

# RICE Operating Company

112 West Taylor • Hobbs, New Mexico 88240

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**REVIEWED**

*By Mike Buchanan at 1:05 pm, Jun 26, 2024*

**April 1, 2024**

**Nelson Velez**

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

Review of the 2023 Annual Groundwater Report for ROC BD SWD System: Content Satisfactory

1. Continue to collect groundwater samples on a quarterly schedule as prescribed.
2. Continue groundwater recovery
3. Submit the 2024 Annual Groundwater Report by April 1, 2025.

**RE: 2023 Annual Groundwater Report  
Rice Operating Company – BD SWD System  
BD Santa Rita EOL Release Site (AP-58): UL/A, Sec. 27, T22S, R37E  
NMOCD Incident ID: nAPP2109646576**

Mr. Velez:

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

## Background and Previous Work

The site is located approximately 4.5 miles southeast of Eunice, New Mexico at UL/A, Sec. 27, T22S, R37E as shown on the Geographic Location Map. Groundwater sampling at the site indicated that the depth to groundwater is located at approximately 54 feet below ground surface (bgs).

On November 22<sup>nd</sup>, 2003, ROC discovered a leak from a 2-inch PVC compression coupling. After initial backhoe characterization, the site was disclosed to NMOCD as a potential groundwater impact site on January 6<sup>th</sup>, 2004. Since groundwater impact was suspected, MW-1 was installed on August 30<sup>th</sup>, 2005. On October 30<sup>th</sup>, 2007, an up-gradient well, MW-2, and a down-gradient well, MW-3, were installed to fully delineate groundwater quality. NMOCD approved the Amended Stage 2 Abatement Plan on February 4<sup>th</sup>, 2009. As a result, MW-1 was plugged and abandoned on February 27<sup>th</sup>, 2009, and the excavation for liner installation commenced on March 24<sup>th</sup>, 2009. Two, one ft thick clay liners, one with dimensions of 40x20 ft at 30 ft bgs and one with dimensions of 40x50 ft at 12 ft bgs, were installed and a 20-mil plastic liner of equal size was placed above both clay layers. Each plastic liner was padded with a foot of blow sand. The site was backfilled with clean soil, contoured to the surrounding location, and seeded with a native vegetative mix. On June 16<sup>th</sup> and 17<sup>th</sup>, 2009, MW-4 and RW-1 were installed at the site. On October 10<sup>th</sup>, 2012, ROC submitted a Soil Closure Request which was approved by NMOCD on the same day.

Groundwater recovery began on June 22<sup>nd</sup>, 2010 from RW-1. Since that time, approximately 63,041 barrels of groundwater have been removed. The most recent sampling event resulted in a

chloride concentration of 40 mg/L in MW-2, 388 mg/L in MW-3, 344 mg/L in MW-4, and 530 mg/L in RW-1. BTEX concentrations have remained below detectable limit in each well since installation. On February 4<sup>th</sup>, 2022, NMOCD granted approval to cease sampling in MW-2 and approval to cease BTEX and sulfate sampling in MW-3 and MW-4. ROC will continue to grab samples from MW-2, as need, to ensure there are no non-ROC, up-gradient sources contributing to the degradation of groundwater quality. ROC will also continue quarterly sampling and groundwater recovery in 2024.

Attached is the Appendix, which contains:

1. A Geographic Location Map.
2. A map showing well locations and groundwater gradient.
3. A table presenting all laboratory results and depth to groundwater for each well at the site, and a graph showing recent laboratory results.
4. The laboratory analytical results for 2023.

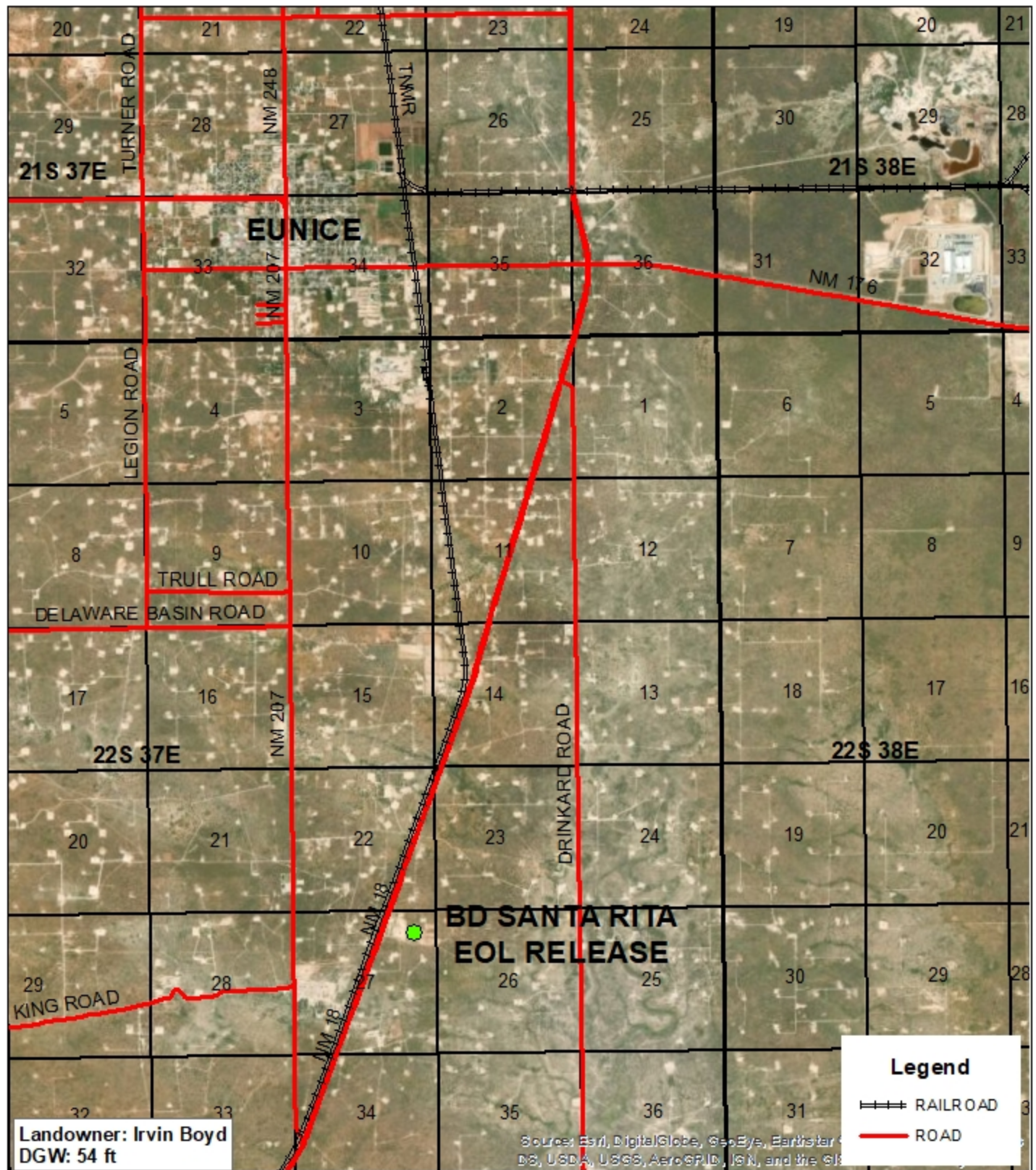
Rice Operating Company appreciates the opportunity to work with you on this project. Please contact me at (575) 393-9174 if you have any questions or wish to further discuss this site. Thank you for your time and consideration.

Sincerely,



Katie Davis  
Environmental Manager  
RICE Operating Company (ROC)

appendix



Landowner: Irvin Boyd  
DGW: 54 ft

Source: Esri, DigitalGlobe, GeoEye, Earthstar  
DB, USDA, USGS, AeroGRID, IGN, and the GIS

**Legend**

- RAILROAD
- ROAD

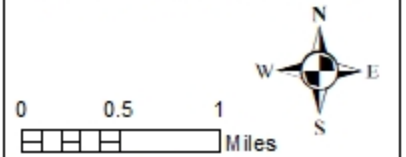


## BD SANTA RITA EOL RELEASE

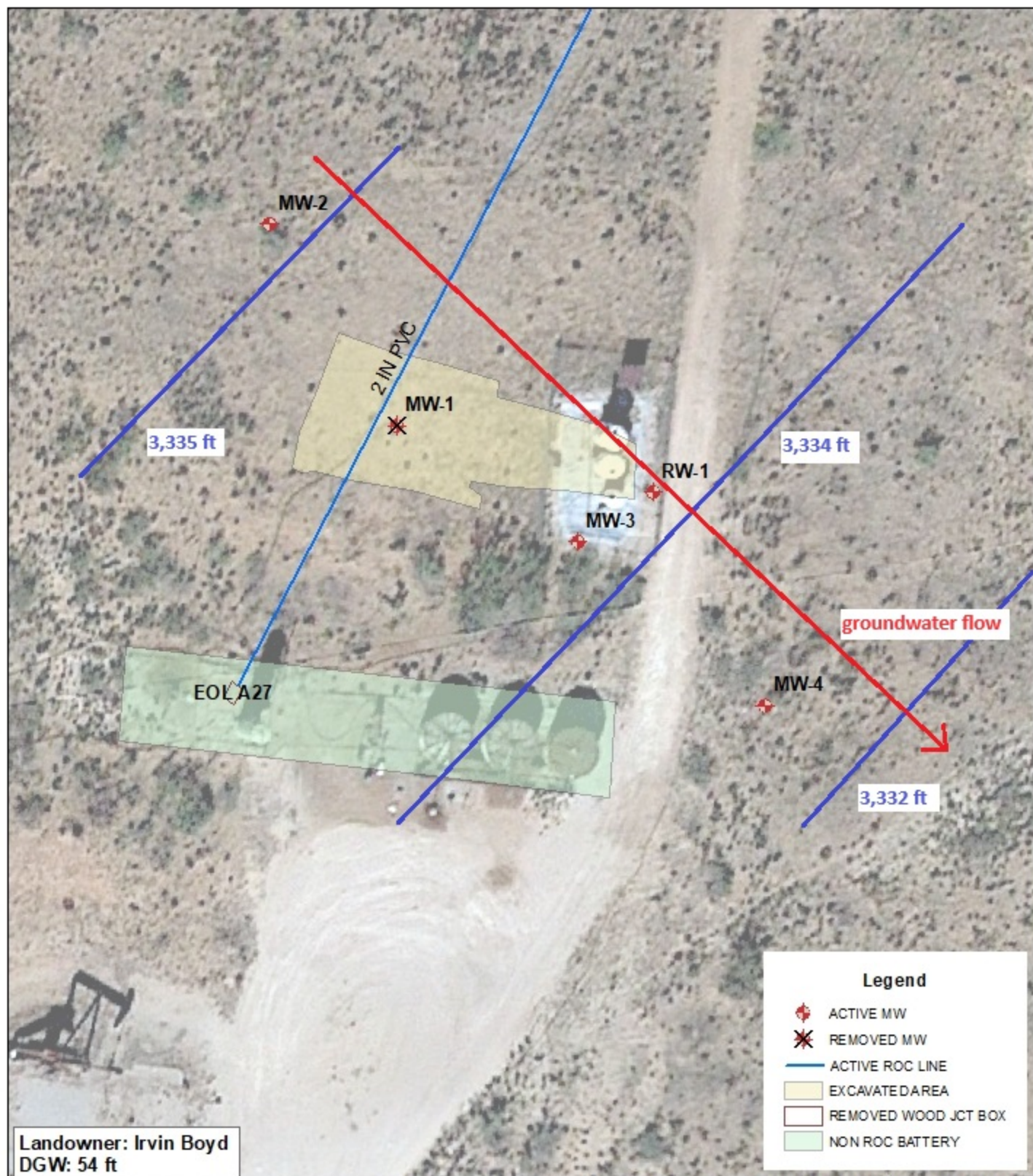
AP-58

UL A SECTION 27  
T22S, R37E  
LEA COUNTY, NM

GPS: 32.367966 -103.145217  
NAD 83 STATE PLANE PROJ.  
NEW MEXICO EAST ZONE



Drawing date: 3/6/19  
Drafted by: T. Grieco



**Legend**

- ACTIVE MW
- REMOVED MW
- ACTIVE ROC LINE
- EXCAVATED AREA
- REMOVED WOOD JCT BOX
- NON ROC BATTERY

Landowner: Irvin Boyd  
 DGW: 54 ft

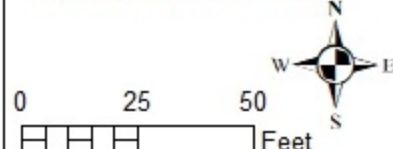


# BD SANTA RITA EOL RELEASE

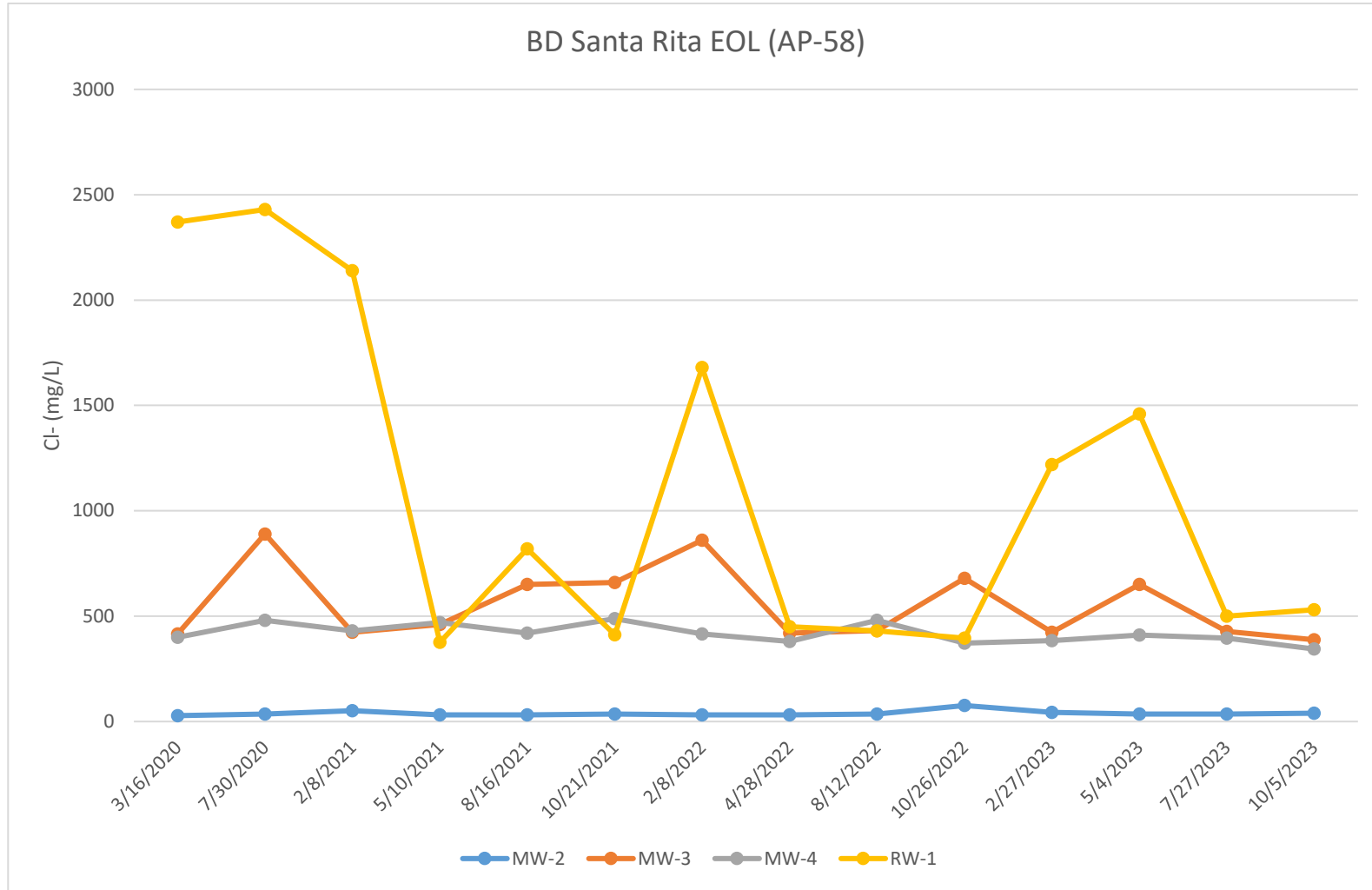
AP-58

UL A SECTION 27  
 T22S, R37E  
 LEA COUNTY, NM

GPS: 32.367966 -103.145217  
 NAD 83 STATE PLANE PROJ.  
 NEW MEXICO EAST ZONE



Drawing date: 3/21/24  
 Drafted by: T. Grieco



**ROC - BD Santa Rita EOL (AP-58)**  
**Unit Letter A, Section 27, T2S, R37E**

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	54.04	63.58	1.53	4.752	9/2/2005	4,480	7,600	<0.001	<0.001	<0.001	<0.001	1,380	red & silty
1	53.85	63.58	1.6	5	10/24/2005	7,170	16,400	<0.001	<0.001	<0.001	<0.001	726	red & silty
1	53.98	63.58	1.5	5	1/23/2006	7,450	14,300	<0.001	<0.001	<0.001	<0.001	723	red & silty
1	54.07	63.58	1.5	6	4/24/2006	7,100	14,300	<0.001	<0.001	<0.001	<0.001	675	
1	54.08	63.58	1.5	10	7/19/2006	6,180	14,000	<0.001	<0.001	<0.001	<0.001	583	
1	53.99	63.58	1.5	15	10/11/2006	2,100	4,560	<0.001	<0.001	<0.001	<0.001	408	Clear
1	54.1	63.58	1.5	5	1/25/2007	2,740	4,560	<0.001	<0.001	<0.001	<0.001	449	
1	54.11	63.58	1.5	5.5	4/4/2007	2,610	5,720	<0.001	<0.001	<0.001	<0.003	314	Clear No odor
1	53.8	63.58	1.6	6	7/9/2007	363	1,470	<0.001	<0.001	<0.001	<0.003	267	Clear No odor
1	53.87	63.58	1.6	6	11/12/2007	356	1,398	<0.001	<0.001	<0.001	<0.003	331	Clear No odor
1	53.88	63.58	1.6	6	1/15/2008	408	1,499	<0.001	<0.001	<0.001	<0.003	232	Clear No odor
1	53.98	63.58	1.5	6	4/7/2008	420	1,460	<0.001	<0.001	<0.001	<0.003	346	Sand to clear No odor
1	54.06	63.58	1.5	6	7/22/2008	440	1,460	<0.002	<0.002	<0.002	<0.006	271	Sand to clear No odor
1	54.11	63.58	1.5	6	10/2/2008	392	1,390	<0.001	<0.001	<0.001	<0.003	281	Sand to clear No odor
1	54.08	63.2	1.5	6	1/14/2009	352	1,250	<0.001	<0.001	<0.001	<0.003	250	Sand to clear No odor
MW-1 Plugged 2/27/2009													

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	54.55	62.58	1.3	6	11/12/2007	160	930	<0.001	<0.001	<0.001	<0.003	257	Clear No odor
2	54.57	63.7	1.5	6	1/15/2008	128	1,001	<0.001	<0.001	<0.001	<0.003	340	Clear No odor
2	54.65	63.7	1.4	6	4/7/2008	100	982	<0.001	<0.001	<0.001	<0.003	411	Sand to clear No odor
2	54.74	63.7	1.4	6	7/22/2008	92	931	<0.002	<0.002	<0.002	<0.006	377	Sand to clear No odor
2	54.81	63.7	1.4	6	10/2/2008	88	902	<0.001	<0.001	<0.001	<0.003	333	Sand to clear No odor
2	54.78	64.2	1.5	6	1/14/2009	84	850	<0.001	<0.001	<0.001	<0.003	309	Sand to clear No odor
2	54.82	64.2	1.5	6	4/14/2009	80	858	<0.001	<0.001	<0.001	<0.003	319	Sand to clear No odor
2	54.79	64.43	1.5	6	7/13/2009	76	802	<0.001	<0.001	<0.001	<0.003	279	Sand to clear No odor
2	54.79	64.43	1.5	6	10/8/2009	64	776	<0.001	<0.001	<0.001	<0.003	244	Sand to clear No odor

**ROC - BD Santa Rita EOL (AP-58)**  
**Unit Letter A, Section 27, T2S, R37E**

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	54.83	64.42	1.5	6	1/6/2010	60	726	<0.001	<0.001	<0.001	<0.003	268	Sand to clear No odor
2	54.85	64.42	1.5	6	4/9/2010	52	710	<0.001	<0.001	<0.001	<0.003	250	Sand to clear No odor
2	55.1	64.42	1.5	6	7/9/2010	52	644	<0.001	<0.001	<0.001	<0.003	201	Sand to clear No odor
2	55.05	64.42	1.5	6	10/6/2010	40	530	<0.001	<0.001	<0.001	<0.003	115	Sand to clear No odor
2	54.82	64.42	1.5	6	2/11/2011	88	601	<0.001	<0.001	<0.001	<0.003	123	Sand to clear No odor
2	54.92	64.42	1.5	6	4/12/2011	40	470	<0.001	<0.001	<0.001	<0.003	117	Sand to clear No odor
2	55.23	64.42	1.5	6	7/18/2011	36	491	<0.001	<0.001	<0.001	<0.003	106	Sand to clear No odor
2	55.33	64.42	1.5	6	10/13/2011	44	496	<0.001	<0.001	<0.001	<0.003	121	Sand to clear No odor
2	54.98	64.42	1.5	6	1/18/2012	40	414	<0.001	<0.001	<0.001	<0.003	116	Sand to clear No odor
2	55.34	64.42	1.5	6	4/17/2012	32	458	<0.001	<0.001	<0.001	<0.003	94.6	Sand to clear No odor
2	55.06	64.42	1.5	6	7/16/2012	80	613	<0.001	<0.001	<0.001	<0.003	327	Sand to clear No odor
2	55.33	64.42	1.5	6	10/5/2012	40	510	<0.001	<0.001	<0.001	<0.003	108	Sand to clear No odor
2	55.03	64.42	1.5	6	1/8/2013	40	456	<0.001	<0.001	<0.001	<0.003	94	Sand to clear No odor
2	55.03	64.42	1.5	6	4/19/2013	44	428	<0.001	<0.001	<0.001	<0.003	83	Sand to clear No odor
2	55.07	64.42	1.5	6	7/16/2013	44	424	<0.001	<0.001	<0.001	<0.003	99	Sand to clear No odor
2	55.14	64.42	1.5	6	10/17/2013	40	437	<0.001	<0.001	<0.001	<0.003	85.2	Sand to clear No odor
2	54.92	64.42	1.5	6	1/17/2014	36	406	<0.001	<0.001	<0.001	<0.003	82.3	Sand to clear No odor
2	55.02	64.42	1.5	6	4/7/2014	44	456	<0.001	<0.001	<0.001	<0.003	111	Sand to clear No odor
2	55.05	64.42	1.5	6	7/16/2014	40	472	<0.001	<0.001	<0.001	<0.003	77.4	Sand to clear No odor
2	54.01	64.42	1.7	6	10/23/2014	52	454	<0.001	<0.001	<0.001	<0.003	116	Sand to clear No odor
2	53.83	64.42	1.7	6	2/2/2015	56	438	<0.001	<0.001	<0.001	<0.003	117	Sand to clear No odor
2	54.05	64.42	1.7	6	4/21/2015	40	434	<0.001	<0.001	<0.001	<0.003	89.7	Sand to clear No odor
2	54.32	64.42	1.62	6	7/21/2015	60	480	<0.001	<0.001	<0.001	<0.003	83	Sand to clear No odor
2	54.34	64.42	1.61	6	11/18/2015	76	626	<0.001	<0.001	<0.001	<0.003	135	Sand to clear No odor
2	53.84	64.42	1.7	6	1/28/2016	68	608	<0.001	<0.001	<0.001	<0.003	161	Sand to clear No odor
2	54.15	64.42	1.6	6	4/21/2016	112	518	<0.001	<0.001	<0.001	<0.003	95.8	Sand to clear No odor
2	54.21	64.42	1.6	6	7/21/2016	60	652	<0.001	<0.001	<0.001	<0.003	172	Sand to clear No odor
2	53.64	64.42	1.7	6	10/21/2016	68	658	<0.001	<0.001	<0.001	<0.003	184	Sand to clear No odor
2	53.72	64.42	1.7	6	2/3/2017	60	572	<0.001	<0.001	<0.001	<0.003	139	Sand to clear No odor

**ROC - BD Santa Rita EOL (AP-58)**  
**Unit Letter A, Section 27, T2S, R37E**

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	53.91	64.42	1.7	6	4/6/2017	52	534	<0.001	<0.001	<0.001	<0.003	128	Sand to clear No odor
2	53.82	64.42	1.7	6	7/28/2017	48	538	<0.001	<0.001	<0.001	<0.003	103	Sand to clear No odor
2	53.74	64.42	1.7	6	10/20/2017	44	532	<0.001	<0.001	<0.001	<0.003	118	Sand to clear No odor
2	53.7	64.42	1.7	6	1/16/2018	36	436	<0.001	<0.001	<0.001	<0.003	108	Sand to clear No odor
2	53.78	64.42	1.7	6	4/26/2018	44	464	<0.001	<0.001	<0.001	<0.003	121	Sand to clear No odor
2	54.05	64.42	1.7	6	8/2/2018	56	474	<0.001	<0.001	<0.001	<0.003	96.8	Sand to clear No odor
2	54.07	64.42	1.7	6	10/30/2018	48	476	<0.001	<0.001	<0.001	<0.003	102	Sand to clear No odor
2	53.68	64.42	1.7	6	2/4/2019	52	460	<0.001	<0.001	<0.001	<0.003	98	Sand to clear No odor
2	53.78	64.42	1.7	6	4/22/2019	44	360	<0.001	<0.001	<0.001	<0.003	88	Sand to clear No odor
2	54.1	64.42	1.7	6	7/19/2019	48	444	<0.001	<0.001	<0.001	<0.003	101	Sand to clear No odor
2	53.94	64.42	1.7	6	10/23/2019	40	416	<0.001	<0.001	<0.001	<0.003	87	Sand to clear No odor
2	53.7	64.42	1.7	6	3/16/2020	28	244	<0.001	<0.001	<0.001	<0.003	107	Sand to clear No odor
2	53.79	64.42	1.7	6	7/30/2020	36	370	XXX	XXX	XXX	XXX	74	Sand to clear No odor
2	53.82	64.42	1.7	6	2/8/2021	52	369	XXX	XXX	XXX	XXX	102	Sand to clear No odor
2	53.91	64.42	1.7	6	5/10/2021	32	392	<0.001	<0.001	<0.001	<0.003	80.7	Sand to clear No odor
2	53.93	64.42	1.7	6	8/16/2021	32	381	<0.001	<0.001	<0.001	<0.003	74.4	Sand to clear No odor
2	53.66	64.42	1.7	6	10/21/2021	36	399	<0.001	<0.001	<0.001	<0.003	63	Sand to clear No odor
2	53.71	64.42	1.7	6	2/8/2022	32	386	<0.001	<0.001	<0.001	<0.003	62.7	Sand to clear No odor
2	53.88	64.42	1.7	6	4/28/2022	32	380	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
2	54.04	64.42	1.7	6	8/12/2022	36	355	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
2	53.72	64.42	1.7	6	10/26/2022	76	423	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
2	53.73	64.42	1.7	6	2/27/2023	44	392	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
2	53.77	64.42	1.7	6	5/4/2023	36	346	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
2	53.91	64.42	1.7	6	7/27/2023	36	407	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
2	53.94	64.42	1.7	6	10/5/2023	40	384	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor



**ROC - BD Santa Rita EOL (AP-58)**  
**Unit Letter A, Section 27, T22S, R37E**

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	53.86	65.44	1.9	6	10/2/2008	1,020	2,830	<0.001	<0.001	<0.001	<0.003	280	Sand to clear No odor
3	53.83	65.42	1.9	6	1/14/2009	1,050	2,670	<0.001	<0.001	<0.001	<0.003	280	Sand to clear No odor
3	53.9	65.42	1.8	6	4/14/2009	960	2,200	<0.001	<0.001	<0.001	<0.003	294	Sand to clear No odor
3	53.88	65.45	1.9	6	7/13/2009	900	2,080	<0.001	<0.001	<0.001	<0.003	270	Sand to clear No odor
3	53.85	65.45	1.9	6	10/8/2009	900	2,340	<0.001	<0.001	<0.001	<0.003	254	Sand to clear No odor
3	54.04	65.45	1.8	6	1/6/2010	910	2,170	<0.001	<0.001	<0.001	<0.003	254	Sand to clear No odor
3	53.94	65.45	1.8	6	4/9/2010	1,110	2,150	<0.001	<0.001	<0.001	<0.003	181	Sand to clear No odor
3	54.94	65.45	1.7	6	7/9/2010	780	1,840	<0.001	<0.001	<0.001	<0.003	276	Sand to clear No odor
3	54.98	65.45	1.7	6	10/6/2010	1,000	2,360	<0.001	<0.001	<0.001	<0.003	266	Sand to clear No odor
3	54.38	65.43	1.8	6	2/11/2011	780	1,560	<0.001	<0.001	<0.001	<0.003	192	Sand to clear No odor
3	55.03	65.43	1.7	6	4/12/2011	1,080	2,350	<0.001	<0.001	<0.001	<0.003	274	Sand to clear No odor
3	54.61	65.43	1.7	6	7/18/2011	720	1,740	<0.001	<0.001	<0.001	<0.003	234	Sand to clear No odor
3	54.7	65.43	1.7	6	10/13/2011	670	1,590	<0.001	<0.001	<0.001	<0.003	247	Sand to clear No odor
3	54.18	65.43	1.8	6	1/18/2012	630	1,520	<0.001	<0.001	<0.001	<0.003	244	Sand to clear No odor
3	54.69	65.43	1.7	6	4/17/2012	520	1,410	<0.001	<0.001	<0.001	<0.003	208	Sand to clear No odor
3	54.48	65.43	1.8	6	7/16/2012	520	1,460	<0.001	<0.001	<0.001	<0.003	267	Sand to clear No odor
3	54.64	65.43	1.7	6	10/5/2012	520	1,520	<0.001	<0.001	<0.001	<0.003	226	Sand to clear No odor
3	54.06	65.43	1.8	6	1/8/2013	730	1,520	<0.001	<0.001	<0.001	<0.003	177	Sand to clear No odor
3	54.42	65.43	1.8	6	4/19/2013	750	1,620	<0.001	<0.001	<0.001	<0.003	202	Sand to clear No odor
3	54.26	65.43	1.8	6	7/16/2013	448	1,280	<0.001	<0.001	<0.001	<0.003	220	Sand to clear No odor
3	54.28	65.43	1.8	6	10/17/2013	600	1,490	<0.001	<0.001	<0.001	<0.003	174	Sand to clear No odor
3	54.02	65.43	1.8	6	1/17/2014	540	1,320	<0.001	<0.001	<0.001	<0.003	176	Sand to clear No odor
3	54.22	65.43	1.8	6	4/7/2014	580	1,510	<0.001	<0.001	<0.001	<0.003	251	Sand to clear No odor
3	54.24	65.43	1.8	6	7/16/2014	460	1,400	<0.001	<0.001	<0.001	<0.003	215	Sand to clear No odor
3	53.82	65.43	1.9	6	10/23/2014	490	1,420	<0.001	<0.001	<0.001	<0.003	206	Sand to clear No odor
3	53.39	65.43	1.9	6	2/2/2015	520	1,520	<0.001	<0.001	<0.001	<0.003	349	Sand to clear No odor
3	53.49	65.43	1.9	6	4/21/2015	580	1,560	<0.001	<0.001	<0.001	<0.003	219	Sand to clear No odor
3	53.88	65.43	1.85	6	7/21/2015	500	1,430	<0.001	<0.001	<0.001	<0.003	185	Sand to clear No odor
3	53.85	65.43	1.85	6	11/18/2015	540	1,420	<0.001	<0.001	<0.001	<0.003	190	Sand to clear No odor

**ROC - BD Santa Rita EOL (AP-58)**  
**Unit Letter A, Section 27, T2S, R37E**

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	53.37	65.43	1.9	6	1/28/2016	830	1,990	<0.001	<0.001	<0.001	<0.003	356	Sand to clear No odor
3	53.7	65.43	1.9	6	4/21/2016	560	1,500	<0.001	<0.001	<0.001	<0.003	248	Sand to clear No odor
3	53.81	65.43	1.9	6	7/21/2016	530	1,300	<0.001	<0.001	<0.001	<0.003	222	Sand to clear No odor
3	53.68	65.43	1.9	6	10/21/2016	388	1,240	<0.001	<0.001	<0.001	<0.003	208	Sand to clear No odor
3	53.39	65.43	1.9	6	2/3/2017	780	1,710	<0.001	<0.001	<0.001	<0.003	132	Sand to clear No odor
3	53.49	65.43	1.9	6	4/6/2017	660	1,590	<0.001	<0.001	<0.001	<0.003	241	Sand to clear No odor
3	53.55	65.43	1.9	6	7/28/2017	500	1,520	<0.001	<0.001	<0.001	<0.003	201	Sand to clear No odor
3	53.46	65.43	1.9	6	10/20/2017	530	1,370	<0.001	<0.001	<0.001	<0.003	241	Sand to clear No odor
3	53.51	65.43	1.9	6	1/16/2018	640	1,330	<0.001	<0.001	<0.001	<0.003	230	Sand to clear No odor
3	53.56	65.43	1.9	6	4/26/2018	590	1,560	<0.001	<0.001	<0.001	<0.003	233	Sand to clear No odor
3	53.94	65.43	1.8	6	8/2/2018	540	1,290	<0.001	<0.001	<0.001	<0.003	224	Sand to clear No odor
3	54.01	65.43	1.8	6	10/30/2018	790	1,720	<0.001	<0.001	<0.001	<0.003	207	Sand to clear No odor
3	53.48	65.43	1.9	6	2/4/2019	440	1,200	<0.001	<0.001	<0.001	<0.003	220	Sand to clear No odor
3	53.37	65.43	1.9	6	4/22/2019	528	1,510	<0.001	<0.001	<0.001	<0.003	243	Sand to clear No odor
3	53.89	65.43	1.9	6	7/19/2019	428	1,340	<0.001	<0.001	<0.001	<0.003	227	Sand to clear No odor
3	53.74	65.43	1.9	6	10/23/2019	396	1,200	<0.001	<0.001	<0.001	<0.003	205	Sand to clear No odor
3	53.5	65.43	1.9	6	3/16/2020	416	997	<0.001	<0.001	<0.001	<0.003	258	Sand to clear No odor
3	53.52	65.43	1.9	6	7/30/2020	890	1,910	XXX	XXX	XXX	XXX	204	Sand to clear No odor
3	53.55	65.43	1.9	6	2/8/2021	424	1,280	XXX	XXX	XXX	XXX	271	Sand to clear No odor
3	53.64	65.43	1.9	6	5/10/2021	460	1,420	<0.001	<0.001	<0.001	<0.003	244	Sand to clear No odor
3	53.69	65.43	1.9	6	8/16/2021	650	1,610	<0.001	<0.001	<0.001	<0.003	196	Sand to clear No odor
3	53.42	65.43	1.9	6	10/21/2021	660	1,620	<0.001	<0.001	<0.001	<0.003	198	Sand to clear No odor
3	53.48	65.43	1.9	6	2/8/2022	860	1,890	<0.001	<0.001	<0.001	<0.003	246	Sand to clear No odor
3	53.67	65.43	1.9	6	4/28/2022	420	1,270	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
3	53.82	65.43	1.9	6	8/12/2022	432	1,220	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
3	53.5	65.43	1.9	6	10/26/2022	680	1,580	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
3	53.46	65.43	1.9	6	2/27/2023	424	1,200	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
3	53.5	65.43	1.9	6	5/4/2023	650	1,570	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
3	53.63	65.43	1.9	6	7/27/2023	428	1,340	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor

**ROC - BD Santa Rita EOL (AP-58)**  
**Unit Letter A, Section 27, T22S, R37E**

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	53.68	65.43	1.9	6	10/5/2023	388	1,230	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
4	52.28	64.4	1.9	6	7/13/2009	1,040	2,260	<0.001	<0.001	<0.001	<0.003	230	Sand to clear No odor
4	52.23	64.4	1.9	6	10/8/2009	1,240	3,320	<0.001	<0.001	<0.001	<0.003	233	Sand to clear No odor
4	52.23	64.29	1.9	6	1/6/2010	1,200	2,750	<0.001	<0.001	<0.001	<0.003	209	Sand to clear No odor
4	52.24	64.29	1.9	6	4/9/2010	900	2,100	<0.001	<0.001	<0.001	<0.003	313	Sand to clear No odor
4	52.76	64.29	1.8	6	7/9/2010	1,450	2,810	<0.001	<0.001	<0.001	<0.003	280	Sand to clear No odor
4	52.83	64.29	1.8	6	10/6/2010	1,040	2,320	<0.001	<0.001	<0.001	<0.003	251	Sand to clear No odor
4	52.22	65.2	2.1	8	2/11/2011	610	1,490	<0.001	<0.001	<0.001	<0.003	208	Sand to clear No odor
4	52.92	65.2	2	8	4/12/2011	640	1,580	<0.001	<0.001	<0.001	<0.003	238	Sand to clear No odor
4	52.95	65.2	2	8	7/18/2011	640	1,530	<0.001	<0.001	<0.001	<0.003	232	Sand to clear No odor
4	52.91	65.2	2	8	10/13/2011	450	1,160	<0.001	<0.001	<0.001	<0.003	235	Sand to clear No odor
4	52.32	65.2	2.1	8	1/18/2012	380	915	<0.001	<0.001	<0.001	<0.003	216	Sand to clear No odor
4	52.81	65.2	2	8	4/17/2012	344	1,110	<0.001	<0.001	<0.001	<0.003	207	Sand to clear No odor
4	52.64	65.2	2	8	7/16/2012	344	1,190	<0.001	<0.001	<0.001	<0.003	244	Sand to clear No odor
4	52.79	65.2	2	8	10/5/2012	352	1,180	<0.001	<0.001	<0.001	<0.003	218	Sand to clear No odor
4	52.41	65.2	2	8	1/8/2013	380	980	<0.001	<0.001	<0.001	<0.003	149	Sand to clear No odor
4	52.73	65.2	2	8	4/19/2013	410	1,140	<0.001	<0.001	<0.001	<0.003	213	Sand to clear No odor
4	52.57	65.2	2	8	7/16/2013	388	1,140	<0.001	<0.001	<0.001	<0.003	202	Sand to clear No odor
4	52.57	65.2	2	8	10/17/2013	368	1,100	<0.001	<0.001	<0.001	<0.003	197	Sand to clear No odor
4	52.34	65.2	2.1	8	1/17/2014	360	1,070	<0.001	<0.001	<0.001	<0.003	192	Sand to clear No odor
4	52.58	65.2	2	8	4/7/2014	448	1,200	<0.001	<0.001	<0.001	<0.003	204	Sand to clear No odor
4	52.59	65.2	2	8	7/16/2014	384	1,140	<0.001	<0.001	<0.001	<0.003	174	Sand to clear No odor
4	51.97	65.2	2.1	8	10/23/2014	360	1,100	<0.001	<0.001	<0.001	<0.003	157	Sand to clear No odor
4	51.52	65.2	2.2	8	2/2/2015	460	1,310	<0.001	<0.001	<0.001	<0.003	188	Sand to clear No odor
4	51.58	65.2	2.2	8	4/21/2015	500	1,350	<0.001	<0.001	<0.001	<0.003	207	Sand to clear No odor

**ROC - BD Santa Rita EOL (AP-58)**  
**Unit Letter A, Section 27, T22S, R37E**

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
4	51.89	65.2	2.13	8	7/21/2015	550	1,450	<0.001	<0.001	<0.001	<0.003	190	Sand to clear No odor
4	51.88	65.2	2.13	8	11/18/2015	500	1,350	<0.001	<0.001	<0.001	<0.003	228	Sand to clear No odor
4	51.42	65.2	2.2	8	1/28/2016	490	1,240	<0.001	<0.001	<0.001	<0.003	223	Sand to clear No odor
4	51.72	65.2	2.2	8	4/21/2016	450	1,360	<0.001	<0.001	<0.001	<0.003	224	Sand to clear No odor
4	51.64	65.2	2.2	8	7/21/2016	400	1,200	<0.001	<0.001	<0.001	<0.003	208	Sand to clear No odor
4	51.52	65.2	2.2	8	10/21/2016	420	1,160	<0.001	<0.001	<0.001	<0.003	111	Sand to clear No odor
4	51.24	65.2	2.2	8	2/3/2017	430	1,240	<0.001	<0.001	<0.001	<0.003	219	Sand to clear No odor
4	51.32	65.2	2.2	8	4/6/2017	440	1,410	<0.001	<0.001	<0.001	<0.003	208	Sand to clear No odor
4	51.38	65.2	2.2	8	7/28/2017	510	1,440	<0.001	<0.001	<0.001	<0.003	218	Sand to clear No odor
4	51.27	65.2	2.2	8	10/20/2017	520	1,330	<0.001	<0.001	<0.001	<0.003	206	Sand to clear No odor
4	51.12	65.2	2.3	8	1/16/2018	540	1,420	<0.001	<0.001	<0.001	<0.003	242	Sand to clear No odor
4	51.15	65.2	2.2	8	4/26/2018	500	1,460	<0.001	<0.001	<0.001	<0.003	247	Sand to clear No odor
4	51.55	65.2	2.2	8	8/2/2018	436	1,070	<0.001	<0.001	<0.001	<0.003	208	Sand to clear No odor
4	51.62	65.2	2.2	8	10/30/2018	450	1,190	<0.001	<0.001	<0.001	<0.003	206	Sand to clear No odor
4	51.14	65.2	2.2	8	2/4/2019	620	1,500	<0.001	<0.001	<0.001	<0.003	235	Sand to clear No odor
4	51.61	65.2	2.2	8	4/22/2019	432	1,210	<0.001	<0.001	<0.001	<0.003	246	Sand to clear No odor
4	51.61	65.2	2.2	8	7/19/2019	448	1,330	<0.001	<0.001	<0.001	<0.003	228	Sand to clear No odor
4	51.55	65.2	2.2	8	10/23/2019	380	1,210	<0.001	<0.001	<0.001	<0.003	214	Sand to clear No odor
4	51.12	65.2	2.3	8	3/16/2020	400	1,120	<0.001	<0.001	<0.001	<0.003	258	Sand to clear No odor
4	51.15	65.2	2.2	8	7/30/2020	480	1,350	XXX	XXX	XXX	XXX	207	Sand to clear No odor
4	51.18	65.2	2.2	8	2/8/2021	430	1,150	XXX	XXX	XXX	XXX	256	Sand to clear No odor
4	51.25	65.2	2.2	8	5/10/2021	470	1,370	<0.001	<0.001	<0.001	<0.003	242	Sand to clear No odor
4	51.29	65.2	2.2	8	8/16/2021	420	1,290	<0.001	<0.001	<0.001	<0.003	188	Sand to clear No odor
4	51.14	65.2	2.2	8	10/21/2021	488	1,360	<0.001	<0.001	<0.001	<0.003	239	Sand to clear No odor
4	51.09	65.2	2.3	8	2/8/2022	416	1,260	<0.001	<0.001	<0.001	<0.003	270	Sand to clear No odor
4	51.38	65.2	2.2	8	4/28/2022	380	1,210	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
4	51.53	65.2	2.2	8	8/12/2022	480	1,360	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
4	51.22	65.2	2.2	8	10/26/2022	372	1,190	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
4	51.14	65.2	2.2	8	2/27/2023	384	1,230	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor

**ROC - BD Santa Rita EOL (AP-58)**  
**Unit Letter A, Section 27, T22S, R37E**

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
4	51.18	65.2	2.2	8	5/4/2023	410	1,270	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
4	51.37	65.2	2.2	8	7/27/2023	396	1,320	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor
4	51.36	65.2	2.2	8	10/5/2023	344	1,170	XXX	XXX	XXX	XXX	XXX	Sand to clear No odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
RW-1	53.02	98.85	29.8	90	7/13/2009	1,340	2,750	<0.001	<0.001	<0.001	<0.003	288	Sand to clear No odor
RW-1	53.01	98.85	29.8	90	10/8/2009	1,520	2,970	<0.001	<0.001	<0.001	<0.003	251	Sand to clear No odor
RW-1	53.04	98.85	29.8	90	1/6/2010	1,480	2,880	<0.001	<0.001	<0.001	<0.003	224	Sand to clear No odor
RW-1	53.06	98.85	29.8	90	4/9/2010	1,300	2,620	<0.001	<0.001	<0.001	<0.003	290	Sand to clear No odor
RW-1	XXX	98.85	XXX	XXX	7/9/2010	1,260	2,750	<0.001	<0.001	<0.001	<0.003	291	Solar pump used to purge
RW-1	XXX	98.85	XXX	XXX	10/6/2010	930	2,360	<0.001	<0.001	<0.001	<0.003	298	Solar pump used to purge
RW-1	XXX	98.85	XXX	90	2/11/2011	850	1,800	<0.001	<0.001	<0.001	<0.003	180	Solar pump used to purge
RW-1	XXX	98.85	XXX	XXX	4/12/2011	1,000	2,190	<0.001	<0.001	<0.001	<0.003	298	Solar pump used to purge
RW-1	XXX	98.85	XXX	XXX	7/18/2011	740	1,740	<0.001	<0.001	<0.001	<0.001	255	Solar pump used to purge
RW-1	XXX	98.85	XXX	pumping	10/13/2011	680	1,630	<0.001	<0.001	<0.001	<0.003	199	Solar pump used to purge
RW-1	XXX	98.85	XXX	pumping	1/18/2012	630	1,500	<0.001	<0.001	<0.001	<0.003	244	Solar pump used to purge
RW-1	XXX	98.85	XXX	pumping	4/17/2012	580	1,490	<0.001	<0.001	<0.001	<0.003	277	Solar pump used to purge
RW-1	XXX	98.85	XXX	pumping	7/16/2012	650	1,710	<0.001	<0.001	<0.001	<0.003	250	Solar pump used to purge
RW-1	XXX	98.85	XXX	pumping	10/5/2012	680	1,760	<0.001	<0.001	<0.001	<0.003	218	Solar pump used to purge
RW-1	XXX	98.85	XXX	pumping	1/7/2013	750	1,600	<0.001	<0.001	<0.001	<0.003	188	Solar pump used to purge
RW-1	XXX	98.85	XXX	pumping	4/19/2013	570	1,480	<0.001	<0.001	<0.001	<0.003	224	Solar pump used to purge
RW-1	XXX	98.85	XXX	pumping	7/16/2013	540	1,480	<0.001	<0.001	<0.001	<0.003	247	Solar pump used to purge
RW-1	XXX	98.85	XXX	pumping	10/17/2013	520	1,430	<0.001	<0.001	<0.001	<0.003	195	Solar pump used to purge
RW-1	XXX	98.85	XXX	pumping	1/17/2014	570	1,300	<0.001	<0.001	<0.001	<0.003	188	Solar pump used to purge
RW-1	XXX	98.85	XXX	pumping	4/7/2014	770	1,800	<0.001	<0.001	<0.001	<0.003	258	Solar pump used to purge
RW-1	XXX	98.85	XXX	pumping	7/16/2014	470	1,410	<0.001	<0.001	<0.001	<0.003	210	Solar pump used to purge
RW-1	XXX	98.85	XXX	pumping	10/23/2014	440	1,430	<0.001	<0.001	<0.001	<0.003	200	Solar pump used to purge

**ROC - BD Santa Rita EOL (AP-58)**  
**Unit Letter A, Section 27, T22S, R37E**

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
RW-1	XXX	98.85	XXX	100	2/2/2015	550	1,450	<0.001	<0.001	<0.001	<0.003	220	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	4/21/2015	890	2,030	<0.001	<0.001	<0.001	<0.003	198	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	7/21/2015	520	1,430	<0.001	<0.001	<0.001	<0.003	195	Solar pump used to purge
RW-1	XXX	98.85	XXX	pumping	11/18/2015	520	1,380	<0.001	<0.001	<0.001	<0.003	259	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	1/28/2016	800	1,730	<0.001	<0.001	<0.001	<0.003	332	Solar pump used to purge
RW-1	XXX	98.85	XXX	running	4/21/2016	480	1,480	<0.001	<0.001	<0.001	<0.003	221	Solar pump used to purge
RW-1	XXX	98.85	XXX	running	7/21/2016	540	1,220	<0.001	<0.001	<0.001	<0.003	224	Solar pump used to purge
RW-1	XXX	98.85	XXX	running	10/21/2016	490	962	<0.001	<0.001	<0.001	<0.003	226	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	2/3/2017	800	1,500	<0.001	<0.001	<0.001	<0.003	194	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	4/6/2017	920	1,990	<0.001	<0.001	<0.001	<0.003	242	Solar pump used to purge
RW-1	XXX	98.85	XXX	Running	7/28/2017	830	2,150	<0.001	<0.001	<0.001	<0.003	212	Solar pump used to purge
RW-1	XXX	98.85	XXX	Running	10/20/2017	520	1,320	<0.001	<0.001	<0.001	<0.003	229	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	1/16/2018	1,060	2,450	<0.001	<0.001	<0.001	<0.003	227	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	4/26/2018	980	2,250	<0.001	<0.001	<0.001	<0.003	185	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	8/2/2018	470	1,380	<0.001	<0.001	<0.001	<0.003	232	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	10/30/2018	510	1,300	<0.001	<0.001	<0.001	<0.003	210	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	2/4/2019	2,070	3,230	<0.001	<0.001	<0.001	<0.003	263	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	4/22/2019	1,590	3,220	<0.001	<0.001	<0.001	<0.003	238	Solar pump used to purge
RW-1	XXX	98.85	XXX	Running	7/19/2019	450	1,350	<0.001	<0.001	<0.001	<0.003	196	Solar pump used to purge
RW-1	XXX	98.85	XXX	Running	10/23/2019	420	1,170	<0.001	<0.001	<0.001	<0.003	204	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	3/16/2020	2,370	3,500	<0.001	<0.001	<0.001	<0.003	257	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	7/30/2020	2,430	4,090	XXX	XXX	XXX	XXX	197	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	2/8/2021	2,140	3,550	XXX	XXX	XXX	XXX	217	Solar pump used to purge
RW-1	XXX	98.85	XXX	Running	5/10/2021	376	1,280	<0.001	<0.001	<0.001	<0.003	264	Solar pump used to purge
RW-1	XXX	98.85	XXX	Running	8/16/2021	820	1,780	<0.001	<0.001	<0.001	<0.003	157	Solar pump used to purge
RW-1	XXX	98.85	XXX	Running	10/21/2021	412	1,300	<0.001	<0.001	<0.001	<0.003	204	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	2/8/2022	1,680	3,040	<0.001	<0.001	<0.001	<0.003	213	Solar pump used to purge
RW-1	XXX	98.85	XXX	Running	4/28/2022	450	1,320	XXX	XXX	XXX	XXX	295	Solar pump used to purge
RW-1	XXX	98.85	XXX	Running	8/12/2022	430	1,210	XXX	XXX	XXX	XXX	170	Solar pump used to purge

**ROC - BD Santa Rita EOL (AP-58)**  
**Unit Letter A, Section 27, T22S, R37E**

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
RW-1	XXX	98.85	XXX	Running	10/26/2022	396	1,240	XXX	XXX	XXX	XXX	188	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	2/27/2023	1,220	2,240	XXX	XXX	XXX	XXX	222	Solar pump used to purge
RW-1	XXX	98.85	XXX	100	5/4/2023	1,460	2,570	XXX	XXX	XXX	XXX	190	Solar pump used to purge
RW-1	XXX	98.85	XXX	Running	7/27/2023	500	1,990	XXX	XXX	XXX	XXX	524	Solar pump used to purge
RW-1	XXX	98.85	XXX	Running	10/5/2023	530	1,420	XXX	XXX	XXX	XXX	209	Solar pump used to purge



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

---

March 14, 2023

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD SANTA RITA LEAK

Enclosed are the results of analyses for samples received by the laboratory on 02/28/23 14:40.

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 black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, flowing "C" at the beginning.

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:	02/28/2023	Sampling Date:	02/27/2023
Reported:	03/14/2023	Sampling Type:	Water
Project Name:	BD SANTA RITA LEAK	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	T22S R37E SEC27 A-LEA CTY., NM		

**Sample ID: MONITOR WELL #2 (H230929-01)**

Chloride, SM4500CI-B		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride*</b>	<b>44.0</b>	4.00	03/01/2023	ND	100	100	100	0.00		

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>TDS*</b>	<b>392</b>	5.00	03/06/2023	ND	812	81.2	1000	1.02		

**Sample ID: MONITOR WELL #3 (H230929-02)**

Chloride, SM4500CI-B		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride*</b>	<b>424</b>	4.00	03/01/2023	ND	100	100	100	0.00		

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>TDS*</b>	<b>1200</b>	5.00	03/06/2023	ND	812	81.2	1000	1.02		

**Sample ID: MONITOR WELL #4 (H230929-03)**

Chloride, SM4500CI-B		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride*</b>	<b>384</b>	4.00	03/01/2023	ND	100	100	100	3.92		

TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>TDS*</b>	<b>1230</b>	5.00	03/06/2023	ND	812	81.2	1000	1.02		

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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:	02/28/2023	Sampling Date:	02/27/2023
Reported:	03/14/2023	Sampling Type:	Water
Project Name:	BD SANTA RITA LEAK	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	T22S R37E SEC27 A-LEA CTY., NM		

**Sample ID: RECOVERY WELL #1 (H230929-04)**

Chloride, SM4500Cl-B		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride*</b>	<b>1220</b>	4.00	03/01/2023	ND	100	100	100	3.92	
Sulfate 375.4		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Sulfate*</b>	<b>222</b>	50.0	03/02/2023	ND	18.7	93.4	20.0	2.77	
TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>TDS*</b>	<b>2240</b>	5.00	03/06/2023	ND	812	81.2	1000	1.02	

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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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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager





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---

May 15, 2023

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD SANTA RITA LEAK

Enclosed are the results of analyses for samples received by the laboratory on 05/09/23 13:07.

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).

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

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:	05/09/2023	Sampling Date:	05/04/2023
Reported:	05/15/2023	Sampling Type:	Water
Project Name:	BD SANTA RITA LEAK	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	T22S R37E SEC27 A-LEA CTY., NM		

**Sample ID: MONITOR WELL #2 (H232299-01)**

Chloride, SM4500CI-B		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride*</b>	<b>36.0</b>	4.00	05/10/2023	ND	104	104	100	0.00		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>TDS*</b>	<b>346</b>	5.00	05/10/2023	5.00	849	84.9	1000	0.930		

**Sample ID: MONITOR WELL #3 (H232299-02)**

Chloride, SM4500CI-B		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride*</b>	<b>650</b>	4.00	05/10/2023	ND	104	104	100	0.00		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>TDS*</b>	<b>1570</b>	5.00	05/12/2023	ND	827	82.7	1000	1.83		

**Sample ID: MONITOR WELL #4 (H232299-03)**

Chloride, SM4500CI-B		mg/L		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride*</b>	<b>410</b>	4.00	05/10/2023	ND	104	104	100	3.92		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>TDS*</b>	<b>1270</b>	5.00	05/12/2023	ND	827	82.7	1000	1.83		

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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:	05/09/2023	Sampling Date:	05/04/2023
Reported:	05/15/2023	Sampling Type:	Water
Project Name:	BD SANTA RITA LEAK	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	T22S R37E SEC27 A-LEA CTY., NM		

**Sample ID: RECOVERY WELL #1 (H232299-04)**

Chloride, SM4500Cl-B		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride*</b>	<b>1460</b>	4.00	05/10/2023	ND	104	104	100	3.92	
Sulfate 375.4		mg/L		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Sulfate*</b>	<b>190</b>	50.0	05/10/2023	ND	19.1	95.6	20.0	5.59	
TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>TDS*</b>	<b>2570</b>	5.00	05/12/2023	ND	827	82.7	1000	1.83	

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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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Celey D. Keene, Lab Director/Quality Manager







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

---

August 08, 2023

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD SANTA RITA LEAK

Enclosed are the results of analyses for samples received by the laboratory on 08/02/23 14:30.

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).

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	08/02/2023	Sampling Date:	07/27/2023
Reported:	08/08/2023	Sampling Type:	Water
Project Name:	BD SANTA RITA LEAK	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S R37E SEC27 A-LEA CTY., NM		

**Sample ID: MONITOR WELL #2 (H234079-01)**

Chloride, SM4500CI-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride*</b>	<b>36.0</b>	4.00	08/03/2023	ND	100	100	100	0.00		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>TDS*</b>	<b>407</b>	5.00	08/07/2023	ND	814	81.4	1000	2.49		

**Sample ID: MONITOR WELL #3 (H234079-02)**

Chloride, SM4500CI-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride*</b>	<b>428</b>	4.00	08/03/2023	ND	100	100	100	0.00		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>TDS*</b>	<b>1340</b>	5.00	08/07/2023	ND	814	81.4	1000	2.49		

**Sample ID: MONITOR WELL #4 (H234079-03)**

Chloride, SM4500CI-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride*</b>	<b>396</b>	4.00	08/03/2023	ND	100	100	100	0.00		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>TDS*</b>	<b>1320</b>	5.00	08/07/2023	ND	814	81.4	1000	2.49		

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	08/02/2023	Sampling Date:	07/27/2023
Reported:	08/08/2023	Sampling Type:	Water
Project Name:	BD SANTA RITA LEAK	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T22S R37E SEC27 A-LEA CTY., NM		

**Sample ID: RECOVERY WELL #1 (H234079-04)**

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride*</b>	<b>500</b>	4.00	08/03/2023	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
<b>Sulfate*</b>	<b>524</b>	125	08/03/2023	ND	17.3	86.7	20.0	5.44	
TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>TDS*</b>	<b>1990</b>	5.00	08/07/2023	ND	814	81.4	1000	2.49	

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QM-07      The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- 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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\*=Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager





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

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October 18, 2023

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD SANTA RITA LEAK

Enclosed are the results of analyses for samples received by the laboratory on 10/11/23 16:03.

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 black ink that reads "Celey D. Keene".

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:	10/11/2023	Sampling Date:	10/05/2023
Reported:	10/18/2023	Sampling Type:	Water
Project Name:	BD SANTA RITA LEAK	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	T22S R37E SEC27 A-LEA CTY., NM		

**Sample ID: MONITOR WELL #2 (H235548-01)**

Chloride, SM4500CI-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride*</b>	<b>40.0</b>	4.00	10/12/2023	ND	100	100	100	3.92		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>TDS*</b>	<b>384</b>	5.00	10/17/2023	ND	404	80.8	500	2.41		

**Sample ID: MONITOR WELL #3 (H235548-02)**

Chloride, SM4500CI-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride*</b>	<b>388</b>	4.00	10/12/2023	ND	100	100	100	3.92		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>TDS*</b>	<b>1230</b>	5.00	10/17/2023	ND	404	80.8	500	2.41		

**Sample ID: MONITOR WELL #4 (H235548-03)**

Chloride, SM4500CI-B		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride*</b>	<b>344</b>	4.00	10/12/2023	ND	100	100	100	3.92		
TDS 160.1		mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>TDS*</b>	<b>1170</b>	5.00	10/17/2023	ND	404	80.8	500	2.41		

Cardinal Laboratories

\*=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:	10/11/2023	Sampling Date:	10/05/2023
Reported:	10/18/2023	Sampling Type:	Water
Project Name:	BD SANTA RITA LEAK	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	T22S R37E SEC27 A-LEA CTY., NM		

**Sample ID: RECOVERY WELL #1 (H235548-04)**

Chloride, SM4500Cl-B		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride*</b>	<b>530</b>	4.00	10/12/2023	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
<b>Sulfate*</b>	<b>209</b>	50.0	10/12/2023	ND	22.6	113	20.0	13.7	
TDS 160.1		mg/L		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>TDS*</b>	<b>1420</b>	5.00	10/17/2023	ND	404	80.8	500	2.41	

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Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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**District II**  
 811 S. First St., Artesia, NM 88210  
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**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 327826

**CONDITIONS**

Operator: RICE OPERATING COMPANY 122 W Taylor Hobbs, NM 88240	OGRID: 19174
	Action Number: 327826
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

**CONDITIONS**

Created By	Condition	Condition Date
michael.buchanan	Review of the 2023 Annual Groundwater Report for ROC BD SWD System: Content Satisfactory 1. Continue to collect groundwater samples on a quarterly schedule as prescribed. 2. Continue groundwater recovery 3. Submit the 2024 Annual Groundwater Report by April 1, 2025.	6/26/2024