
 Project Location: T17S-R35E-SEC35 K LEA COUNTY, NM

Sampling Date: 06/07/2023  
 Sampling Type: Water  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: MONITOR WELL #1 (H232956-01)**

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	220	4.00	06/09/2023	ND	108	108	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*	62.8	10.0	06/12/2023	ND	20.0	99.8	20.0	2.28		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	702	5.00	06/13/2023	ND	835	83.5	1000	1.52		

**Sample ID: MONITOR WELL #2 (H232956-02)**

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	06/09/2023	ND	108	108	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*	71.8	10.0	06/12/2023	ND	20.0	99.8	20.0	2.28		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	434	5.00	06/13/2023	ND	835	83.5	1000	1.52		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/08/2023  
 Reported: 06/15/2023  
 Project Name: VACUUM JUNCTION K-35-1  
 Project Number: NOT GIVEN  
 Project Location: T17S-R35E-SEC35 K LEA COUNTY, NM

Sampling Date: 06/07/2023  
 Sampling Type: Water  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: MONITOR WELL #3 (H232956-03)**

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	06/09/2023	ND	108	108	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*	69.8	10.0	06/12/2023	ND	20.0	99.8	20.0	2.28		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	519	5.00	06/13/2023	ND	835	83.5	1000	1.52		

**Sample ID: MONITOR WELL #4 (H232956-04)**

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	64.0	4.00	06/09/2023	ND	108	108	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*	69.2	10.0	06/12/2023	ND	20.0	99.8	20.0	2.28		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	402	5.00	06/14/2023	ND	822	82.2	1000	2.21		

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/08/2023  
 Reported: 06/15/2023  
 Project Name: VACUUM JUNCTION K-35-1  
 Project Number: NOT GIVEN  
 Project Location: T17S-R35E-SEC35 K LEA COUNTY, NM

Sampling Date: 06/07/2023  
 Sampling Type: Water  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: RECOVERY WELL #1 (H232956-05)**

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	140	4.00	06/09/2023	ND	108	108	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*	61.9	10.0	06/12/2023	ND	20.0	99.8	20.0	2.28		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	568	5.00	06/14/2023	ND	822	82.2	1000	2.21		

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Celey D. Keene, Lab Director/Quality Manager



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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

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

Celey D. Keene, Lab Director/Quality Manager

Delivered By: (Circle One)  Sampler - UPS - Bus - Other:	Sample Condition <table border="1"> <thead> <tr> <th></th> <th>Cool</th> <th>Intact</th> </tr> </thead> <tbody> <tr> <td>Yes</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>No</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>		Cool	Intact	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	<input type="checkbox"/>	CHECKED BY:  (Initials)
	Cool	Intact									
Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
No	<input type="checkbox"/>	<input type="checkbox"/>									



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

September 29, 2023

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 09/19/23 13:52.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 09/19/2023  
Reported: 09/29/2023  
Project Name: VACUUM JUNCTION K-35-1  
Project Number: NOT GIVEN  
Project Location: T17S-R35E-SEC35 K LEA COUNTY, NM

Sampling Date: 09/13/2023  
Sampling Type: Water  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: MONITOR WELL #1 (H235077-01)**

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	09/20/2023	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*		71.5	10.0	09/20/2023	ND	22.3	112	20.0	3.19	
	TDS	160.1								
		mg/L		Analyzed By: AC						
	Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*		604	5.00	09/26/2023	ND	480	96.0	500	4.51	

**Sample ID: MONITOR WELL #2 (H235077-02)**

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	09/20/2023	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*	68.6	10.0	09/20/2023	ND	22.3	112	20.0	3.19		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	375	5.00	09/26/2023	ND	480	96.0	500	4.51		

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 09/19/2023  
Reported: 09/29/2023  
Project Name: VACUUM JUNCTION K-35-1  
Project Number: NOT GIVEN  
Project Location: T17S-R35E-SEC35 K LEA COUNTY, NM

Sampling Date: 09/13/2023  
Sampling Type: Water  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: MONITOR WELL #3 (H235077-03)**

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	132	4.00	09/20/2023	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*	77.4	10.0	09/20/2023	ND	22.3	112	20.0	3.19		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	527	5.00	09/26/2023	ND	480	96.0	500	4.51		

**Sample ID: MONITOR WELL #4 (H235077-04)**

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	104	4.00	09/20/2023	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*	96.8	25.0	09/20/2023	ND	22.3	112	20.0	3.19		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	498	5.00	09/26/2023	ND	480	96.0	500	4.51		

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 09/19/2023  
 Reported: 09/29/2023  
 Project Name: VACUUM JUNCTION K-35-1  
 Project Number: NOT GIVEN  
 Project Location: T17S-R35E-SEC35 K LEA COUNTY, NM

Sampling Date: 09/13/2023  
 Sampling Type: Water  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: RECOVERY WELL #1 (H235077-05)**

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	09/20/2023	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*	63.8	10.0	09/20/2023	ND	22.3	112	20.0	3.19		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	490	5.00	09/26/2023	ND	480	96.0	500	4.51		

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Celey D. Keene, Lab Director/Quality Manager

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

---

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

---

Celey D. Keene, Lab Director/Quality Manager

## Cardinal Laboratories, Inc.

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # \_\_\_\_\_


**ANALYSIS REQUEST**  
(Circle or Specify Method No.)

Project Location: T17S-R35E-Sec35 K ~ Lea County New Mexico

[illegible]

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

REMARKS:
Email Results: <a href="mailto:kjones@riceswd.com">kjones@riceswd.com</a> <a href="mailto:rozanne@sdacres.com">rozanne@sdacres.com</a>

Delivered By: (Circle One)  Sampler - IIPS - Bus - Other:	Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/>	CHECKED BY:  (Initials) 
---	---	---



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

October 30, 2023

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 10/19/23 11:15.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in dark ink, reading "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 10/19/2023  
 Reported: 10/30/2023  
 Project Name: VACUUM JUNCTION K-35-1  
 Project Number: NOT GIVEN  
 Project Location: T17S-R35E-SEC35 K LEA COUNTY, NM

Sampling Date: 10/14/2023  
 Sampling Type: Water  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: MONITOR WELL #1 (H235717-01)**

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	10/20/2023	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*	71.3	10.0	10/20/2023	ND	21.6	108	20.0	9.71		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	684	5.00	10/24/2023	ND	490	98.0	500	1.48		

**Sample ID: MONITOR WELL #2 (H235717-02)**

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	10/20/2023	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*	71.2	10.0	10/20/2023	ND	21.6	108	20.0	9.71		
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	10/24/2023	ND	490	98.0	500	1.48		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 10/19/2023  
 Reported: 10/30/2023  
 Project Name: VACUUM JUNCTION K-35-1  
 Project Number: NOT GIVEN  
 Project Location: T17S-R35E-SEC35 K LEA COUNTY, NM

Sampling Date: 10/14/2023  
 Sampling Type: Water  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: MONITOR WELL #3 (H235717-03)**

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	10/20/2023	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*	59.0	10.0	10/20/2023	ND	21.6	108	20.0	9.71		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	557	5.00	10/24/2023	ND	490	98.0	500	1.48		

**Sample ID: MONITOR WELL #4 (H235717-04)**

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	10/20/2023	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*	66.3	25.0	10/20/2023	ND	21.6	108	20.0	9.71		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	542	5.00	10/27/2023	ND	824	82.4	1000	1.30		

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 10/19/2023  
 Reported: 10/30/2023  
 Project Name: VACUUM JUNCTION K-35-1  
 Project Number: NOT GIVEN  
 Project Location: T17S-R35E-SEC35 K LEA COUNTY, NM

Sampling Date: 10/14/2023  
 Sampling Type: Water  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: RECOVERY WELL #1 (H235717-05)**

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	48.0	4.00	10/20/2023	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*	66.5	10.0	10/20/2023	ND	21.6	108	20.0	9.71		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	394	5.00	10/27/2023	ND	824	82.4	1000	1.30		

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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

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

Celey D. Keene, Lab Director/Quality Manager

LAB Order ID # \_\_\_\_\_

<b>ANALYSIS REQUEST</b> (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 <sub>4</sub> , CO <sub>3</sub> , HCO <sub>3</sub> )				
	Sulfates	X	X	X	X
	Total Dissolved Solids	X	X	X	X
	Chlorides	X	X	X	X
	Turn Around Time ~ 24 Hours				

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

REMARKS:

Email Results: [kjones@riceswd.com](mailto:kjones@riceswd.com)  
[rozanne@sdacres.com](mailto:rozanne@sdacres.com)

**From:** [OCDOnline@state.nm.us](mailto:OCDOnline@state.nm.us)  
**To:** [Katie Jones](#)  
**Subject:** The Oil Conservation Division (OCD) has approved the application, Application ID: 202305  
**Date:** Tuesday, May 23, 2023 3:20:59 PM

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To whom it may concern (c/o Katie Davis for RICE OPERATING COMPANY),

The OCD has approved the submitted *Ground Water Abatement* (GROUND WATER ABATEMENT), for incident ID (n#) nAPP2110349616, with the following conditions:

- **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.

The signed GROUND WATER ABATEMENT can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,  
Nelson Velez  
Environmental Specialist - Advanced  
505-469-6146  
[Nelson.Velez@emnrd.nm.gov](mailto:Nelson.Velez@emnrd.nm.gov)

**New Mexico Energy, Minerals and Natural Resources Department**  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

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

CONDITIONS

Action 327875

CONDITIONS

Operator: RICE OPERATING COMPANY 122 W Taylor Hobbs, NM 88240	OGRID: 19174
	Action Number: 327875
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the 2023 Annual Report for Rice Operating Company (ROC)--Vacuum-K35-1: content is satisfactory. 1. Seeking closure will require ROC to submit an official Completion and Termination Report--if that hasn't already been submitted. The report will need to demonstrate all requirements in 19.15.30.19 NMAC paragraphs (A) and (B). 2. Include the most up-to-date groundwater data and all relevant data for the site to demonstrate closure status. 3. Please submit the report within sixty (60) days from receipt of this notification.	2/26/2025