July 26,

2023

1RP-389
2023 Semi-Annual (January - June) Groundwater Monitoring Report
State C Tract 13
Lea County, New Mexico

REVIEWED
By Mike Buchanan at 3:02 pm, Jan 06, 2025

Review of the 2023 Semi Annual (Jan-June) Groundwater Monitoring Report for State C Tract 13: content satisfactory to include the following conditions of approval
1. Please continue to sample for nitrates until eight (8) consecutive quarterly sampling events are achieved below 10 mg/L. After reviewing the groundwater work plan, it is not specified how many consecutive quarters are required to meet closure. If there is less than eight (8) consecutive quarters required, as 19.15.30 NMAC states, to achieve closure for groundwater/human health standards closure, please provide that to the OCD through the online portal.
2. Please provide a four (4) day business notice to OCD before conducting the next quarterly monitoring event.
3. If there has been a variance submitted and approved for a lesser number (less than eight (8)) for sampling any or all constituents of concern, please provide that to OCD through the online portal for the incident file.
4. Continue to conduct groundwater monitoring for all constituents of concern, namely: chloride, TDS, and nitrates, again, unless other approval documentation can be provided to the OCD or Apache is planning on making that request.
5. Please submit the 2024 annual report to OCD no later than July 1, 2025.

Prepared for:

Apache

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1.0 EXECUTIVE SUMMARY

Larson & Associates, Inc. (LAI) has prepared this report on behalf of the Apache Corporation (Apache) for submittal to the New Mexico Oil Conservation Division (NMOCD) District I in Hobbs and Santa Fe, New Mexico. This report presents 2023 quarterly (January-June) groundwater monitoring results for the State C Tract 13 (Site) located in Section 36, Range 37 East, Township 21 South, in Lea County, New Mexico. The geodetic position is North 32.43830° and West -103.12155°.

The following activities occurred on March 13, 2023, and June 7, 2023:

- Gauge six (6) monitoring wells (MW-1 through MW-6) and a recovery well (RW-1) for depth to groundwater.
- Purged and sampled groundwater from six (6) monitoring wells MW-1 through MW-6 and a recovery well RW-1.
- Analyzed groundwater samples BTEX, chloride, total dissolved solids (TDS), and nitrates.

The following observations are documented in this report for March 13, 2023, and June 7, 2023:

- March 13, 2023 - Groundwater was gauged at 40.77 feet bgs (MW-1), 39.87 feet bgs (MW-2), 40.10 feet bgs (MW-3), 39.68 feet bgs (MW-4) 39.09 feet bgs (MW-5), 40.25 feet bgs (MW-6), and 39.67 feet bgs (RW-1).
- The groundwater elevation ranged from 3,322.11 feet above mean seal level (MSL) at well MW-2 (upgradient) to 3,321. 45 feet above MSL at well MW-6 (down gradient).
- The groundwater flow direction was from west to east-southeast at a gradient of about 0.0004 feet per foot with an apparent divide between MW-1 and RW-1 that causes groundwater to flow northeast.
- June 7, 2023 - Groundwater was gauged at 40.65 feet bgs (MW-1), 39.78 feet bgs (MW-2), 39.99 feet bgs (MW-3), 39.58 feet bgs (MW-4), 38.99 feet bgs (MW-5), 40.17 feet bgs (MW-6), and 39.53 feet bgs (RW-1).
- The groundwater elevation ranged from 3,322.20 feet above MSL at well MW-2 (upgradient) to 3,321. 53 feet above MSL at well MW-6 (down gradient).
- No significant changes in depth to groundwater and groundwater flow conditions were observed during the second 2023 quarterly monitoring events on March 13, 2023, and June 7, 2023.
- BTEX concentrations were reported below the analytical method reporting limit (RL) and WQCC human health standards in all groundwater samples collected on March 13, 2023, and June 7, 2023.
- Nitrate concentrations were reported below the WQCC human health standard of 10 mg/L in all groundwater samples collected on June 7, 2023.

No significant changes in chloride and TDS concentrations were reported during the monitoring period compared to the previous monitoring event on December 16, 2022.

Apache will discontinue analyzing samples for nitrate since this analyte was not reported above the regulatory limit of 10 mg/L in samples collected on June 7, 2023, and to the short laboratory holding time. Apache will notify NMOCD at seven (7) working in days in advance of each quarterly groundwater monitoring event and immediately for any significant changes in analyte concentrations in groundwater samples.

2.0 INTRODUCTION

Larson & Associates, Inc. (LAI) has prepared this report on behalf of the Apache Corporation (Apache) for submittal to the New Mexico Oil Conservation Division (NMOCD) District I in Hobbs and Santa Fe, New Mexico. This report presents 2023 quarterly (January-June) groundwater monitoring results for the State C Tract 13 (Site) located in Section 36, Range 37 East, Township 21 South, in Lea County, New Mexico. The geodetic position is North 32.43830° and West -103.12155°. The Site is the former location of an unlined disposal pit located approximately 215 feet south from the State C Tract 13 tank battery. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

2.1 Background

Between November 19, 2002, and September 10, 2004, Eco Drilling Services, under supervision from Safety & Environmental Solutions, Inc. (SESI), drilled and installed six (6) monitoring wells (MW-1 through MW-6) at the Site. The wells were drilled between 54.71 feet below ground surface (feet bgs) at MW-3 and 72.21 feet bgs (MW-1). The wells were completed with 2-inch schedule 40 PVC casing and approximately twenty (20) feet of 0.010-inch slotted screen. SESI personnel collected groundwater samples from the wells which were analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX), cations (sodium, calcium, magnesium, and potassium), anions (chloride, sulfate, carbonate, calcium carbonate) and total dissolved solids (TDS). SESI documented the investigation and remediation in the report titled, "*Apache Corporation State C. Tract 13 Site Investigation, Section 36, Township 21S, Range 37E, Lea County, New Mexico, March 10, 2003".*

On July 21, 2021, Scarborough Drilling Inc. (SDI), under LAI supervision, installed a recovery well (RW-1) southeast (downgradient) from the pit where SESI excavated approximately 1,104 cubic yards of soil to a depth of about fourteen (14) feet bgs. A 40-mil thick liner was placed in the bottom of the excavation and covered with soil to ground surface. The recovery well was drilled to approximately 69.25 feet bgs and completed with five (5) inch non-threaded schedule 40 PVC casing and about 29.55 feet of 0.02-inch factory slotted screen. The screen was positioned above and below the groundwater level observed during drilling. Graded silica sand was placed around the screen to about two (2) feet above the screen. The remaining annulus above the screen was filled to about 1-foot bgs with bentonite chips and hydrated with potable water. West Companies, Midland, Texas, a State of New Mexico Licensed Profession Land Surveyor (LPS Number 23263) surveyed the monitoring and recovery wells for geodetic position, and ground and top of casing (TOC) elevation. Table 1 presents the monitoring and recovery well completion details. Figure 3 presents an aerial map showing the monitoring and recovery well locations.

3.0 Groundwater Monitoring

3.1 Depth to Groundwater and Groundwater Potentiometric Surface Elevation

On March 13, 2023, LAI personnel gauged depth to groundwater in monitoring wells MW-1 through MW-6 and recovery well RW-1. Groundwater was measured at 40.77 feet bgs (MW- 1), 39.87 feet bgs (MW-2), 40.10 feet bgs (MW-3), 39.68 feet bgs (MW-4), 39.09 feet bgs (MW-5), 40.25 feet bgs (MW-6), and

39.67 feet bgs (RW-1). The groundwater potentiometric surface elevation ranged from 3,322.11 feet above mean sea level (MSL) at MW-2 (upgradient) to 3,321.45 feet above MSL at MW-6 (down gradient). An apparent groundwater divide occurs in the area of monitoring wells MW-1 and MW-2 that causes groundwater to flow northeast. Groundwater flows to the east and southeast in the vicinity monitoring wells MW-3, through MW-6 and RW-1, at gradients between 0.0004 feet per foot (ft/ft) and 0.018 ft/ft. Table 2 presents the groundwater gauging summary. Figure 3a presents the groundwater potentiometric map for March 13, 2023.

On June 7, 2023, LAI personnel gauged depth to groundwater in monitoring wells MW-1 through MW-6 and recovery well RW-1. Groundwater was measured at 40.65 feet bgs (MW-1), 39.78 feet bgs (MW-2), 39.99 feet bgs (MW-3), 39.58 feet bgs (MW-4), 38.99 feet bgs (MW-5), 40.17 feet bgs (MW-6), and 39.53 feet bgs (RW-1). The groundwater potentiometric surface elevation ranged from 3,322.20 feet AMSL at MW-2 (upgradient) to 3,321.53 feet about MSL at MW-6 (downgradient). An apparent groundwater divide occurs in the area of monitoring wells MW-1 and MW-2 that causes groundwater to flow northeast. Groundwater flows east and southeast in the vicinity of monitoring wells MW-3 through MW-6 and RW-1, at gradients between 0.0003 feet per foot (ft/ft) and 0.017 ft/ft. Table 2 presents the groundwater gauging summary. Figure 3b presents the groundwater potentiometric map for June 07, 2023.

No significant changes were observed in groundwater depth, groundwater potentiometric surface elevation, groundwater flow directions, or groundwater gradients on March 13, 2023, and June 07, 2023.

3.2 GROUNDWATER SAMPLES AND ANALYSIS

On March 13, 2023, and June 07, 2023, LAI personnel collected groundwater samples from monitoring wells MW-1 through MW-6 and recovery well RW-1. Notification of the groundwater sampling events was submitted to the NMOCD. During both groundwater monitoring events, groundwater samples were collected using the low stress or low flow method following EPA protocol (EQASOP-GW4, Revision 4, September 19, 2017) where an environmental pump is submerged near the middle of the water column and the well is pumped at a low flow rate until environmental parameters stabilize. The samples were collected from discharge through dedicated disposable Tygon® tubing. The tubing was discarded after each use and the pump was thoroughly cleaned with a solution of potable water and laboratory grade detergent (Alconox®) and rinsed with distilled water. Groundwater samples from MW-2 through MW-6 were collected using dedicated disposable polyethylene bailers during both groundwater monitoring events.

The groundwater samples were transferred to labeled laboratory containers, packed in an ice-filled cooler, and hand-delivered under chain of custody to Eurofins-Xenco Laboratories (Xenco), a National Environmental Laboratory Accreditation Conference (NELAC) accredited laboratory, located in Midland, Texas. A duplicate sample was collected from RW-1 on March 13, 2023, and June 07, 2023, for laboratory quality assurance and quality control (QA/QC). Xenco analyzed the samples for BTEX by EPA SW-846 Method SW-8021D, chloride and nitrate by EPA Method 300, and TDS by Method SM 2540C. The laboratory overlooked the nitrate analysis on March 13, 2023; therefore, no analysis is provided. Table 3

presents the laboratory analytical summary. Appendix A presents the NMOCD communications. Appendix B presents the laboratory reports.

3.2.1 Organic Analysis

Xenco reported BTEX concentrations below the laboratory analytical reporting limit (RL) and New Mexico Water Quality Control Commission (WQCC) human health standards in groundwater samples collected from monitoring wells MW-1 through MW-6 and recovery well RW-1 on March 13, 2023, and June 07, 2023.

3.2.2 Inorganic Analysis

Chloride concentrations in groundwater samples collected on March 13, 2023, were 410 milligrams per liter (mg/L) in MW-1 , 1,880 mg/L (MW-2), 7,330 mg/L (MW-3), 659 mg/L (MW-4), 92.2 mg/L (MW-5), 107 mg/L (MW-6), 1,130 mg/L (RW-1), and 1,210 mg/L (DUP-1 /RW-1). Chloride concentrations exceeded the WQCC domestic water quality control standard (250 mg/L) in groundwater samples from monitoring wells MW-1, MW-2, MW-3, MW-4, RW-1, and DUP-1 /RW-1, on March 13, 2023. Chloride concentrations in groundwater samples collected from MW-5 and MW-6 were below the WQCC domestic water quality control standard.

Chloride concentrations in groundwater samples collected on June 07, 2023, were 501 mg/L (MW-1), 2,010 mg/L (MW-2), 7,780 mg/L (MW-3), 794 mg/L (MW-4), 110 mg/L (MW-5), 128 mg/L (MW-6), 1,500 mg/L (RW-1) and 1,370 mg/L (DUP-1 /RW-1). Chloride concentrations in groundwater samples collected from wells MW-1, MW-2, MW-3, MW-1, RW-1, and DUP-1 /RW-1 exceeded the WQCC domestic water quality standard (250 mg/L). Chloride concentrations in groundwater samples collected from MW-5 (110 mg/L) and MW-6 (128 mg/L) remained below the WQCC domestic water quality standard. Chloride concentrations in samples collected on June 07, 2023, are consistent with chloride concentrations reported in samples collected on March 13, 2023. Figure 4a presents the chloride concentration map on March 13, 2023. Figure 4b presents the chloride concentration map on June 07, 2023.

TDS concentrations in groundwater samples collected on March 13, 2023, were 1,300 mg/L (MW-1), 4,790 mg/L (MW-2), 17,300 mg/L (MW-3), 1,900 mg/L (MW-4), 867 mg/L (MW-5), 958 mg/L (MW-6), 3,350 mg/L (RW-1), and 3,780 mg/L (DUP-1 /RW-1). TDS concentrations in groundwater samples collected from wells MW-1, MW-2, MW-3, MW-4, RW-1, and DUP-1 /RW-1 were above the WQCC water quality standard of 1,000 mg/L. TDS concentrations in groundwater samples from MW-5 and MW-6 on March 13, 2023, and were below the WQCC domestic water quality standard.

TDS concentrations in groundwater samples collected on June 07, 2023, were 1,990 mg/L (MW-1), 4,060 mg/L (MW-2), 14,800 mg/L (MW-3), 3,820 mg/L (MW-4), 1,020 mg/L (MW-5), 1,050 mg/L (MW-6), 3,290 mg/L (RW-1 and DUP-1 /RW-1). None of the TDS concentrations on June 07, 2023, were below the WQCC domestic water quality standard in monitoring wells and recovery well. TDS concentrations in samples collected on June 07, 2023, are consistent with the TDS concentrations observed in samples collected on March 13, 2023. Figure 5a presents the TDS concentration map on March 13, 2023. Figure 5b presents the TDS concentration map on June 07, 2023.

Xenco reported nitrate concentrations in samples from all monitoring wells (MW-1 through MW-6) and the recovery well (RW-1) below the WQCC human health standard of 10 mg/L in groundwater samples collected on June 07,2023.

4.0 CONCLUSIONS

The following conclusions are made in this report:

- No significant changes were observed in the groundwater potentiometric surface elevation, flow direction, or gradients on March 13, 2023, and June 07, 2023.
- BTEX compounds in all monitoring wells were reported below the analytical method RL and WQCC human health standards in samples collected from MW-1 through MW-6 and RW-1 on March 13, 2023, and June 07, 2023.
- Chloride concentrations were reported as:
    - Above the WQCC domestic water quality standard of chloride (250 mg/L) in groundwater samples collected from MW-1 through MW-4 and RW-1 on March 13, 2023, and June 07, 2023.
    - Below the WQCC domestic water quality standard for chloride in groundwater samples collected from MW-5 and MW-6 on March 13, 2023, and June 07, 2023.
- TDS concentrations were reported as:
    - Above the WQCC domestic water quality standard of TDS (1,000 mg/L) in groundwater samples collected from MW-1 through MW-4 and RW-1 on March 13, 2023, and MW-1 through MW-6 and RW-1 June 07, 2023.
    - Below is the WQCC domestic water quality standard for TDS in groundwater samples collected from MW-5 and MW-6 on March 13, 2023.
- Nitrate concentrations were below analytical RL and WQCC human health standards on June 07, 2023.

Apache will discontinue analyzing samples for nitrates since the analyte was not reported above the regulatory limit of 10 mg/L in samples collected on June 7, 2023, and the short laboratory holding time.

Apache will continue quarterly monitoring of groundwater in wells MW-1 through MW-6 and RW-1 during 2023 with laboratory analysis of groundwater samples for BTEX, chloride, nitrate, and TDS.
Apache will provide the NMOCD with a semiannual and annual groundwater monitoring report.

Notice will be provided to NMOCD in Hobbs and Santa Fe, New Mexico at least 7 working days prior to each groundwater monitoring event. The NMOCD will be notified immediately upon receipt of laboratory analysis with significant increase of analyte concentrations.

Tables

Table 1
1RP-389
Groundwater Gauging Table
Apache State C Tract 13
Lea County, New Mexico

Well Information						Groundwater Data			
Boring ID	Well Depth (Feet TOC)	Well Diameter (Inches)	Surface Elevation (Feet AMSL)	TOC Elevation (Feet AMSL)	Casing Stickup (Feet)	Date Gauged	Depth to Water (Feet TOC)	Depth to Water (Feet BGS)	Groundwater Elevation (Feet AMSL)
MW-1	72.45	2	3,363.03	3,365.00	2.50	06/05/2019	43.52	41.02	3,321.48
						07/21/2020	43.60	41.10	3,321.40
						07/30/2021	43.70	41.20	3,321.30
						08/10/2021	43.66	41.16	3,321.34
						08/11/2021	43.69	41.19	3,321.31
						03/03/2022	43.37	40.87	3,321.63
						05/06/2022	43.37	40.87	3,321.63
						08/18/2022	43.48	40.98	3,321.52
						12/16/2022	43.44	40.94	3,321.56
						03/13/2023	43.27	40.77	3,321.73
						06/07/2023	43.15	40.65	3,321.85
MW-2	45.78	2	3,361.86	3,364.58	2.60	06/5/2019	42.71	40.11	3,321.87
						07/21/2020	42.70	40.10	3,321.88
						07/30/2021	DRY	--	--
						08/10/2021	DRY	--	--
						08/11/2021	DRY	--	--
						03/03/2022	42.53	39.93	3,322.05
						05/26/2022	42.56	39.96	3,322.02
						08/18/2022	42.75	40.15	3,321.83
						12/16/2022	42.65	40.05	3,321.93
						03/13/2023	42.47	39.87	3,322.11
						06/07/2023	42.38	39.78	3,322.20
MW-3	45.74	2	3,361.86	3,364.72	2.75	06/05/2019	43.00	40.25	3,321.72
						07/21/2020	43.00	40.25	3,321.72
						07/30/2021	DRY	--	--

Table 1
1RP-389
Groundwater Gauging Table
Apache State C Tract 13
Lea County, New Mexico

Well Information						Groundwater Data			
Boring ID	Well Depth (Feet TOC)	Well Diameter (Inches)	Surface Elevation (Feet AMSL)	TOC Elevation (Feet AMSL)	Casing Stickup (Feet)	Date Gauged	Depth to Water (Feet TOC)	Depth to Water (Feet BGS)	Groundwater Elevation (Feet AMSL)
						08/10/2021	DRY	--	--
						08/11/2021	DRY	--	--
						03/03/2022	42.91	40.16	3,321.81
						05/26/2022	42.91	40.16	3,321.81
						08/18/2022	43.08	40.33	3,321.64
						12/16/2022	42.99	40.24	3,321.73
						03/13/2023	42.85	40.10	3,321.87
						06/07/2023	42.74	39.99	3,321.98
MW-4	46.42	2	3,361.49	3,364.00	2.62	06/05/2019	42.41	39.79	3,321.59
						07/21/2020	42.10	39.48	3,321.90
						07/30/2021	DRY	--	--
						08/10/2021	DRY	--	--
						08/11/2021	DRY	--	--
						03/03/2022	42.32	39.70	3,321.68
						05/26/2022	42.37	39.75	3,321.63
						08/18/2022	42.51	39.89	3,321.49
						12/16/2022	42.43	39.81	3,321.57
						03/13/2023	42.30	39.68	3,321.70
						06/07/2023	42.20	39.58	3,321.80
MW-5	46.19	2	3,361.73	3,364.77	3.85	06/05/2019	42.98	39.13	3,321.79
						07/20/2020	43.00	39.15	3,321.77
						07/30/2021	43.25	39.40	3,321.52
						08/10/2021	43.20	39.35	3,321.57
						08/11/2021	43.21	39.36	3,321.56
						03/03/2022	42.96	39.11	3,321.81

Table 1
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Groundwater Gauging Table
Apache State C Tract 13
Lea County, New Mexico

Well Information						Groundwater Data			
Boring ID	Well Depth (Feet TOC)	Well Diameter (Inches)	Surface Elevation (Feet AMSL)	TOC Elevation (Feet AMSL)	Casing Stickup (Feet)	Date Gauged	Depth to Water (Feet TOC)	Depth to Water (Feet BGS)	Groundwater Elevation (Feet AMSL)
						05/26/2022	43.00	39.15	3,321.77
						08/18/2022	43.18	39.33	3,321.59
						12/16/2022	43.07	39.22	3,321.70
						03/13/2023	42.94	39.09	3,321.83
						06/07/2023	42.84	38.99	3,321.93
MW-6	46.91	2	3,361.42	3,364.32	2.62	06/05/2019	42.88	40.26	3,321.44
						07/20/2020	42.95	40.33	3,321.37
						07/30/2021	43.12	40.50	3,321.20
						08/10/2021	43.06	40.44	3,321.26
						08/11/2021	43.08	40.46	3,321.24
						03/03/2022	42.85	40.23	3,321.47
						05/26/2022	42.89	40.27	3,321.43
						08/18/2022	43.07	40.45	3,321.25
						12/16/2022	42.98	40.36	3,321.34
						03/13/2023	42.87	40.25	3,321.45
						06/07/2023	42.79	40.17	3,321.53
RW-1	65.67	8.5	3,361.66	3,364.60	3.00	08/10/2021	43.00	40.00	3,321.60
						08/11/2021	43.09	40.09	3,321.51
						08/19/2021	43.08	40.08	3,321.52
						03/03/2022	42.75	39.75	3,321.85
						05/26/2022	42.75	39.75	3,321.85
						08/18/2022	42.86	39.86	3,321.74
						12/16/2022	42.81	39.81	3,321.79
						03/13/2023	42.67	39.67	3,321.93
						06/07/2023	42.53	39.53	3,322.07

Table 1
1RP-389
Groundwater Gauging Table
Apache State C Tract 13
Lea County, New Mexico

Well Information						Groundwater Data			
Boring ID	**Well Depth** (Feet TOC)	**Well Diameter** (Inches)	**Surface Elevation** (Feet AMSL)	**TOC Elevation** (Feet AMSL)	**Casing Stickup** (Feet)	**Date Gauged**	**Depth to Water** (Feet TOC)	**Depth to Water** (Feet BGS)	**Groundwater Elevation** (Feet AMSL)

Notes:
TOC: top of casing
AMSL: above mean sea level

Table 2
1RP-389
Groundwater Analytical Data Summary
Apache Corp, State C Tract #13
Lea County, New Mexico
19-0112-38

Sample	Collection Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)
RRAL		**0.005**	**0.7**	**1**	**0.62**	**10**	**600**	**250**	**1,000**
MW-1	06/05/2019 [1]	<0.00100	<0.00100	<0.00100	<0.003	1.41	--	**540**	--
	07/30/2021 [2]	--	--	--	--	--	242	**352**	**1,200**
	03/03/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	3.28	--	**426**	**1,290**
	05/26/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	<0.100	--	**403**	**1,370**
	08/18/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	2.23	--	**465**	**1,240**
	12/16/2022 [2]	<0.00100	<0.00100	<0.00100	<0.0100	1.52	--	**400**	**1,450**
	03/13/2023	<0.00100	<0.00100	<0.00100	<0.0100		--	**410**	**1,300**
	06/07/2023	<0.00200	<0.00200	<0.00200	<0.0400	1.66	--	**501**	**1,990**
MW-2	06/05/2019 [1]	<0.00100	<0.00100	<0.00100	<0.003	0.314	--	**5,330**	--
	07/30/2021 [2]	--	--	--	--	--	DRY	DRY	DRY
	03/03/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	<5.00	--	**3,540**	**6,140**
	05/26/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	<0.100	--	**3,520**	**7,850**
	08/18/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	1.74	--	**6,300**	**8,030**
	12/16/2022 [2]	<0.00100	<0.00100	<0.00100	<0.0100	0.341	--	**2,140**	**4,700**
	03/13/2023	<0.00100	<0.00100	<0.00100	<0.0100		--	**1,880**	**4,790**
	06/07/2023	<0.00200	<0.00200	<0.00200	<0.0400	<0.100	--	**2,010**	**4,060**
MW-3	06/05/2019 [1]	<0.00100	<0.00100	<0.00100	<0.003	0.0890	--	**4,330**	--
	07/30/2021 [2]	--	--	--	--	--	DRY	DRY	DRY
	03/03/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	<5.00	--	**6,100**	**10,100**
	05/26/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	<0.100	--	**6,830**	**11,900**
	08/18/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	1.72	--	**14,200**	**17,500**
	12/16/2022 [2]	<0.00100	<0.00100	<0.00100	<0.0100	<1.00	--	**7,180**	**11,600**
	03/13/2023	<0.00100	<0.00100	<0.00100	<0.0100		--	**7,330**	**17,300**
	06/07/2023	<0.00200	<0.00200	<0.00200	<0.0400	<2.00	--	**7,780**	**14,800**

Table 2
1RP-389
Groundwater Analytical Data Summary
Apache Corp, State C Tract #13
Lea County, New Mexico
19-0112-38

Sample	Collection Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)
RRAL		**0.005**	**0.7**	**1**	**0.62**	**10**	**600**	**250**	**1,000**
MW-4	06/05/2019 [1]	<0.00100	<0.00100	<0.00100	<0.003	0.3030	--	**776**	--
	07/30/2021 [2]	--	--	--	--	--	DRY	DRY	DRY
	03/03/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	3.03	--	**472**	**1,340**
	05/26/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	<0.100	--	**510**	**1,510**
	08/18/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	1.14	--	**664**	**1,780**
	12/16/2022 [2]	<0.00100	<0.00100	<0.00100	<0.0100	0.63	--	**463**	**792**
	03/13/2023	<0.00100	<0.00100	<0.00100	<0.0100		--	**659**	**1,900**
	06/07/2023	<0.00200	<0.00200	<0.00200	<0.0400	0.705	--	**794**	**3,820**
MW-5	06/05/2019 [1]	<0.00100	<0.00100	<0.00100	<0.003	<0.0800	--	67.5	--
	07/30/2021 [2]	--	--	--	--	-	419	144	**1,340**
	03/03/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	<1.00	--	100	**1,020**
	05/26/2022 [2]	<0.00400	<0.00400	<0.00400	<0.00800	<0.100	--	101	968
	08/18/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	<0.500	--	**366**	**2,970**
	12/16/2022 [2]	<0.00100	<0.00100	<0.00100	<0.0100	<0.100	--	132	926
	03/13/2023	<0.00100	<0.00100	<0.00100	<0.0100		--	92.2	867
	06/07/2023	<0.00200	<0.00200	<0.00200	<0.0400	<0.100	--	110	**1,020**
MW-6	06/05/2019 [1]	<0.00100	<0.00100	<0.00100	<0.003	1.42	--	**274**	--
	07/30/2021 [2]	--	--	--	--	--	438	126	**2,330**
	03/03/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	1.66	--	117	**1,050**
	05/26/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	<0.100	--	105	967
	08/18/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	2.2	--	129	**1,040**
	12/16/2022 [2]	<0.00100	<0.00100	<0.00100	<0.0100	0.942	--	125	848
	03/13/2023	<0.00100	<0.00100	<0.00100	<0.0100		--	107	958

Table 2
1RP-389
Groundwater Analytical Data Summary
Apache Corp, State C Tract #13
Lea County, New Mexico
19-0112-38

Sample	Collection Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)
RRAL		**0.005**	**0.7**	**1**	**0.62**	**10**	**600**	**250**	**1,000**
	06/07/2023	<0.00200	<0.00200	<0.00200	<0.0400	1.4	--	128	**1,050**
RW-1	03/03/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	6.19	--	**979**	**1,970**
	05/26/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	<0.100	--	**931**	**2,020**
	08/18/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	3.54	--	**1,190**	**2,330**
	12/16/2022 [2]	<0.00100	<0.00100	<0.00100	<0.0100	2.14	--	**979**	864
	03/13/2023	<0.00100	<0.00100	<0.00100	<0.0100		--	**1,130**	**3,350**
	06/07/2023	<0.00200	<0.00200	<0.00200	<0.0400	2.21	--	**1,500**	**3,290**
QA/QC									
DUP-1 (MW-1)	06/05/2019 [1]	--				--	--	--	--
DUP-1 (MW-1)	07/30/2021 [2]	--				--	224	**325**	**1,190**
DUP-1 (MW-1)	03/03/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	2.78	--	**407**	**1,330**
DUP-1 (RW-1)	05/26/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	<0.100	--	**966**	**2,040**
DUP-1 (RW-1)	08/18/2022 [2]	<0.00200	<0.00200	<0.00200	<0.00400	3.62	--	**1,170**	**23,500**
DUP-1 (RW-1)	12/16/2022 [2]	<0.00100	<0.00100	<0.00100	<0.0100	2.11	--	**822**	**1,620**
DUP-1 (RW-1)	03/13/2023	<0.00100	<0.00100	<0.00100	<0.0100		--	**1,210**	**3,780**
DUP-1 (RW-1)	06/07/2023	<0.00200	<0.00200	<0.00200	<0.0400	2.22	--	**1,370**	**3,290**

Notes:

[1]: analysis performed by Permian Basin Environmental Lab, Midland, Texas by EPA SW-846 Method 6020B (BTEX) and Method 300

[2]: analysis performed by Eurofins Xenco Laboratories, Midland, Texas by EPA SW-846 Method 6020B (BTEX) and Method 300

<: concentration below analytical reporting limit

--: no data availible

Values reported in milligrams per liter (mg/L)

Exceeds New Mexico Water Domestic Water Quality Standard

Missing Nitrate data from 03/13/2023 Report

Figures

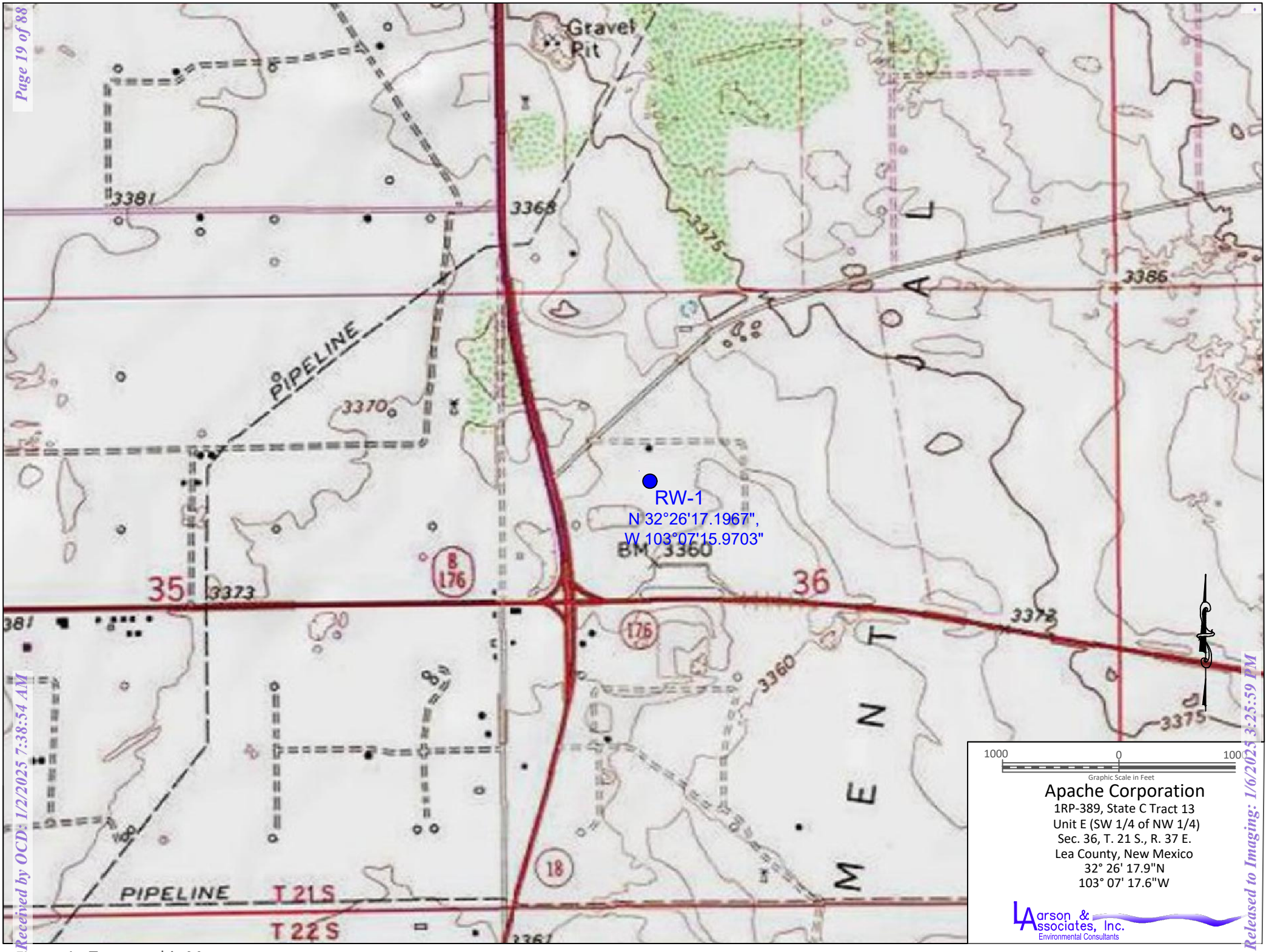


Figure 1 - Topographic Map

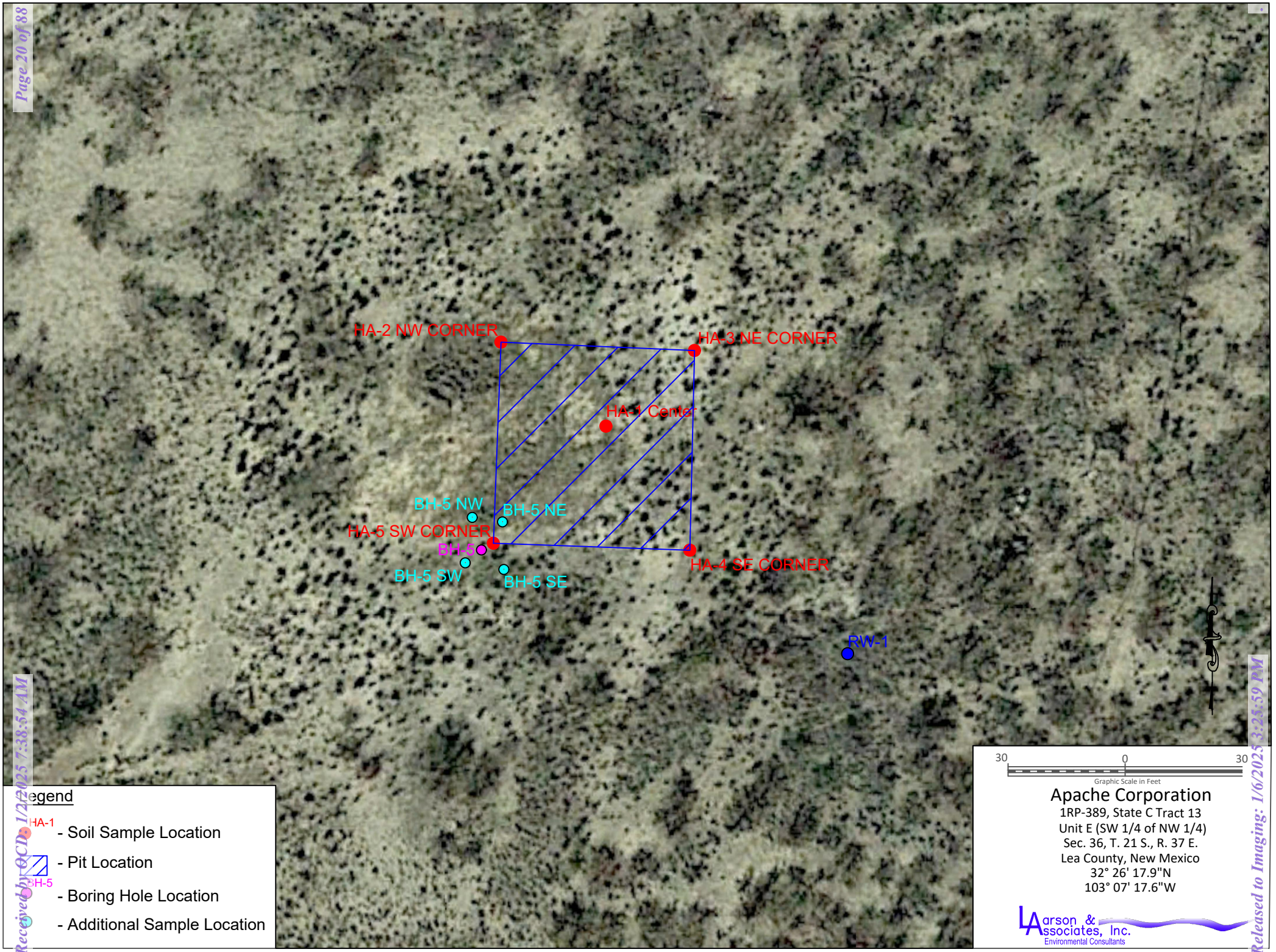


Figure 2 - Aerial Map Showing Soil Sample Locations

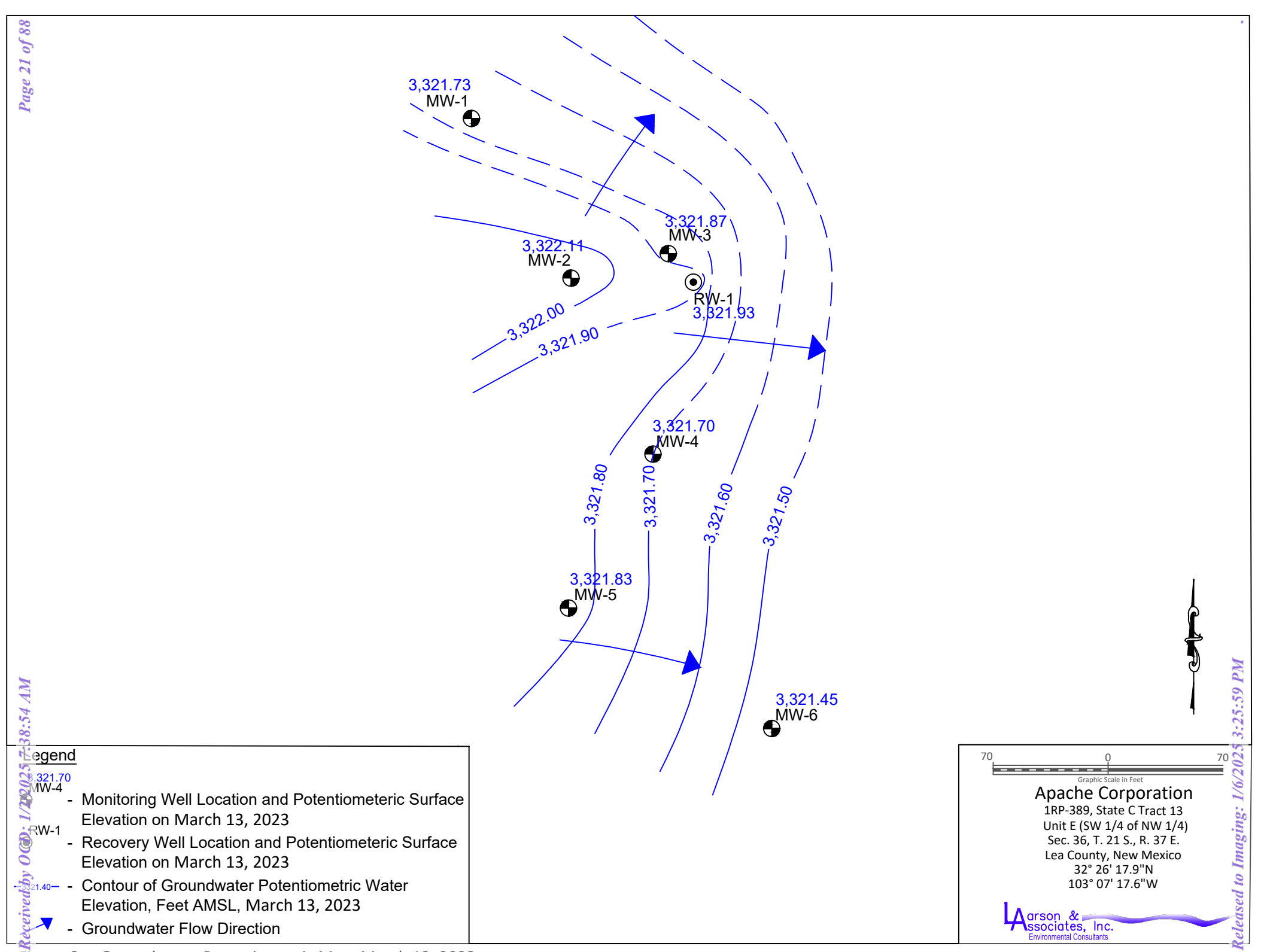
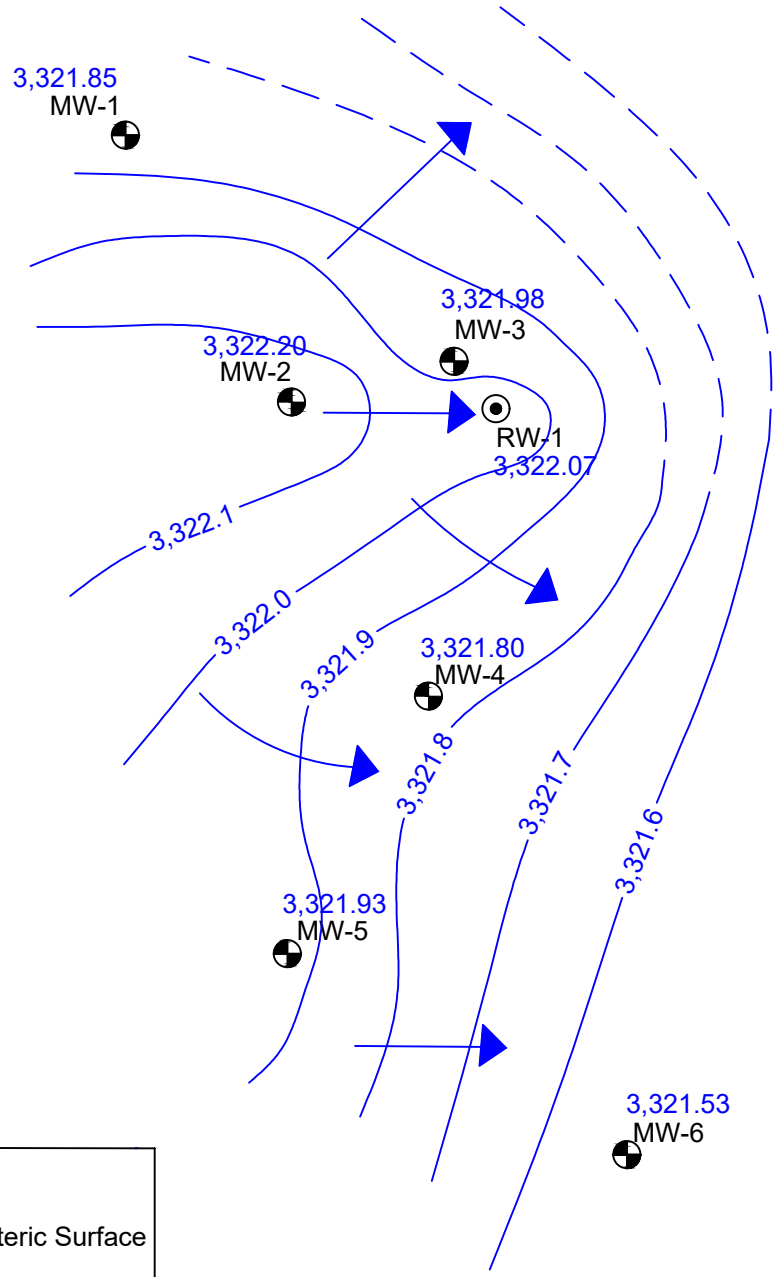


Figure 6a - Groundwater Potentiometric Map, March 13, 2023



Legend

- 321.80 MW-4 - Monitoring Well Location and Potentiometeric Surface Elevation on June 7, 2023
- RW-1 - Recovery Well Location and Potentiometeric Surface Elevation on June 7, 2023
- 3321.40 - Contour of Groundwater Potentiometric Water Elevation, Feet AMSL, June 7, 2023
- Groundwater Flow Direction

70 0 70
Graphic Scale in Feet

Apache Corporation
1RP-389, State C Tract 13
Unit E (SW 1/4 of NW 1/4)
Sec. 36, T. 21 S., R. 37 E.
Lea County, New Mexico
32° 26' 17.9"N
103° 07' 17.6"W

Larson & Associates, Inc.
Environmental Consultants

Figure 6b - Groundwater Potentiometric Map, June 7, 2023

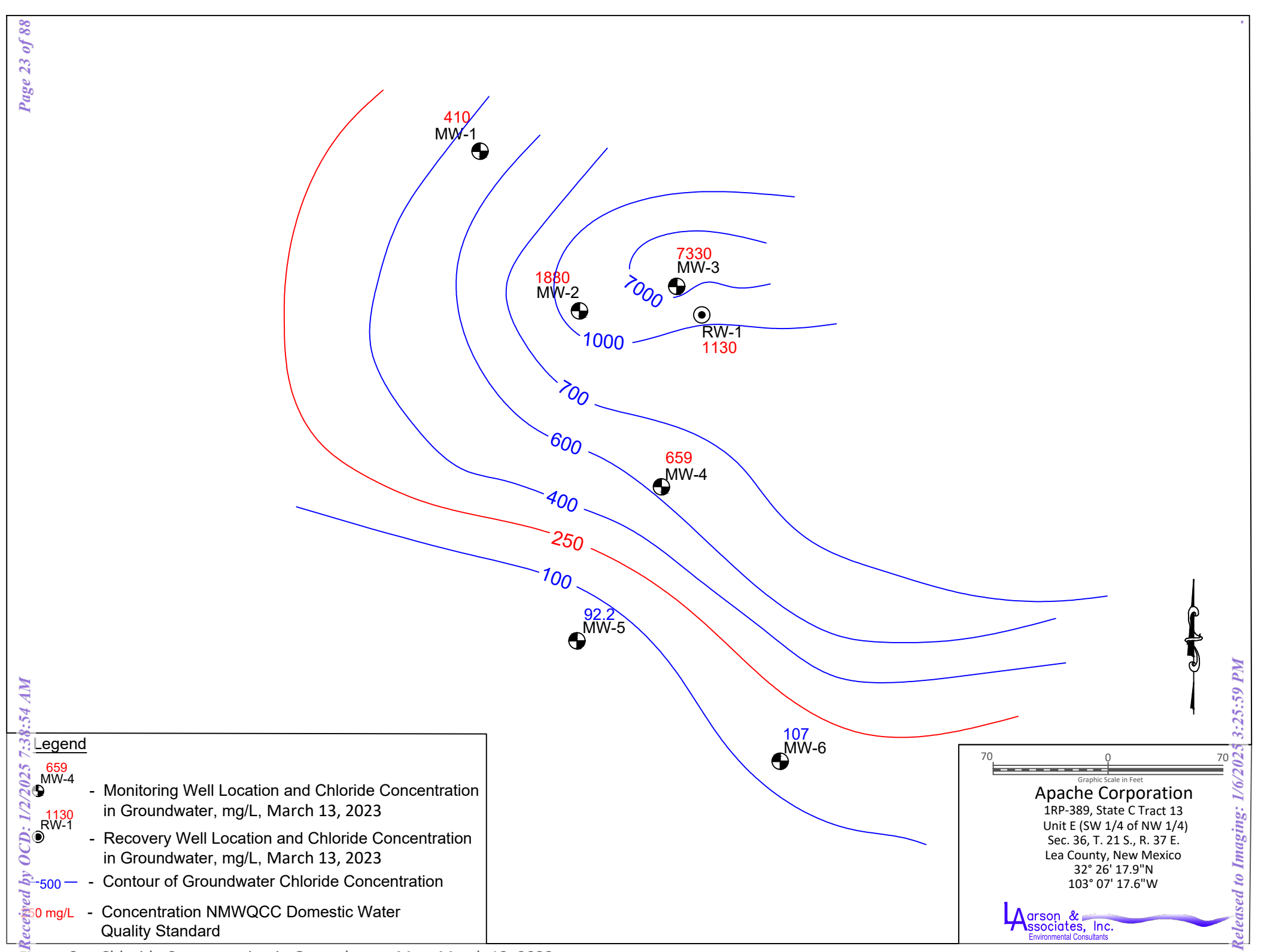
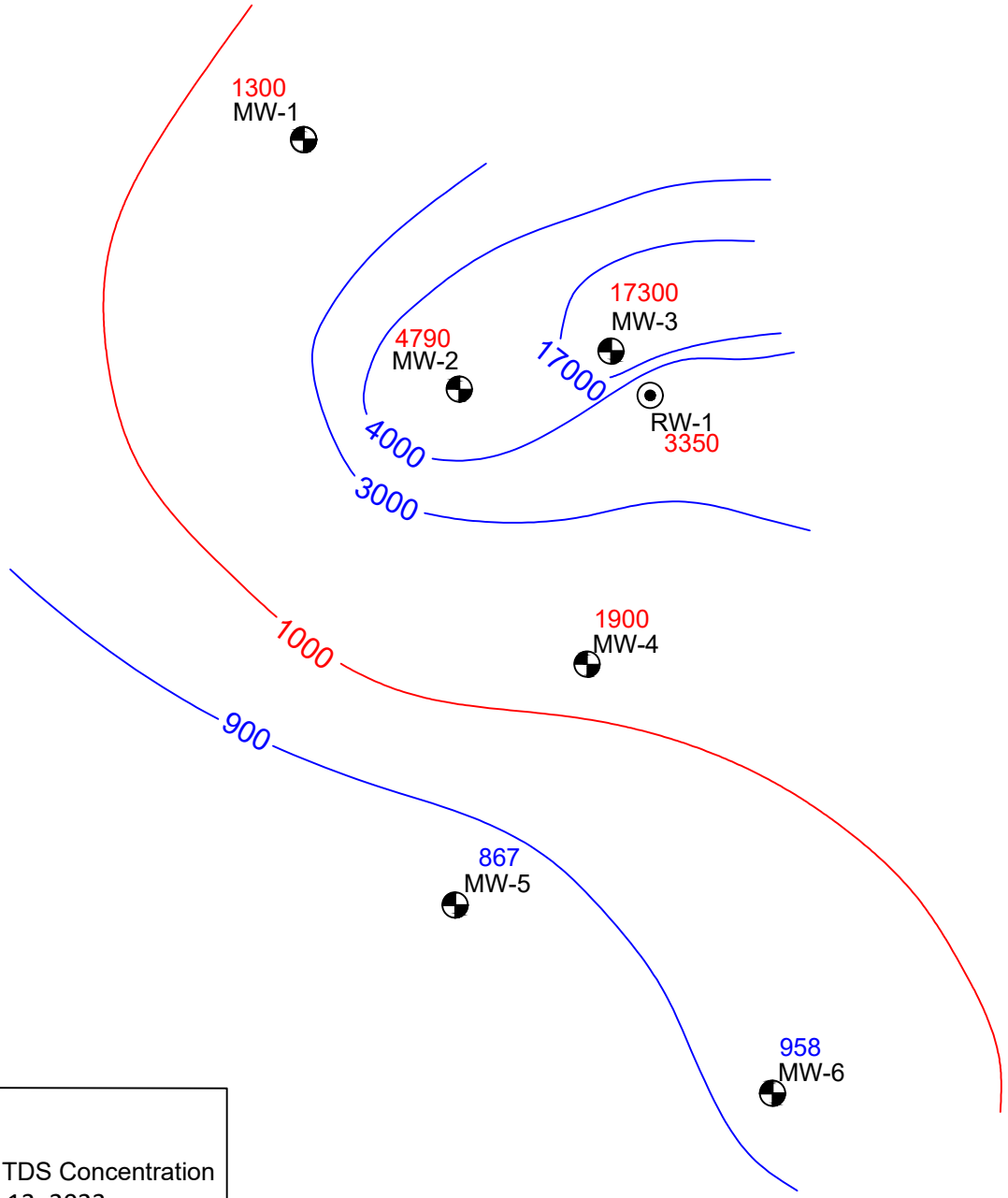


Figure 8a - Chloride Concentration in Groundwater Map, March 13, 2023



Legend

1900 MW-4 - Monitoring Well Location and TDS Concentration in Groundwater, mg/L, March 13, 2023

3350 RW-1 - Recovery Well Location and TDS Concentration in Groundwater, mg/L, March 13, 2023

1500 - Contour of TDS Groundwater Concentration

1000 mg/L - NMWQCC Domestic Water Quality Standard

70 0 70
Graphic Scale in Feet

Apache Corporation
1RP-389, State C Tract 13
Unit E (SW 1/4 of NW 1/4)
Sec. 36, T. 21 S., R. 37 E.
Lea County, New Mexico
32° 26' 17.9"N
103° 07' 17.6"W

Larson & Associates, Inc.
Environmental Consultants

Figure 7a - TDS Concentration in Groundwater, March 13, 2023

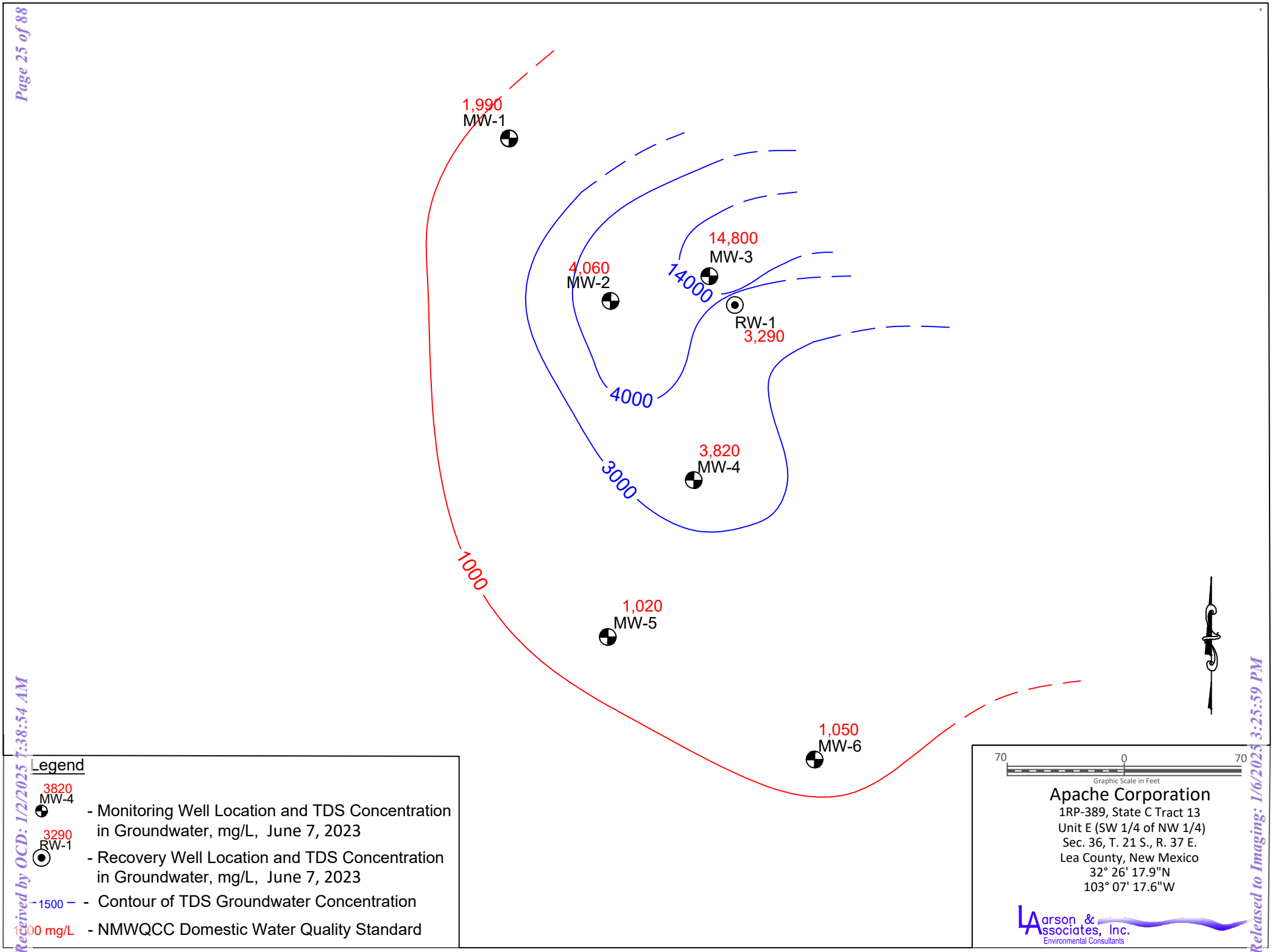


Figure 7b - TDS Concentration in Groundwater, June 7, 2023

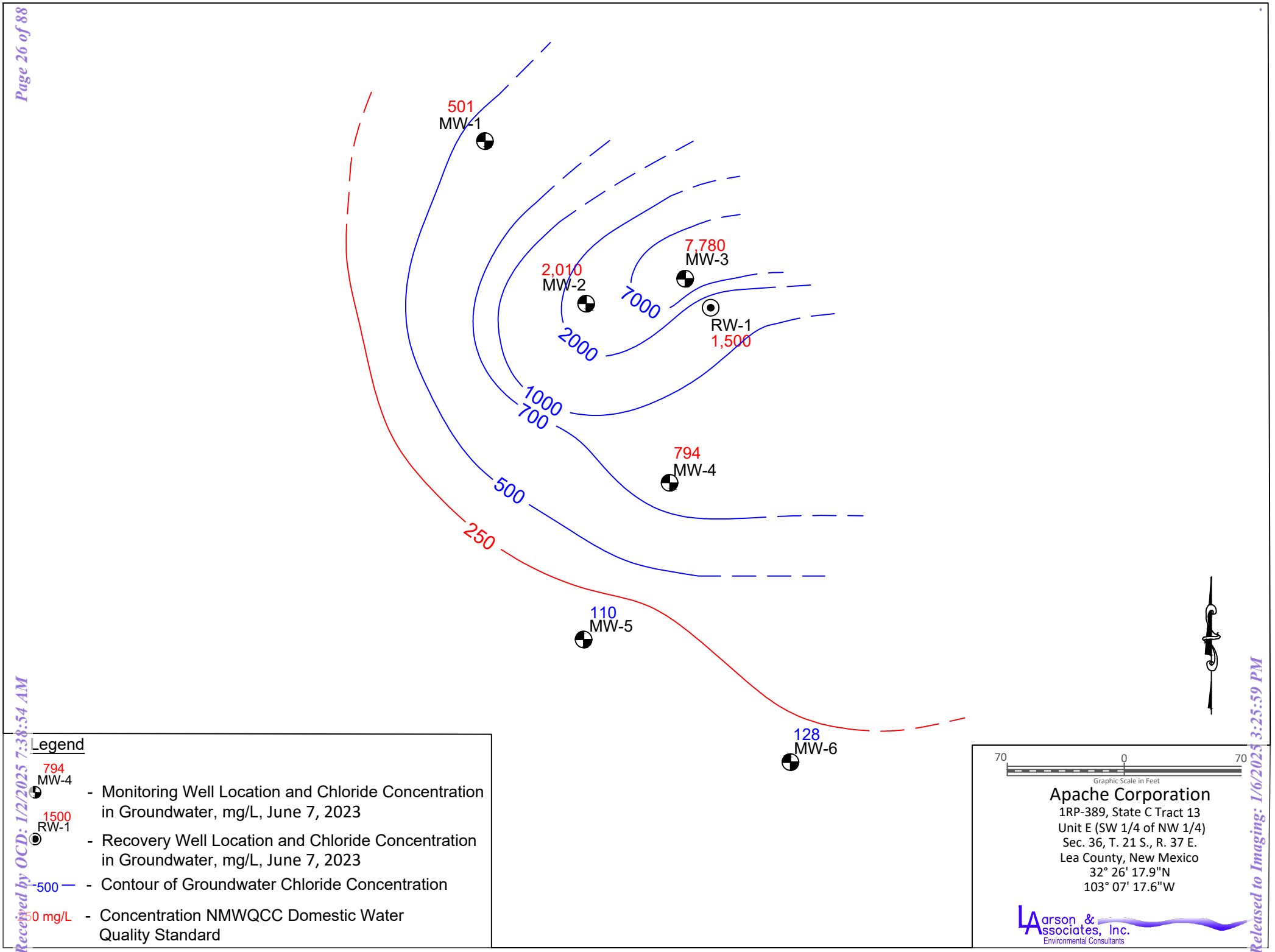


Figure 8b - Chloride Concentration in Groundwater Map, June 7, 2023

Appendix A

Initial C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Apache Corporation	OGRID 873
Contact Name Larry Baker	Contact Telephone 432-631-6982
Contact email Larry.Baker@apachecorp.com	Incident # *(assigned by OCD)* 1RP-389
Contact mailing address 2350 West Marland Blvd. Hobbs, New Mexico 88240	

Location of Release Source

Latitude 32.43831° N Longitude -103.12160° W
(NAD 83 in decimal degrees to 5 decimal places)

Site Name State C Tract #13	Site Type Drilling Pit
Date Release Discovered 11/11/2002	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
E	36	21S	37E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* Bobby Wallach)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☒ Crude Oil	Volume Released (bbls) N/A	Volume Recovered (bbls) N/A
☒ Produced Water	Volume Released (bbls) N/A	Volume Recovered (bbls) N/A
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☒ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was discovered during a site investigation by Safety & Environmental Solutions, Inc. at an abandoned drilling pit located approximately 215 feet south of the Apache State C Tract Battery.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Larry Baker Title: Sr. Environmental Tech

Signature: _____ Date: 6/27/2019

email: Larry.Baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	43.0 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Larry Baker Title: Sr. Environmental Tech

Signature: Date: 6/27/2019

email: Larry.Baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- [x] Detailed description of proposed remediation technique
- [x] Scaled sitemap with GPS coordinates showing delineation points
- [x] Estimated volume of material to be remediated
- [x] Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- [x] Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- [ ] Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- [ ] Extents of contamination must be fully delineated.
- [ ] Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Larry Baker Title: Sr. Environmental Tech

Signature: _____ Date: 6/27/2019

email: Larry.Baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

- [ ] Approved
- [ ] Approved with Attached Conditions of Approval
- [ ] Denied
- [ ] Deferral Approved

Signature: _____ Date: _____

Appendix B

NMOCD Communications

Daniel St. Germain

From: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>
Sent: Monday, December 23, 2019 3:18 PM
To: Mark Larson
Cc: Baker, Larry; Rachel Owen
Subject: [EXTERNAL] RE: 1RP-389 State C Tract #13 Addendum to Remediation Plan

12/23/2019

Apache Corp. – Larry Baker
Larson Environmental

As per your request on 1RO-389/State C Tract #13. The following:

As per outline below in associated/stringed email, the work plan/addendum to offered work plan is approved by the Oil Conservation Division (OCD). Please note, it make take some days for this to be uploaded into OCD data base. Please keep a copy of this communication for your records, as NO paper copy will follow.

OCD appreciates your efforts.

Sincerely,

Bradford Billings
EMNRD/OCD
Santa Fe, NM

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations

---

From: Mark Larson <Mark@laenvironmental.com>
Sent: Monday, December 23, 2019 12:56 PM
To: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>
Cc: Baker, Larry <Larry.Baker@apachecorp.com>; Rachel Owen <rowen@laenvironmental.com>; Mark Larson <Mark@laenvironmental.com>
Subject: [EXT] FW: 1RP-389 State C Tract #13 Addendum to Remediation Plan
Importance: High

Dear Bradford,
This email will confirm our phone conversation on December 20, 2019 for the State Tract C #13 produced water release:

- Install a recovery well near the southeast corner of the pit, down gradient (Southeast) of MW-3, to top of the Dockum Group (redbed) or about 70 feet bgs, whichever occurs first;
- Construct well with 5 inch schedule 40 PVC casing and screen with glued joints as no organic compounds (i.e., BTEX) were detected in the groundwater;

- Twenty (20) feet of screen will be placed from approximately 38 feet bgs to 58 feet bgs allowing for 5 feet of screen to extend above the water table;
- Screen well with approximately 25 feet of 0.020 inch factory slotted screen placed near the bottom of the well;
- Surround screen with graded silica sand from the bottom of the well to about 2 feet above the screen;
- Seal remaining annulus with bentonite chips to approximately 1 foot bgs and complete surface with above grade riser pipe;
- Install electric submersible pump appropriately sized for the aquifer plumb to an above ground tank with a flow meter and controls to monitor flow rate and volume produced and level controls to shut off the pump to prevent overtopping and will be set inside lined secondary containment;
- Apache will work with the surface owner (State of New Mexico) and the Office of the New Mexico State Engineer (OSE) for authorization to produce water for the remediation project:
- Apache will extract groundwater from the recovery well to reduce the chloride concentration to the background level reported in monitoring well MW-1;
- Apache will conduct quarterly (four times yearly) monitoring of groundwater in the monitoring wells (MW-1 through MW-6 and recovery well (RW-1)) and laboratory analysis for chloride, LNAPL, sulfate and TDS;
- Apache will submit the remediation program results to the OCD in annual (once per year) reports to include the laboratory results of groundwater samples and d volume of water recovered;
- Apache will provide notification to OCD at least 7 days in advance of each event, excluding weekends.

Your approval to this addendum remediation plan is requested. Please contact Bruce Baker with Apache or me if you have questions.,

Respectfully,

Rachel Owen
Sr. Geoscientist
Larson & Associates
Phone: 432.664.5357
Email: rowen@laenvironmental.com

Larson & Associates, Inc.
Environmental Consultants

Appendix C

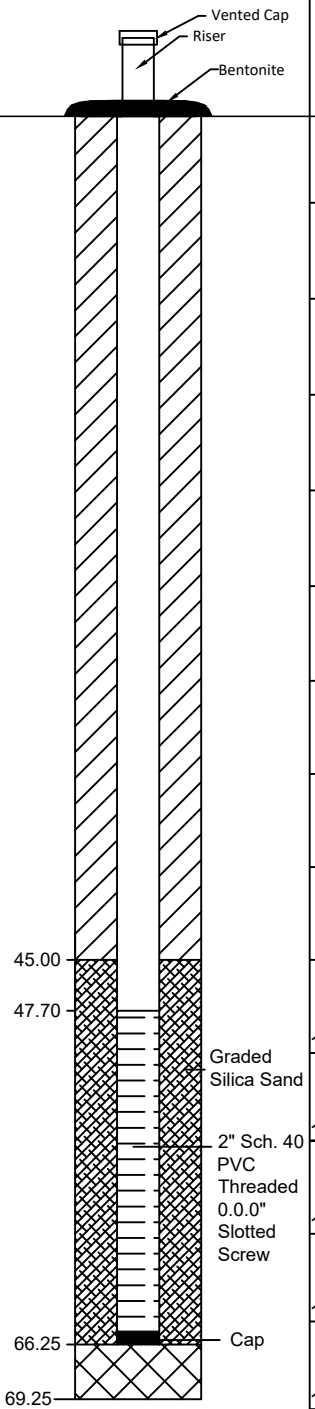
Boring Logs

BORING RECORD

Start: 10:25
Finish: 15:00

Surface Elevation:
TOC Elecation:

GEOLOGIC UNIT	DEPTH	DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG
	0	Sand,7.5YR 3/4, Dark Brown, Fine to Medium, Moderately Sorted, Rounded to Sub Rounded		
	5			
	10	7.5YR 8/1, Fine to Medium, Moderately Sorted, Rounded to Sub Rounded		
	15			
	20			
	25	Color Remains Constant, Becomes more Consolidated		
	30	Water Introduced at 27'		
	35	Sight Change in Color 7.5YR 8/3, Pink(Wet Sample)		
	40			
	45			
	50	Sand, 2.5YR 7/8, Light Red to 6/6 Light Red, Fine Sand, Very Well Sorted, Well Rounded		
	55	Same Lithology at 53', Color Changed to 2.5YR 8/4 Pink (Wet Sample)		
	60			
	65	Clay, 2.5YR 4/6 Red, Clay to Very Fine, Very Well Sorted, Very Well to Well Rounded		
	70	TD: 69.25'		
	75			



NUMBER	RECOVERY	DEPTH	BACKGROUND PID READING	REMARKS
			SOIL : PPM SOIL : PPM	
1		5	10:28	
2		10	10:30	
3		15	10:31	
4		20	10:33	
5		25	10:40	
6		30	10:50	
7		35	10:53	
8		40	10:56	
9		45		
10		50	11:08	
11		55	11:15	
12		60		
13		65	11:25	
14		70		
15		75		

ONE CONTINUOUS AUGER SAMPLER
STANDARD PENETRATION TEST
UNDISTURBED SAMPLE
WATER TABLE (24 HRS)
WATER TABLE (TIME OF BORING)
LABORATORY TEST LOCATION
PENETROMETER (TONS/ SQ. FT)
NR NO RECOVERY

JOB NUMBER : 19-0112-38/ Apache
HOLE DIAMETER : 8.5"
LOCATION : State C Tract 13
LAI GEOLOGIST : T. Jackson
DRILLING CONTRACTOR : SDI
DRILLING METHOD : Air Rotary

Larson & Associates, Inc. Environmental Consultants

DRILL DATE : 07/21/2021

BORING NUMBER : RW-1

Appendix D

Laboratory Reports

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark J Larson
Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Generated 6/15/2023 1:40:54 PM

JOB DESCRIPTION

State C Tract 13
SDG NUMBER 19-0112-38

JOB NUMBER

880-29262-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

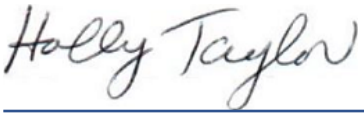
Eurofins Midland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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6/15/2023 1:40:54 PM

Authorized for release by
Holly Taylor, Project Manager
Holly.Taylor@et.eurofinsus.com
(806)794-1296

Client: Larson & Associates, Inc.
Project/Site: State C Tract 13

Laboratory Job ID: 880-29262-1
SDG: 19-0112-38

Table of Contents

Definitions/Glossary

Client: Larson & Associates, Inc. Job ID: 880-29262-1
Project/Site: State C Tract 13 SDG: 19-0112-38

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Larson & Associates, Inc.
Project/Site: State C Tract 13

Job ID: 880-29262-1
SDG: 19-0112-38

Job ID: 880-29262-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-29262-1

Receipt
The samples were received on 6/7/2023 4:04 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.2°C

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
Method 300_ORGFMS: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 880-55043 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: State C Tract 13

Job ID: 880-29262-1
SDG: 19-0112-38

Client Sample ID: MW-6

Lab Sample ID: 880-29262-1
Matrix: Water
Date Collected: 06/07/23 09:36
Date Received: 06/07/23 16:04

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			06/14/23 18:25	1
Toluene	<0.00200	U	0.00200		mg/L			06/14/23 18:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			06/14/23 18:25	1
m,p-Xylenes	<0.00400	U	0.00400		mg/L			06/14/23 18:25	1
o-Xylene	<0.00200	U	0.00200		mg/L			06/14/23 18:25	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			06/14/23 18:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*		*06/14/23 18:25*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*		*06/14/23 18:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			06/15/23 10:36	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**128**		2.50		mg/L			06/08/23 14:35	5
Nitrate as N	**1.40**		0.100		mg/L			06/08/23 17:24	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**1050**		50.0		mg/L			06/08/23 11:16	1

Client Sample ID: MW-5

Lab Sample ID: 880-29262-2
Matrix: Water
Date Collected: 06/07/23 10:00
Date Received: 06/07/23 16:04

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0200	U	0.0200		mg/L			06/14/23 20:27	10
Toluene	<0.0200	U	0.0200		mg/L			06/14/23 20:27	10
Ethylbenzene	<0.0200	U	0.0200		mg/L			06/14/23 20:27	10
m,p-Xylenes	<0.0400	U	0.0400		mg/L			06/14/23 20:27	10
o-Xylene	<0.0200	U	0.0200		mg/L			06/14/23 20:27	10
Xylenes, Total	<0.0400	U	0.0400		mg/L			06/14/23 20:27	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*		*06/14/23 20:27*	*10*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*		*06/14/23 20:27*	*10*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0400	U	0.0400		mg/L			06/15/23 10:36	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**110**		2.50		mg/L			06/08/23 14:43	5
Nitrate as N	<0.100	U	0.100		mg/L			06/08/23 17:44	1

Client Sample Results

Client: Larson & Associates, Inc. Job ID: 880-29262-1
Project/Site: State C Tract 13 SDG: 19-0112-38

Client Sample ID: MW-5
Lab Sample ID: 880-29262-2
Date Collected: 06/07/23 10:00 **Matrix: Water**
Date Received: 06/07/23 16:04

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1020		50.0		mg/L			06/08/23 11:16	1

Client Sample ID: MW-4
Lab Sample ID: 880-29262-3
Date Collected: 06/07/23 10:38 **Matrix: Water**
Date Received: 06/07/23 16:04

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			06/14/23 18:45	1
Toluene	<0.00200	U	0.00200		mg/L			06/14/23 18:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			06/14/23 18:45	1
m,p-Xylenes	<0.00400	U	0.00400		mg/L			06/14/23 18:45	1
o-Xylene	<0.00200	U	0.00200		mg/L			06/14/23 18:45	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			06/14/23 18:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*06/14/23 18:45*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*		*06/14/23 18:45*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			06/15/23 10:36	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	794		10.0		mg/L			06/08/23 14:50	20
Nitrate as N	0.705		0.100		mg/L			06/08/23 18:05	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	3820		100		mg/L			06/08/23 11:16	1

Client Sample ID: MW-1
Lab Sample ID: 880-29262-4
Date Collected: 06/07/23 11:30 **Matrix: Water**
Date Received: 06/07/23 16:04

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			06/14/23 19:06	1
Toluene	<0.00200	U	0.00200		mg/L			06/14/23 19:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			06/14/23 19:06	1
m,p-Xylenes	<0.00400	U	0.00400		mg/L			06/14/23 19:06	1
o-Xylene	<0.00200	U	0.00200		mg/L			06/14/23 19:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			06/14/23 19:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*		*06/14/23 19:06*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*		*06/14/23 19:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			06/15/23 10:36	1

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: State C Tract 13

Job ID: 880-29262-1
SDG: 19-0112-38

Client Sample ID: MW-1

Lab Sample ID: 880-29262-4
Matrix: Water
Date Collected: 06/07/23 11:30
Date Received: 06/07/23 16:04

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	501		5.00		mg/L			06/08/23 14:58	10
Nitrate as N	1.66		0.100		mg/L			06/08/23 18:41	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1990		100		mg/L			06/08/23 11:16	1

Client Sample ID: RW-1

Lab Sample ID: 880-29262-5
Matrix: Water
Date Collected: 06/07/23 11:55
Date Received: 06/07/23 16:04

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			06/14/23 19:26	1
Toluene	<0.00200	U	0.00200		mg/L			06/14/23 19:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			06/14/23 19:26	1
m,p-Xylenes	<0.00400	U	0.00400		mg/L			06/14/23 19:26	1
o-Xylene	<0.00200	U	0.00200		mg/L			06/14/23 19:26	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			06/14/23 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*06/14/23 19:26*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*		*06/14/23 19:26*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			06/15/23 10:36	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500		10.0		mg/L			06/08/23 15:21	20
Nitrate as N	2.21		0.100		mg/L			06/08/23 19:01	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	3290		200		mg/L			06/08/23 11:16	1

Client Sample ID: MW-2

Lab Sample ID: 880-29262-6
Matrix: Water
Date Collected: 06/07/23 10:48
Date Received: 06/07/23 16:04

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			06/14/23 19:47	1
Toluene	<0.00200	U	0.00200		mg/L			06/14/23 19:47	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			06/14/23 19:47	1
m,p-Xylenes	<0.00400	U	0.00400		mg/L			06/14/23 19:47	1
o-Xylene	<0.00200	U	0.00200		mg/L			06/14/23 19:47	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			06/14/23 19:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*		*06/14/23 19:47*	*1*

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: State C Tract 13

Job ID: 880-29262-1
SDG: 19-0112-38

Client Sample ID: MW-2

Lab Sample ID: 880-29262-6

Date Collected: 06/07/23 10:48
Matrix: Water
Date Received: 06/07/23 16:04

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*		*06/14/23 19:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			06/15/23 10:36	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2010**		25.0		mg/L			06/08/23 15:29	50
Nitrate as N	<1.00	U	1.00		mg/L			06/08/23 19:22	10

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**4060**		200		mg/L			06/08/23 11:16	1

Client Sample ID: MW-3

Lab Sample ID: 880-29262-7

Date Collected: 06/07/23 11:00
Matrix: Water
Date Received: 06/07/23 16:04

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0200	U	0.0200		mg/L			06/14/23 20:48	10
Toluene	<0.0200	U	0.0200		mg/L			06/14/23 20:48	10
Ethylbenzene	<0.0200	U	0.0200		mg/L			06/14/23 20:48	10
m,p-Xylenes	<0.0400	U	0.0400		mg/L			06/14/23 20:48	10
o-Xylene	<0.0200	U	0.0200		mg/L			06/14/23 20:48	10
Xylenes, Total	<0.0400	U	0.0400		mg/L			06/14/23 20:48	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*06/14/23 20:48*	*10*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*		*06/14/23 20:48*	*10*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0400	U	0.0400		mg/L			06/15/23 10:36	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7780**		50.0		mg/L			06/08/23 15:36	100
Nitrate as N	<2.00	U	2.00		mg/L			06/08/23 19:42	20

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**14800**		500		mg/L			06/08/23 11:16	1

Client Sample ID: Dup-1

Lab Sample ID: 880-29262-8

Date Collected: 06/07/23 00:00
Matrix: Water
Date Received: 06/07/23 16:04

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			06/14/23 20:07	1

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: State C Tract 13

Job ID: 880-29262-1
SDG: 19-0112-38

Client Sample ID: Dup-1

Date Collected: 06/07/23 00:00
Date Received: 06/07/23 16:04

Lab Sample ID: 880-29262-8

Matrix: Water

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.00200	U	0.00200		mg/L			06/14/23 20:07	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			06/14/23 20:07	1
m,p-Xylenes	<0.00400	U	0.00400		mg/L			06/14/23 20:07	1
o-Xylene	<0.00200	U	0.00200		mg/L			06/14/23 20:07	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			06/14/23 20:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*		*06/14/23 20:07*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*		*06/14/23 20:07*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			06/15/23 10:36	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1370**		10.0		mg/L			06/08/23 15:44	20
Nitrate as N	**2.22**		0.100		mg/L			06/08/23 20:03	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**3290**		200		mg/L			06/08/23 11:16	1

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: State C Tract 13

Job ID: 880-29262-1
SDG: 19-0112-38

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-29213-B-1 MS	Matrix Spike	104	103										
880-29213-B-1 MSD	Matrix Spike Duplicate	93	99										
880-29262-1	MW-6	81	96										
880-29262-2	MW-5	85	101										
880-29262-3	MW-4	93	100										
880-29262-4	MW-1	90	105										
880-29262-5	RW-1	88	102										
880-29262-6	MW-2	79	104										
880-29262-7	MW-3	95	94										
880-29262-8	Dup-1	90	100										
LCS 880-55462/3	Lab Control Sample	97	100										
LCSD 880-55462/4	Lab Control Sample Dup	95	104										
MB 880-55462/8	Method Blank	89	123										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: State C Tract 13

Job ID: 880-29262-1
SDG: 19-0112-38

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-55462/8
Matrix: Water
Analysis Batch: 55462

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			06/14/23 11:56	1
Toluene	<0.00200	U	0.00200		mg/L			06/14/23 11:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			06/14/23 11:56	1
m,p-Xylenes	<0.00400	U	0.00400		mg/L			06/14/23 11:56	1
o-Xylene	<0.00200	U	0.00200		mg/L			06/14/23 11:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			06/14/23 11:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*		*06/14/23 11:56*	*1*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*		*06/14/23 11:56*	*1*

Lab Sample ID: LCS 880-55462/3
Matrix: Water
Analysis Batch: 55462

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1098		mg/L		110	70 - 130		
Toluene			0.100	0.1217		mg/L		122	70 - 130		
Ethylbenzene			0.100	0.09921		mg/L		99	70 - 130		
m,p-Xylenes			0.200	0.1883		mg/L		94	70 - 130		
o-Xylene			0.100	0.09012		mg/L		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-55462/4
Matrix: Water
Analysis Batch: 55462

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1222		mg/L		122	70 - 130	11	20
Toluene			0.100	0.1153		mg/L		115	70 - 130	5	20
Ethylbenzene			0.100	0.09768		mg/L		98	70 - 130	2	20
m,p-Xylenes			0.200	0.1857		mg/L		93	70 - 130	1	20
o-Xylene			0.100	0.08447		mg/L		84	70 - 130	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 880-29213-B-1 MS
Matrix: Water
Analysis Batch: 55462

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.100	0.1255		mg/L		126	70 - 130		
Toluene	<0.00200	U	0.100	0.1240		mg/L		124	70 - 130		

QC Sample Results

Client: Larson & Associates, Inc. Job ID: 880-29262-1
Project/Site: State C Tract 13 SDG: 19-0112-38

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-29213-B-1 MS **Client Sample ID: Matrix Spike**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 55462

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.100	0.1087		mg/L		109	70 - 130
m,p-Xylenes	<0.00400	U	0.200	0.2148		mg/L		107	70 - 130
o-Xylene	<0.00200	U	0.100	0.1037		mg/L		104	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-29213-B-1 MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 55462

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.1261		mg/L		126	70 - 130	0	25
Toluene	<0.00200	U	0.100	0.1247		mg/L		125	70 - 130	1	25
Ethylbenzene	<0.00200	U	0.100	0.1040		mg/L		104	70 - 130	4	25
m,p-Xylenes	<0.00400	U	0.200	0.2013		mg/L		101	70 - 130	6	25
o-Xylene	<0.00200	U	0.100	0.09634		mg/L		96	70 - 130	7	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-55042/3 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 55042

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.500	U	0.500		mg/L			06/08/23 13:49	1

Lab Sample ID: LCS 880-55042/4 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 55042

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			25.0	24.81		mg/L		99	90 - 110

Lab Sample ID: LCSD 880-55042/5 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 55042

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			25.0	24.88		mg/L		100	90 - 110	0	20

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: State C Tract 13

Job ID: 880-29262-1
SDG: 19-0112-38

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-29260-A-1 MS
Matrix: Water
Analysis Batch: 55042

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	159		125	286.2		mg/L		102	90 - 110

Lab Sample ID: 880-29260-A-1 MSD
Matrix: Water
Analysis Batch: 55042

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	159		125	284.3		mg/L		100	90 - 110	1	20

Lab Sample ID: 880-29261-A-1 MS
Matrix: Water
Analysis Batch: 55042

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	25.5		25.0	48.72		mg/L		93	90 - 110

Lab Sample ID: 880-29261-A-1 MSD
Matrix: Water
Analysis Batch: 55042

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	25.5		25.0	48.60		mg/L		92	90 - 110	0	20

Lab Sample ID: MB 880-55043/3
Matrix: Water
Analysis Batch: 55043

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	<0.100	U	0.100		mg/L			06/08/23 13:49	1

Lab Sample ID: LCS 880-55043/4
Matrix: Water
Analysis Batch: 55043

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	5.00	4.839		mg/L		97	90 - 110

Lab Sample ID: LCSD 880-55043/5
Matrix: Water
Analysis Batch: 55043

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	5.00	4.864		mg/L		97	90 - 110	1	20

Lab Sample ID: 880-29261-A-1 MS
Matrix: Water
Analysis Batch: 55043

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	<0.100	U	5.00	4.659		mg/L		93	90 - 110

QC Sample Results

Client: Larson & Associates, Inc. Job ID: 880-29262-1
Project/Site: State C Tract 13 SDG: 19-0112-38

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-29261-A-1 MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 55043

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	<0.100	U	5.00	4.629		mg/L		93	90 - 110	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 880-55032/1 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 55032

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<25.0	U	25.0		mg/L			06/08/23 11:16	1

Lab Sample ID: LCS 880-55032/2 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 55032

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			1000	1160		mg/L		116	80 - 120		

Lab Sample ID: LCSD 880-55032/3 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 55032

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1098		mg/L		110	80 - 120	5	10

Lab Sample ID: 880-29262-3 DU **Client Sample ID: MW-4**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 55032

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	3820			3838		mg/L				0.5	10

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: State C Tract 13

Job ID: 880-29262-1
SDG: 19-0112-38

GC VOA

Analysis Batch: 55462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29262-1	MW-6	Total/NA	Water	8021B	
880-29262-2	MW-5	Total/NA	Water	8021B	
880-29262-3	MW-4	Total/NA	Water	8021B	
880-29262-4	MW-1	Total/NA	Water	8021B	
880-29262-5	RW-1	Total/NA	Water	8021B	
880-29262-6	MW-2	Total/NA	Water	8021B	
880-29262-7	MW-3	Total/NA	Water	8021B	
880-29262-8	Dup-1	Total/NA	Water	8021B	
MB 880-55462/8	Method Blank	Total/NA	Water	8021B	
LCS 880-55462/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-55462/4	Lab Control Sample Dup	Total/NA	Water	8021B	
880-29213-B-1 MS	Matrix Spike	Total/NA	Water	8021B	
880-29213-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8021B	

Analysis Batch: 55569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29262-1	MW-6	Total/NA	Water	Total BTEX	
880-29262-2	MW-5	Total/NA	Water	Total BTEX	
880-29262-3	MW-4	Total/NA	Water	Total BTEX	
880-29262-4	MW-1	Total/NA	Water	Total BTEX	
880-29262-5	RW-1	Total/NA	Water	Total BTEX	
880-29262-6	MW-2	Total/NA	Water	Total BTEX	
880-29262-7	MW-3	Total/NA	Water	Total BTEX	
880-29262-8	Dup-1	Total/NA	Water	Total BTEX	

HPLC/IC

Analysis Batch: 55042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29262-1	MW-6	Total/NA	Water	300.0	
880-29262-2	MW-5	Total/NA	Water	300.0	
880-29262-3	MW-4	Total/NA	Water	300.0	
880-29262-4	MW-1	Total/NA	Water	300.0	
880-29262-5	RW-1	Total/NA	Water	300.0	
880-29262-6	MW-2	Total/NA	Water	300.0	
880-29262-7	MW-3	Total/NA	Water	300.0	
880-29262-8	Dup-1	Total/NA	Water	300.0	
MB 880-55042/3	Method Blank	Total/NA	Water	300.0	
LCS 880-55042/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 880-55042/5	Lab Control Sample Dup	Total/NA	Water	300.0	
880-29260-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
880-29260-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
880-29261-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
880-29261-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 55043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29262-1	MW-6	Total/NA	Water	300.0	
880-29262-2	MW-5	Total/NA	Water	300.0	
880-29262-3	MW-4	Total/NA	Water	300.0	
880-29262-4	MW-1	Total/NA	Water	300.0	

QC Association Summary

Client: Larson & Associates, Inc. Job ID: 880-29262-1
Project/Site: State C Tract 13 SDG: 19-0112-38

HPLC/IC (Continued)

Analysis Batch: 55043 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29262-5	RW-1	Total/NA	Water	300.0	
880-29262-6	MW-2	Total/NA	Water	300.0	
880-29262-7	MW-3	Total/NA	Water	300.0	
880-29262-8	Dup-1	Total/NA	Water	300.0	
MB 880-55043/3	Method Blank	Total/NA	Water	300.0	
LCS 880-55043/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 880-55043/5	Lab Control Sample Dup	Total/NA	Water	300.0	
880-29261-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
880-29261-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 55032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-29262-1	MW-6	Total/NA	Water	SM 2540C	
880-29262-2	MW-5	Total/NA	Water	SM 2540C	
880-29262-3	MW-4	Total/NA	Water	SM 2540C	
880-29262-4	MW-1	Total/NA	Water	SM 2540C	
880-29262-5	RW-1	Total/NA	Water	SM 2540C	
880-29262-6	MW-2	Total/NA	Water	SM 2540C	
880-29262-7	MW-3	Total/NA	Water	SM 2540C	
880-29262-8	Dup-1	Total/NA	Water	SM 2540C	
MB 880-55032/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 880-55032/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 880-55032/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
880-29262-3 DU	MW-4	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: State C Tract 13

Job ID: 880-29262-1
SDG: 19-0112-38

Client Sample ID: MW-6
Date Collected: 06/07/23 09:36
Date Received: 06/07/23 16:04

Lab Sample ID: 880-29262-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	55462	06/14/23 18:25	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			55569	06/15/23 10:36	AJ	EET MID
Total/NA	Analysis	300.0		5			55042	06/08/23 14:35	CH	EET MID
Total/NA	Analysis	300.0		1			55043	06/08/23 17:24	CH	EET MID
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	55032	06/08/23 11:16	CH	EET MID

Client Sample ID: MW-5
Date Collected: 06/07/23 10:00
Date Received: 06/07/23 16:04

Lab Sample ID: 880-29262-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		10	5 mL	5 mL	55462	06/14/23 20:27	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			55569	06/15/23 10:36	AJ	EET MID
Total/NA	Analysis	300.0		5			55042	06/08/23 14:43	CH	EET MID
Total/NA	Analysis	300.0		1			55043	06/08/23 17:44	CH	EET MID
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	55032	06/08/23 11:16	CH	EET MID

Client Sample ID: MW-4
Date Collected: 06/07/23 10:38
Date Received: 06/07/23 16:04

Lab Sample ID: 880-29262-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	55462	06/14/23 18:45	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			55569	06/15/23 10:36	AJ	EET MID
Total/NA	Analysis	300.0		20			55042	06/08/23 14:50	CH	EET MID
Total/NA	Analysis	300.0		1			55043	06/08/23 18:05	CH	EET MID
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	55032	06/08/23 11:16	CH	EET MID

Client Sample ID: MW-1
Date Collected: 06/07/23 11:30
Date Received: 06/07/23 16:04

Lab Sample ID: 880-29262-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	55462	06/14/23 19:06	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			55569	06/15/23 10:36	AJ	EET MID
Total/NA	Analysis	300.0		10			55042	06/08/23 14:58	CH	EET MID
Total/NA	Analysis	300.0		1			55043	06/08/23 18:41	CH	EET MID
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	55032	06/08/23 11:16	CH	EET MID

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: State C Tract 13

Job ID: 880-29262-1
SDG: 19-0112-38

Client Sample ID: RW-1

Lab Sample ID: 880-29262-5
Matrix: Water
Date Collected: 06/07/23 11:55
Date Received: 06/07/23 16:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	55462	06/14/23 19:26	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			55569	06/15/23 10:36	AJ	EET MID
Total/NA	Analysis	300.0		20			55042	06/08/23 15:21	CH	EET MID
Total/NA	Analysis	300.0		1			55043	06/08/23 19:01	CH	EET MID
Total/NA	Analysis	SM 2540C		1	25 mL	200 mL	55032	06/08/23 11:16	CH	EET MID

Client Sample ID: MW-2

Lab Sample ID: 880-29262-6
Matrix: Water
Date Collected: 06/07/23 10:48
Date Received: 06/07/23 16:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	55462	06/14/23 19:47	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			55569	06/15/23 10:36	AJ	EET MID
Total/NA	Analysis	300.0		50			55042	06/08/23 15:29	CH	EET MID
Total/NA	Analysis	300.0		10			55043	06/08/23 19:22	CH	EET MID
Total/NA	Analysis	SM 2540C		1	25 mL	200 mL	55032	06/08/23 11:16	CH	EET MID

Client Sample ID: MW-3

Lab Sample ID: 880-29262-7
Matrix: Water
Date Collected: 06/07/23 11:00
Date Received: 06/07/23 16:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		10	5 mL	5 mL	55462	06/14/23 20:48	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			55569	06/15/23 10:36	AJ	EET MID
Total/NA	Analysis	300.0		100			55042	06/08/23 15:36	CH	EET MID
Total/NA	Analysis	300.0		20			55043	06/08/23 19:42	CH	EET MID
Total/NA	Analysis	SM 2540C		1	10 mL	200 mL	55032	06/08/23 11:16	CH	EET MID

Client Sample ID: Dup-1

Lab Sample ID: 880-29262-8
Matrix: Water
Date Collected: 06/07/23 00:00
Date Received: 06/07/23 16:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	55462	06/14/23 20:07	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			55569	06/15/23 10:36	AJ	EET MID
Total/NA	Analysis	300.0		20			55042	06/08/23 15:44	CH	EET MID
Total/NA	Analysis	300.0		1			55043	06/08/23 20:03	CH	EET MID
Total/NA	Analysis	SM 2540C		1	25 mL	200 mL	55032	06/08/23 11:16	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Midland

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: State C Tract 13

Job ID: 880-29262-1
SDG: 19-0112-38

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Water	Total BTEX

Method Summary

Client: Larson & Associates, Inc.
Project/Site: State C Tract 13

Job ID: 880-29262-1
SDG: 19-0112-38

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET MID
5030B	Purge and Trap	SW846	EET MID

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Larson & Associates, Inc.
Project/Site: State C Tract 13

Job ID: 880-29262-1
SDG: 19-0112-38

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-29262-1	MW-6	Water	06/07/23 09:36	06/07/23 16:04
880-29262-2	MW-5	Water	06/07/23 10:00	06/07/23 16:04
880-29262-3	MW-4	Water	06/07/23 10:38	06/07/23 16:04
880-29262-4	MW-1	Water	06/07/23 11:30	06/07/23 16:04
880-29262-5	RW-1	Water	06/07/23 11:55	06/07/23 16:04
880-29262-6	MW-2	Water	06/07/23 10:48	06/07/23 16:04
880-29262-7	MW-3	Water	06/07/23 11:00	06/07/23 16:04
880-29262-8	Dup-1	Water	06/07/23 00:00	06/07/23 16:04

29262 No. 3082

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N. Marienfeld, Ste. 202
Midland, TX 79701
432-687-0901

DATE 6/7/23 PAGE 1 OF 1

PO# _____ LAB WORK ORDER# _____

PROJECT LOCATION OR NAME: STATE C TRACT 13

LAI PROJECT # 19-0112-38 COLLECTOR DSG/KG

Data Reported to

TRRP report? ☐ Yes ☒ No

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR OT=OTHER

TIME ZONE
Time zone/State: MNT/NM

Field Sample I D	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	ANALYSES: BTEX ☐ MTBE ☐	TRPH 418.1 ☐	TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☐	DIESEL - MOD 8015 ☐	OIL - MOD 8015 ☐	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D W 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☒ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☒ ANIONS ☐ ALKALINITY ☐	NITRATE	FIELD NOTES
MW-6		6/7/23	0934	W	6	X			X		X														X			X	X		BILL DIRECT TO
MW-5		6/7/23	1000	W	6	X			X		X														X			X	X		APACHE. SEND
MW-4		6/7/23	1038	W	6	X			X		X														X			X	X		REPORT TO LAI
MW-1		6/7/23	1130	W	6	X			X		X														X			X	X		
RW-1		6/7/23	1155	W	6	X			X		X														X			X	X		
MW-2		6/7/23	1048	W	6	X			X		X														X			X	X		
MW-3		6/7/23	1100	W	6	X			X		X														X			X	X		
DUP 1		6/7/23	—	W	6	X			X		X														X			X	X		

TOTAL 8

880-29262 Chain of Custody

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)
Daniel Gutierrez	6/7/23 1604	
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)

LABORATORY Xenco

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP 3.5/3.2 THERM# IR8 #50
CUSTODY SEALS - ☐ BROKEN ☑ INTACT ☐ NOT USED
☐ CARRIER BILL # _____
☑ HAND DELIVERED

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-29262-1
SDG Number: 19-0112-38

Login Number: 29262
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark J Larson
Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Generated 4/3/2023 9:52:42 AM

JOB DESCRIPTION

State C Tract #13
SDG NUMBER 19-0112-38

JOB NUMBER

880-25864-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

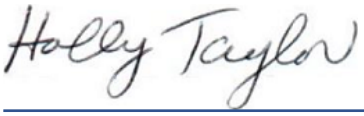
my EOL

Eurofins Midland

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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4/3/2023 9:52:42 AM

Authorized for release by
Holly Taylor, Project Manager
Holly.Taylor@et.eurofinsus.com
(806)794-1296

Client: Larson & Associates, Inc.
Project/Site: State C Tract #13

Laboratory Job ID: 880-25864-1
SDG: 19-0112-38

Table of Contents

Definitions/Glossary

Client: Larson & Associates, Inc. Job ID: 880-25864-1
Project/Site: State C Tract #13 SDG: 19-0112-38

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Larson & Associates, Inc. Job ID: 880-25864-1
Project/Site: State C Tract #13 SDG: 19-0112-38

Job ID: 880-25864-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-25864-1

Receipt
The samples were received on 3/13/2023 3:52 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.1°C

GC/MS VOA
Method 8260C: Internal standard (ISTD) response for 1,4-Dichlorobenzene-d4 for the following samples in analytical batch 860-94206 was outside acceptance criteria: MW-1 (880-25864-1), MW-2 (880-25864-2), MW-3 (880-25864-3), MW-4 (880-25864-4), MW-5 (880-25864-5), MW-6 (880-25864-6), RW-1 (880-25864-7), Dup-1 (880-25864-8) and (MB 860-94206/8). This ISTD does not correspond to any of the requested target compounds reported from this analytical batch; therefore, the data have been reported.

Method 8260C: The surrogate recovery for the blank associated with analytical batch 860-94206 was outside the upper control limits. Surrogate 4-Bromofluorobenzene is not associated with target analytes.

Method 8260C: Surrogate recovery for the following samples were outside the upper control limit: MW-1 (880-25864-1), MW-2 (880-25864-2), MW-3 (880-25864-3), MW-4 (880-25864-4), MW-5 (880-25864-5), MW-6 (880-25864-6), RW-1 (880-25864-7), Dup-1 (880-25864-8) and (860-44927-E-1). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
Method 300_ORGFM_28D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-2 (880-25864-2), MW-4 (880-25864-4), RW-1 (880-25864-7) and Dup-1 (880-25864-8). Elevated reporting limits (RLs) are provided.

Method 300_ORGFM_28D: The following sample was diluted to bring the concentration of Chloride within the calibration range: MW-3 (880-25864-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: State C Tract #13

Job ID: 880-25864-1
SDG: 19-0112-38

Client Sample ID: MW-1

Date Collected: 03/13/23 11:07
Date Received: 03/13/23 15:52

Lab Sample ID: 880-25864-1
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/L			03/15/23 19:47	1
Toluene	<0.00100	U	0.00100		mg/L			03/15/23 19:47	1
Ethylbenzene	<0.00100	U	0.00100		mg/L			03/15/23 19:47	1
m,p-Xylenes	<0.0100	U	0.0100		mg/L			03/15/23 19:47	1
o-Xylene	<0.00100	U	0.00100		mg/L			03/15/23 19:47	1
Xylenes, Total	<0.0100	U	0.0100		mg/L			03/15/23 19:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*63 - 144*		*03/15/23 19:47*	*1*
4-Bromofluorobenzene (Surr)	*157*	*S1+ *3*	*74 - 124*		*03/15/23 19:47*	*1*
Dibromofluoromethane (Surr)	*84*		*75 - 131*		*03/15/23 19:47*	*1*
Toluene-d8 (Surr)	*110*		*80 - 117*		*03/15/23 19:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0100	U	0.0100		mg/L			03/17/23 19:45	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**410**		0.500		mg/L			03/27/23 19:03	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**1300**		20.0		mg/L			03/16/23 07:00	1

Client Sample ID: MW-2

Date Collected: 03/13/23 12:08
Date Received: 03/13/23 15:52

Lab Sample ID: 880-25864-2
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/L			03/15/23 20:08	1
Toluene	<0.00100	U	0.00100		mg/L			03/15/23 20:08	1
Ethylbenzene	<0.00100	U	0.00100		mg/L			03/15/23 20:08	1
m,p-Xylenes	<0.0100	U	0.0100		mg/L			03/15/23 20:08	1
o-Xylene	<0.00100	U	0.00100		mg/L			03/15/23 20:08	1
Xylenes, Total	<0.0100	U	0.0100		mg/L			03/15/23 20:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*63 - 144*		*03/15/23 20:08*	*1*
4-Bromofluorobenzene (Surr)	*158*	*S1+ *3*	*74 - 124*		*03/15/23 20:08*	*1*
Dibromofluoromethane (Surr)	*81*		*75 - 131*		*03/15/23 20:08*	*1*
Toluene-d8 (Surr)	*117*		*80 - 117*		*03/15/23 20:08*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0100	U	0.0100		mg/L			03/17/23 19:45	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1880**		5.00		mg/L			03/28/23 11:39	10

Client Sample Results

Client: Larson & Associates, Inc. Job ID: 880-25864-1
Project/Site: State C Tract #13 SDG: 19-0112-38

Client Sample ID: MW-2 Lab Sample ID: 880-25864-2

Date Collected: 03/13/23 12:08 **Matrix: Water**
Date Received: 03/13/23 15:52

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	4790		40.0		mg/L			03/16/23 07:00	1

Client Sample ID: MW-3 Lab Sample ID: 880-25864-3

Date Collected: 03/13/23 11:44 **Matrix: Water**
Date Received: 03/13/23 15:52

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/L			03/15/23 21:50	1
Toluene	<0.00100	U	0.00100		mg/L			03/15/23 21:50	1
Ethylbenzene	<0.00100	U	0.00100		mg/L			03/15/23 21:50	1
m,p-Xylenes	<0.0100	U	0.0100		mg/L			03/15/23 21:50	1
o-Xylene	<0.00100	U	0.00100		mg/L			03/15/23 21:50	1
Xylenes, Total	<0.0100	U	0.0100		mg/L			03/15/23 21:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*63 - 144*		*03/15/23 21:50*	*1*
4-Bromofluorobenzene (Surr)	*194*	*S1+ *3*	*74 - 124*		*03/15/23 21:50*	*1*
Dibromofluoromethane (Surr)	*84*		*75 - 131*		*03/15/23 21:50*	*1*
Toluene-d8 (Surr)	*95*		*80 - 117*		*03/15/23 21:50*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0100	U	0.0100		mg/L			03/17/23 19:45	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7330		50.0		mg/L			04/01/23 10:07	100

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	17300		100		mg/L			03/16/23 07:00	1

Client Sample ID: MW-4 Lab Sample ID: 880-25864-4

Date Collected: 03/13/23 10:51 **Matrix: Water**
Date Received: 03/13/23 15:52

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/L			03/15/23 20:28	1
Toluene	<0.00100	U	0.00100		mg/L			03/15/23 20:28	1
Ethylbenzene	<0.00100	U	0.00100		mg/L			03/15/23 20:28	1
m,p-Xylenes	<0.0100	U	0.0100		mg/L			03/15/23 20:28	1
o-Xylene	<0.00100	U	0.00100		mg/L			03/15/23 20:28	1
Xylenes, Total	<0.0100	U	0.0100		mg/L			03/15/23 20:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*63 - 144*		*03/15/23 20:28*	*1*
4-Bromofluorobenzene (Surr)	*122*	*3*	*74 - 124*		*03/15/23 20:28*	*1*
Dibromofluoromethane (Surr)	*84*		*75 - 131*		*03/15/23 20:28*	*1*
Toluene-d8 (Surr)	*137*	*S1+*	*80 - 117*		*03/15/23 20:28*	*1*

Client Sample Results

Client: Larson & Associates, Inc. Job ID: 880-25864-1
Project/Site: State C Tract #13 SDG: 19-0112-38

Client Sample ID: MW-4 Lab Sample ID: 880-25864-4

Date Collected: 03/13/23 10:51 **Matrix: Water**
Date Received: 03/13/23 15:52

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0100	U	0.0100		mg/L			03/17/23 19:45	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**659**		5.00		mg/L			03/28/23 12:04	10

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**1900**		20.0		mg/L			03/16/23 07:00	1

Client Sample ID: MW-5 Lab Sample ID: 880-25864-5

Date Collected: 03/13/23 10:27 **Matrix: Water**
Date Received: 03/13/23 15:52

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/L			03/15/23 22:11	1
Toluene	<0.00100	U	0.00100		mg/L			03/15/23 22:11	1
Ethylbenzene	<0.00100	U	0.00100		mg/L			03/15/23 22:11	1
m,p-Xylenes	<0.0100	U	0.0100		mg/L			03/15/23 22:11	1
o-Xylene	<0.00100	U	0.00100		mg/L			03/15/23 22:11	1
Xylenes, Total	<0.0100	U	0.0100		mg/L			03/15/23 22:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*63 - 144*		*03/15/23 22:11*	*1*
4-Bromofluorobenzene (Surr)	*121*	*3	*74 - 124*		*03/15/23 22:11*	*1*
Dibromofluoromethane (Surr)	*85*		*75 - 131*		*03/15/23 22:11*	*1*
Toluene-d8 (Surr)	*103*		*80 - 117*		*03/15/23 22:11*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0100	U	0.0100		mg/L			03/17/23 19:45	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**92.2**		0.500		mg/L			03/27/23 19:15	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**867**		10.0		mg/L			03/16/23 07:00	1

Client Sample ID: MW-6 Lab Sample ID: 880-25864-6

Date Collected: 03/13/23 10:05 **Matrix: Water**
Date Received: 03/13/23 15:52

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/L			03/15/23 20:49	1
Toluene	<0.00100	U	0.00100		mg/L			03/15/23 20:49	1
Ethylbenzene	<0.00100	U	0.00100		mg/L			03/15/23 20:49	1
m,p-Xylenes	<0.0100	U	0.0100		mg/L			03/15/23 20:49	1
o-Xylene	<0.00100	U	0.00100		mg/L			03/15/23 20:49	1

Client Sample Results

Client: Larson & Associates, Inc. Job ID: 880-25864-1
Project/Site: State C Tract #13 SDG: 19-0112-38

Client Sample ID: MW-6 Lab Sample ID: 880-25864-6

Date Collected: 03/13/23 10:05 **Matrix: Water**
Date Received: 03/13/23 15:52

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	<0.0100	U	0.0100		mg/L			03/15/23 20:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*63 - 144*		*03/15/23 20:49*	*1*
4-Bromofluorobenzene (Surr)	*128*	*S1+ *3*	*74 - 124*		*03/15/23 20:49*	*1*
Dibromofluoromethane (Surr)	*79*		*75 - 131*		*03/15/23 20:49*	*1*
Toluene-d8 (Surr)	*117*		*80 - 117*		*03/15/23 20:49*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0100	U	0.0100		mg/L			03/17/23 19:45	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**107**		0.500		mg/L			03/27/23 19:28	1

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**958**		10.0		mg/L			03/16/23 07:00	1

Client Sample ID: RW-1 Lab Sample ID: 880-25864-7

Date Collected: 03/13/23 11:48 **Matrix: Water**
Date Received: 03/13/23 15:52

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/L			03/15/23 21:09	1
Toluene	<0.00100	U	0.00100		mg/L			03/15/23 21:09	1
Ethylbenzene	<0.00100	U	0.00100		mg/L			03/15/23 21:09	1
m,p-Xylenes	<0.0100	U	0.0100		mg/L			03/15/23 21:09	1
o-Xylene	<0.00100	U	0.00100		mg/L			03/15/23 21:09	1
Xylenes, Total	<0.0100	U	0.0100		mg/L			03/15/23 21:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*63 - 144*		*03/15/23 21:09*	*1*
4-Bromofluorobenzene (Surr)	*163*	*S1+ *3*	*74 - 124*		*03/15/23 21:09*	*1*
Dibromofluoromethane (Surr)	*79*		*75 - 131*		*03/15/23 21:09*	*1*
Toluene-d8 (Surr)	*112*		*80 - 117*		*03/15/23 21:09*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0100	U	0.0100		mg/L			03/17/23 19:48	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1130**		5.00		mg/L			03/28/23 12:29	10

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**3350**		40.0		mg/L			03/16/23 07:00	1

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: State C Tract #13

Job ID: 880-25864-1
SDG: 19-0112-38

Client Sample ID: Dup-1

Date Collected: 03/13/23 00:00
Date Received: 03/13/23 15:52

Lab Sample ID: 880-25864-8

Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/L			03/15/23 21:30	1
Toluene	<0.00100	U	0.00100		mg/L			03/15/23 21:30	1
Ethylbenzene	<0.00100	U	0.00100		mg/L			03/15/23 21:30	1
m,p-Xylenes	<0.0100	U	0.0100		mg/L			03/15/23 21:30	1
o-Xylene	<0.00100	U	0.00100		mg/L			03/15/23 21:30	1
Xylenes, Total	<0.0100	U	0.0100		mg/L			03/15/23 21:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*63 - 144*		*03/15/23 21:30*	*1*
4-Bromofluorobenzene (Surr)	*125*	*S1+ *3*	*74 - 124*		*03/15/23 21:30*	*1*
Dibromofluoromethane (Surr)	*80*		*75 - 131*		*03/15/23 21:30*	*1*
Toluene-d8 (Surr)	*74*	*S1-*	*80 - 117*		*03/15/23 21:30*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0100	U	0.0100		mg/L			03/17/23 19:48	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1210**		5.00		mg/L			03/28/23 13:18	10

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	**3780**		40.0		mg/L			03/16/23 07:00	1

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: State C Tract #13

Job ID: 880-25864-1
SDG: 19-0112-38

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(63-144)	(74-124)	(75-131)	(80-117)
880-25864-1	MW-1	92	157 S1+ *3	84	110
880-25864-2	MW-2	96	158 S1+ *3	81	117
880-25864-3	MW-3	108	194 S1+ *3	84	95
880-25864-4	MW-4	102	122 *3	84	137 S1+
880-25864-5	MW-5	101	121 *3	85	103
880-25864-6	MW-6	100	128 S1+ *3	79	117
880-25864-7	RW-1	99	163 S1+ *3	79	112
880-25864-8	Dup-1	106	125 S1+ *3	80	74 S1-
LCS 860-94206/3	Lab Control Sample	102	105	85	103
LCSD 860-94206/4	Lab Control Sample Dup	97	97	84	103
MB 860-94206/8	Method Blank	98	130 *3 S1+	82	113

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: State C Tract #13

Job ID: 880-25864-1
SDG: 19-0112-38

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 860-94206/8
Matrix: Water
Analysis Batch: 94206

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00100	U	0.00100		mg/L			03/15/23 16:02	1
Toluene	<0.00100	U	0.00100		mg/L			03/15/23 16:02	1
Ethylbenzene	<0.00100	U	0.00100		mg/L			03/15/23 16:02	1
m,p-Xylenes	<0.0100	U	0.0100		mg/L			03/15/23 16:02	1
o-Xylene	<0.00100	U	0.00100		mg/L			03/15/23 16:02	1
Xylenes, Total	<0.0100	U	0.0100		mg/L			03/15/23 16:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*63 - 144*		*03/15/23 16:02*	*1*
4-Bromofluorobenzene (Surr)	*130*	**3 S1+*	*74 - 124*		*03/15/23 16:02*	*1*
Dibromofluoromethane (Surr)	*82*		*75 - 131*		*03/15/23 16:02*	*1*
Toluene-d8 (Surr)	*113*		*80 - 117*		*03/15/23 16:02*	*1*

Lab Sample ID: LCS 860-94206/3
Matrix: Water
Analysis Batch: 94206

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.0500	0.04574		mg/L		91	75 - 125		
Toluene			0.0500	0.05160		mg/L		103	70 - 130		
Ethylbenzene			0.0500	0.04955		mg/L		99	75 - 125		
m,p-Xylenes			0.0500	0.05019		mg/L		100	75 - 125		
o-Xylene			0.0500	0.04430		mg/L		89	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*63 - 144*
4-Bromofluorobenzene (Surr)	*105*		*74 - 124*
Dibromofluoromethane (Surr)	*85*		*75 - 131*
Toluene-d8 (Surr)	*103*		*80 - 117*

Lab Sample ID: LCSD 860-94206/4
Matrix: Water
Analysis Batch: 94206

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.0500	0.04465		mg/L		89	75 - 125	2	25
Toluene			0.0500	0.05078		mg/L		102	70 - 130	2	25
Ethylbenzene			0.0500	0.05112		mg/L		102	75 - 125	3	25
m,p-Xylenes			0.0500	0.05204		mg/L		104	75 - 125	4	25
o-Xylene			0.0500	0.04498		mg/L		90	75 - 125	2	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*63 - 144*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*
Dibromofluoromethane (Surr)	*84*		*75 - 131*
Toluene-d8 (Surr)	*103*		*80 - 117*

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: State C Tract #13

Job ID: 880-25864-1
SDG: 19-0112-38

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 860-96004/3
Matrix: Water
Analysis Batch: 96004

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.500	U	0.500		mg/L			03/27/23 14:31	1

Lab Sample ID: MB 860-96004/49
Matrix: Water
Analysis Batch: 96004

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.500	U	0.500		mg/L			03/28/23 15:33	1

Lab Sample ID: LCS 860-96004/4
Matrix: Water
Analysis Batch: 96004

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			10.0	9.848		mg/L		98	90 - 110		

Lab Sample ID: LCSD 860-96004/5
Matrix: Water
Analysis Batch: 96004

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			10.0	9.888		mg/L		99	90 - 110	0	20

Lab Sample ID: LLCS 860-96004/82
Matrix: Water
Analysis Batch: 96004

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			0.500	0.5646		mg/L		113	50 - 150		

Lab Sample ID: MB 860-96864/3
Matrix: Water
Analysis Batch: 96864

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.500	U	0.500		mg/L			03/31/23 23:57	1

Lab Sample ID: MB 860-96864/43
Matrix: Water
Analysis Batch: 96864

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.500	U	0.500		mg/L			04/01/23 08:25	1

Lab Sample ID: LCS 860-96864/4
Matrix: Water
Analysis Batch: 96864

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			10.0	9.976		mg/L		100	90 - 110		

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: State C Tract #13

Job ID: 880-25864-1
SDG: 19-0112-38

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCS 860-96864/44
Matrix: Water
Analysis Batch: 96864

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.852		mg/L		99	90 - 110

Lab Sample ID: LCSD 860-96864/45
Matrix: Water
Analysis Batch: 96864

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.882		mg/L		99	90 - 110	0	20

Lab Sample ID: LCSD 860-96864/5
Matrix: Water
Analysis Batch: 96864

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	10.01		mg/L		100	90 - 110	0	20

Lab Sample ID: LLCS 860-96864/7
Matrix: Water
Analysis Batch: 96864

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.4726	J	mg/L		95	50 - 150

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 860-94387/1
Matrix: Water
Analysis Batch: 94387

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.00	U	5.00		mg/L			03/16/23 07:00	1

Lab Sample ID: LCS 860-94387/2
Matrix: Water
Analysis Batch: 94387

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	889.0		mg/L		89	80 - 120

Lab Sample ID: LCSD 860-94387/3
Matrix: Water
Analysis Batch: 94387

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	915.0		mg/L		92	80 - 120	3	10

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: State C Tract #13

Job ID: 880-25864-1
SDG: 19-0112-38

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LLCS 860-94387/4
Matrix: Water
Analysis Batch: 94387

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Dissolved Solids			5.00	<5.00	U	mg/L		88	50 - 150		

Lab Sample ID: 880-25864-1 DU
Matrix: Water
Analysis Batch: 94387

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1300			1336		mg/L				3	10

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: State C Tract #13

Job ID: 880-25864-1
SDG: 19-0112-38

GC/MS VOA

Analysis Batch: 94206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25864-1	MW-1	Total/NA	Water	8260C	
880-25864-2	MW-2	Total/NA	Water	8260C	
880-25864-3	MW-3	Total/NA	Water	8260C	
880-25864-4	MW-4	Total/NA	Water	8260C	
880-25864-5	MW-5	Total/NA	Water	8260C	
880-25864-6	MW-6	Total/NA	Water	8260C	
880-25864-7	RW-1	Total/NA	Water	8260C	
880-25864-8	Dup-1	Total/NA	Water	8260C	
MB 860-94206/8	Method Blank	Total/NA	Water	8260C	
LCS 860-94206/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 860-94206/4	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 94753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25864-1	MW-1	Total/NA	Water	Total BTEX	
880-25864-2	MW-2	Total/NA	Water	Total BTEX	
880-25864-3	MW-3	Total/NA	Water	Total BTEX	
880-25864-4	MW-4	Total/NA	Water	Total BTEX	
880-25864-5	MW-5	Total/NA	Water	Total BTEX	
880-25864-6	MW-6	Total/NA	Water	Total BTEX	
880-25864-7	RW-1	Total/NA	Water	Total BTEX	
880-25864-8	Dup-1	Total/NA	Water	Total BTEX	

HPLC/IC

Analysis Batch: 96004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25864-1	MW-1	Total/NA	Water	300.0	
880-25864-2 - DL	MW-2	Total/NA	Water	300.0	
880-25864-4 - DL	MW-4	Total/NA	Water	300.0	
880-25864-5	MW-5	Total/NA	Water	300.0	
880-25864-6	MW-6	Total/NA	Water	300.0	
880-25864-7 - DL	RW-1	Total/NA	Water	300.0	
880-25864-8 - DL	Dup-1	Total/NA	Water	300.0	
MB 860-96004/3	Method Blank	Total/NA	Water	300.0	
MB 860-96004/49	Method Blank	Total/NA	Water	300.0	
LCS 860-96004/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-96004/5	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-96004/82	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 96864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25864-3 - DL	MW-3	Total/NA	Water	300.0	
MB 860-96864/3	Method Blank	Total/NA	Water	300.0	
MB 860-96864/43	Method Blank	Total/NA	Water	300.0	
LCS 860-96864/4	Lab Control Sample	Total/NA	Water	300.0	
LCS 860-96864/44	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-96864/45	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 860-96864/5	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-96864/7	Lab Control Sample	Total/NA	Water	300.0	

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: State C Tract #13

Job ID: 880-25864-1
SDG: 19-0112-38

General Chemistry

Analysis Batch: 94387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25864-1	MW-1	Total/NA	Water	SM 2540C	
880-25864-2	MW-2	Total/NA	Water	SM 2540C	
880-25864-3	MW-3	Total/NA	Water	SM 2540C	
880-25864-4	MW-4	Total/NA	Water	SM 2540C	
880-25864-5	MW-5	Total/NA	Water	SM 2540C	
880-25864-6	MW-6	Total/NA	Water	SM 2540C	
880-25864-7	RW-1	Total/NA	Water	SM 2540C	
880-25864-8	Dup-1	Total/NA	Water	SM 2540C	
MB 860-94387/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 860-94387/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 860-94387/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
LLCS 860-94387/4	Lab Control Sample	Total/NA	Water	SM 2540C	
880-25864-1 DU	MW-1	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: State C Tract #13

Job ID: 880-25864-1
SDG: 19-0112-38

Client Sample ID: MW-1
Date Collected: 03/13/23 11:07
Date Received: 03/13/23 15:52

Lab Sample ID: 880-25864-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	94206	03/15/23 19:47	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			94753	03/17/23 19:45	AN	EET HOU
Total/NA	Analysis	300.0		1			96004	03/27/23 19:03	RBNS	EET HOU
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	94387	03/16/23 07:00	HN	EET HOU

Client Sample ID: MW-2
Date Collected: 03/13/23 12:08
Date Received: 03/13/23 15:52

Lab Sample ID: 880-25864-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	94206	03/15/23 20:08	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			94753	03/17/23 19:45	AN	EET HOU
Total/NA	Analysis	300.0	DL	10			96004	03/28/23 11:39	RBNS	EET HOU
Total/NA	Analysis	SM 2540C		1	25 mL	200 mL	94387	03/16/23 07:00	HN	EET HOU

Client Sample ID: MW-3
Date Collected: 03/13/23 11:44
Date Received: 03/13/23 15:52

Lab Sample ID: 880-25864-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	94206	03/15/23 21:50	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			94753	03/17/23 19:45	AN	EET HOU
Total/NA	Analysis	300.0	DL	100			96864	04/01/23 10:07	W1N	EET HOU
Total/NA	Analysis	SM 2540C		1	10 mL	200 mL	94387	03/16/23 07:00	HN	EET HOU

Client Sample ID: MW-4
Date Collected: 03/13/23 10:51
Date Received: 03/13/23 15:52

Lab Sample ID: 880-25864-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	94206	03/15/23 20:28	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			94753	03/17/23 19:45	AN	EET HOU
Total/NA	Analysis	300.0	DL	10			96004	03/28/23 12:04	RBNS	EET HOU
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	94387	03/16/23 07:00	HN	EET HOU

Client Sample ID: MW-5
Date Collected: 03/13/23 10:27
Date Received: 03/13/23 15:52

Lab Sample ID: 880-25864-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	94206	03/15/23 22:11	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			94753	03/17/23 19:45	AN	EET HOU
Total/NA	Analysis	300.0		1			96004	03/27/23 19:15	RBNS	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	94387	03/16/23 07:00	HN	EET HOU

Lab Chronicle

Client: Larson & Associates, Inc.
Job ID: 880-25864-1
Project/Site: State C Tract #13
SDG: 19-0112-38

Client Sample ID: MW-6
Lab Sample ID: 880-25864-6
Date Collected: 03/13/23 10:05
Matrix: Water
Date Received: 03/13/23 15:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	94206	03/15/23 20:49	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			94753	03/17/23 19:45	AN	EET HOU
Total/NA	Analysis	300.0		1			96004	03/27/23 19:28	RBNS	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	94387	03/16/23 07:00	HN	EET HOU

Client Sample ID: RW-1
Lab Sample ID: 880-25864-7
Date Collected: 03/13/23 11:48
Matrix: Water
Date Received: 03/13/23 15:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	94206	03/15/23 21:09	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			94753	03/17/23 19:48	AN	EET HOU
Total/NA	Analysis	300.0	DL	10			96004	03/28/23 12:29	RBNS	EET HOU
Total/NA	Analysis	SM 2540C		1	25 mL	200 mL	94387	03/16/23 07:00	HN	EET HOU

Client Sample ID: Dup-1
Lab Sample ID: 880-25864-8
Date Collected: 03/13/23 00:00
Matrix: Water
Date Received: 03/13/23 15:52

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	94206	03/15/23 21:30	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			94753	03/17/23 19:48	AN	EET HOU
Total/NA	Analysis	300.0	DL	10			96004	03/28/23 13:18	RBNS	EET HOU
Total/NA	Analysis	SM 2540C		1	25 mL	200 mL	94387	03/16/23 07:00	HN	EET HOU

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: State C Tract #13

Job ID: 880-25864-1
SDG: 19-0112-38

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215-23-50	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Water	Total BTEX

Method Summary

Client: Larson & Associates, Inc.
Project/Site: State C Tract #13

Job ID: 880-25864-1
SDG: 19-0112-38

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	EET HOU
Total BTEX	Total BTEX Calculation	TAL SOP	EET HOU
300.0	Anions, Ion Chromatography	EPA	EET HOU
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET HOU
5030C	Purge and Trap	SW846	EET HOU

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Sample Summary

Client: Larson & Associates, Inc.
Project/Site: State C Tract #13

Job ID: 880-25864-1
SDG: 19-0112-38

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-25864-1	MW-1	Water	03/13/23 11:07	03/13/23 15:52
880-25864-2	MW-2	Water	03/13/23 12:08	03/13/23 15:52
880-25864-3	MW-3	Water	03/13/23 11:44	03/13/23 15:52
880-25864-4	MW-4	Water	03/13/23 10:51	03/13/23 15:52
880-25864-5	MW-5	Water	03/13/23 10:27	03/13/23 15:52
880-25864-6	MW-6	Water	03/13/23 10:05	03/13/23 15:52
880-25864-7	RW-1	Water	03/13/23 11:48	03/13/23 15:52
880-25864-8	Dup-1	Water	03/13/23 00:00	03/13/23 15:52

358164 No. 2680

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants
507 N Marienfeld, Ste 202
Midland, TX 79701
432-687-0901

DATE: 3/13/23 PAGE 1 OF 1
PO#: LAB WORK ORDER#
PROJECT LOCATION OR NAME: State C Tract #13
LAI PROJECT # 19-0112-38 COLLECTOR: AW & DSC

Data Reported to

TRRP report? ☐ Yes ☑ No

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR OT=OTHER

TIME ZONE
Time zone/State: MST/NM

Field Sample I D	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl x3	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE x2	UNPRESERVED	ANALYSES: BTEX☒ MTBE ☐	TRPH 418.1 ☐	TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☐	DIESEL - MOD 8015 ☐	OIL - MOD 8015 ☐	VOC 8260 ☐	SVOC 8270 ☐	PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D W 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS☒ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDES☒ ANIONS ☐ ALKALINITY ☐ Nitrate	FIELD NOTES
MW-1		3/13/23	1107	W	5	X			X		X															X			X	X	
MW-2			1208																												
MW-3			1144																												
MW-4			1051																												
MW-5			1027																												
MW-6			1005																												
RW-1		"	1148																												
Dup-1		3/13/23	—																												

880-25864 Chain of Custody

TOTAL

RELINQUISHED BY (Signature)	DATE/TIME 3/13/23 1552	RECEIVED BY (Signature)
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)

LABORATORY Xenco

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP 4.4/4.1 THERM# IR8-3
CUSTODY SEALS - ☐ BROKEN ☑ INTACT ☐ NOT USED
☐ CARRIER BILL #
☑ HAND DELIVERED

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-25864-1
SDG Number: 19-0112-38

Login Number: 25864
List Number: 1
Creator: Rodriguez, Leticia

List Source: Eurofins Midland

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
TCEQ Mtd 1005 soil sample was frozen/delivered for prep within 48H of sampling.	N/A	

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-25864-1
SDG Number: 19-0112-38

Login Number: 25864
List Number: 2
Creator: Pena, Jesiel

List Source: Eurofins Houston
List Creation: 03/14/23 05:01 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

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 416271

CONDITIONS

Operator:	OGRID:
APACHE CORPORATION 303 Veterans Airpark Ln Midland, TX 79705	873
	Action Number: 416271
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the 2023 Semi Annual (Jan-June) Groundwater Monitoring Report for State C Tract 13: content satisfactory to include the following conditions of approval 1. Please continue to sample for nitrates until eight (8) consecutive quarterly sampling events are achieved below 10 mg/L. After reviewing the groundwater work plan, it is not specified how many consecutive quarters are required to meet closure. If there is less than eight (8) consecutive quarters required, as 19.15.30 NMAC states, to achieve closure for groundwater/human health standards closure, please provide that to the OCD through the online portal. 2. Please provide a four (4) day business notice to OCD before conducting the next quarterly monitoring event. 3. If there has been a variance submitted and approved for a lesser number (less than eight (8)) for sampling any or all constituents of concern, please provide that to OCD through the online portal for the incident file.	1/6/2025
michael.buchanan	4. Continue to conduct groundwater monitoring for all constituents of concern, namely: chloride, TDS, and nitrates, again, unless other approval documentation can be provided to the OCD or Apache is planning on making that request. 5. Please submit the 2024 annual report to OCD no later than July 1, 2025.	1/6/2025