April 14,

2022

NRM2031146817
2022 First Quarter Groundwater Monitoring Report
Northeast Drinkard Unit (NEDU) #829, #830, #922, #928, and #929
Lea County, New Mexico

Apache

Apache Corporation
2350 West Marland Blvd.
Hobbs, New Mexico 88240

Prepared by:

Larson & Associates, Inc.
Environmental Consultants

507 N. Marienfeld Street, Suite 202
Midland, Texas 79701
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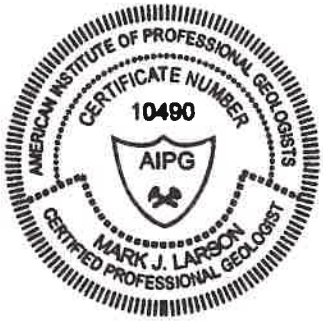
Mark J. Larson
Certified Profession Geologist #10490



Jeremy Riech
Environmental Technician

19-0112-18

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1.0 EXECUTIVE SUMMARY

Larson & Associates, Inc. (LAI) submits this report to the New Mexico Oil Conservation Division (NMOCD) on behalf of Apache Corporation (Apache) to present 2022 first (1st) quarter (January-March) groundwater monitoring results for the Northeast Drinkard Unit (NEDU) #829, #830, #922, #928, and #929 (Sites) located in Section 22, Township 21 South, Range 37 East, in Lea County, New Mexico.

The following activities occurred on March 2, 2022:

- Gauge and collect groundwater samples from monitoring wells MW-1, MW-2, and MW-4.
- Analyzed groundwater samples for benzene, toluene, ethylbenzene, and xylenes (BTEX), chloride, and total dissolved solids (TDS).

The following observations are documented in this report:

- Depth to groundwater ranged from 40.36 feet below ground surface (bgs) in monitoring well MW-4 to 54.36 feet bgs in monitoring well MW-1.
- The groundwater elevation was recorded at 3,371.58 feet above mean sea level (MSL) at MW-4 (up gradient) to 3,355.49 feet above MSL at monitoring well MW-3 (downgradient).
- Apparent groundwater flow direction is west to east at a gradient of about 0.0123 feet per foot (ft/ft).
- BTEX was below the analytical method reporting limit (RL) and New Mexico Water Quality Control Commission (WQCC) human health standards in groundwater samples from all monitoring wells (MW-1, MW-2, MW-3, and MW-4).
- The chloride concentration in the groundwater samples from monitoring wells MW-1 (1,250 mg/L) and MW-2 (253 mg/L) were above the WQCC domestic water quality standard of 250 mg/L.
- Chloride concentrations in the groundwater samples from monitoring wells MW-3 (114 mg/L) and MW-4 (182 mg/L) were below the WQCC domestic water quality standard of 250 mg/L.
- The TDS concentrations in the groundwater samples from monitoring wells MW-1 (2,500 mg/L) and MW-2 (1,110 mg/L) were above the WQCC domestic water quality standard of 1,000 mg/L.
- The TDS concentrations in the groundwater samples from monitoring wells MW-3 (664 mg/L) and MW-4 (836 mg/L) were below the WQCC domestic water quality standard of 1,000 mg/L.
- The laboratory results for the duplicate water sample (DUP-1) from MW-2 was consistent with the laboratory results for the original sample from MW-2. The variance between the chloride results from the duplicate and MW-2 was 5.93%. The variance between the TDS results from the duplicate and MW-2 was 1.84%.
- Elevated chloride and TDS in monitoring wells MW-1 and MW-2 appears to be from NEDU #830 and NEDU #922, respectively.

Apache proposes the following:

- Continue groundwater monitoring on a quarterly (4 times per year) schedule.
- Gauge all monitoring wells for depth to groundwater and collect groundwater samples from monitoring wells with sufficient groundwater during each quarterly event.

- Analyze samples for BTEX, TDS and chloride.
- Report the laboratory results to OCD in quarterly reports, unless significant changes in analyte concentrations are detected, at which time Apache will immediately report the results to OCD.
- Apache will provide notice to the OCD in Hobbs and Santa Fe, New Mexico, at least 7 working days prior to each monitoring event.

2.0 INTRODUCTON

Larson & Associates, Inc. (LAI) has prepared this report on behalf of Apache Corporation (Apache) for submittal to the New Mexico Oil Conservation Division (NMOCD) District 1 in and Hobbs and Santa Fe, New Mexico. This report presents 2022 first (1st) quarter groundwater monitoring results for the Northeast Drinkard Unit (NEDU) #829, #830, #922, #928, and #929 (Sites) performed on March 2, 2022. The Sites are located in Section 22, Township 21 South, Range 37 East, in Lea County, New Mexico. The geodetic coordinates are as follows:

Site	North (°)	West (°)
NEDU #829	32.462947	-103.151539
NEDU #830	32.463967	-103.155761
NEDU #922	32.457803	-103.151181
NEDU #928	32.458019	-103.155831
NEDU #929	32.458022	-103.151450

2.1 Background

On April 6, 2001, the landowner observed drilling pits associated with the Sites being closed by an Apache contractor, L. Ramirez Trucking & Backhoe Service, that was draining fluid from the drilling pits into open trenches adjacent to the pits. The surface owner notified the NMOCD District 1 in Hobbs, New Mexico. Apache was notified and required to submit a release notification form (C-141). The initial C-141 was submitted to the NMOCD on April 23, 2001. NMOCD assigned the trenches remediation permit 1RP-313. On April 23, 2001, Apache submitted a work plan for the remediating the trenches. NMOCD approved the work plan on May 8, 2001.

The work plan stated among other things that Apache would excavate soil to approximately 19 feet below ground surface (bgs) at NEDU #829, #830, and #929, and to approximately 13 feet bgs at NEDU #928. There is no evidence to demonstrate that the trench was excavated at NEDU #922. Between April 13 and 15, 2001, an Apache contractor, Safety & Environmental Solutions, Inc, (SESI), Hobbs, New Mexico, collected bottom and composite samples from the trench excavations. SESI reported total petroleum hydrocarbons (TPH) above the NMOCD recommend remediation action level (RRAL) in affect at that time (August 13, 1993) in samples from NEDU #928 (1,000 mg/Kg) and NEDU #929 (100 mg/Kg). There was no RRAL for chloride which ranged from 16,800 mg/Kg to 25,600 mg/Kg in samples from NEDU #929 and NEDU #829 and NEDU #830, respectively. No documentation is available in the NMOCD online files to confirm the remediation.

On October 31, 2019, Apache submitted an administrative summary and path forward to NMOCD for remediating and closing the trenches. The plan requested approval for a variance to excavate soil to a depth of four (4) feet bgs at each trench, installing a 20-mil thickness polyethylene liner in the bottom of each excavation and backfilling to surface with non-waste containing soil with chloride less than 600 mg/Kg above the liners. Additionally, Apache committed to installing a monitoring well hydraulically down gradient (east - southeast) approximately 50 feet from each trench. On May 19, 2021, NMOCD approved the administrative summary and path forward for remediation but stated that "pre-approval for Monitor Well locations on map before installation" was required. On July 14, 2021, NMOCD approved the monitor well locations. Appendix A presents NMOCD communications.

3.0 GROUNDWATER INVESTIGATION

3.1 Monitoring Well Installations

On July 19-20, 2021, Scarborough Drilling, Inc. (SDI) under the supervision of LAI, installed monitoring wells MW-1, MW-2, MW-3, and MW-4 at locations specified in the permits utilizing an air rotary drill rig. The wells were completed in 5-inch diameter borings advanced to 65 to 76 feet bgs. Monitoring wells MW-1, MW-2, MW-3, and MW-4 were completed to depths of approximately 74.08, 74.86, 65.35 and 76.01 feet bgs, respectively. The monitoring wells are completed with 2-inch schedule 40 threaded PVC casing and 20 feet of 0.010-inch factory slotted screen installed above and below the groundwater level observed during drilling. Graded silica sand is positioned around the well screens to a depth about 2 feet above the screen. Sodium bentonite chips extend around the PVC riser and above the sand to about 1-foot bgs. The wells are secured with locking steel sleeves anchored in concrete. West Company, a State of New Mexico licensed Professional Land Surveyor (License Number 23263), surveyed the monitoring wells for location and elevation including top of casing and natural ground surface. Figure 3 presents Site drawing showing the monitoring well locations. Table 1 presents the monitoring well completion and gauging summary. Appendix B presents the monitoring well completion records.

On July 27-30, 2021, LAI personnel developed the monitoring wells by pumping with an electric submersible pump to remove sediment disturbed drilling and well installation. Approximately 40 gallons of water were removed from each well and placed in 55-gallon drums for disposal in an NMOCD permitted Class 2 saltwater disposal well (SWD).

4.0 GROUNDWATER MONITORING

4.1 Depth to Groundwater and Groundwater Potentiometric Surface Elevation

On March 2, 2022, LAI personnel gauged monitoring wells MW-1, MW-2, MW-3, and MW-4 for depth to groundwater. Groundwater was gauged in monitoring wells MW-1, MW-2, MW-3, and MW-4 at 54.36, 51.91, 51.23, and 40.36 feet bgs, respectively. The groundwater potentiometric surface elevation was

recorded at 3,359.98 feet above mean sea level (MSL) at MW-1, 3,356.75 feet above MSL at MW-2, 3,355.49 feet above MSL at MW-3 and 3,371.58 feet above MSL at MW-4. The apparent groundwater flow direction was from west to east at a gradient of 0.0123 feet per foot (ft/ft). Figure 4 presents the groundwater potentiometric surface map for March 2, 2022.

4.2 Groundwater Samples and Analysis

On March 2, 2022, LAI personnel used the low stress or low flow method following EPA protocol (EQASOP-GW4, Revision 4, September 19, 2017) to collect groundwater samples from the monitoring wells. An environmental pump was lowered into the well to near the middle of the water column and pumped at a low flow rate until environmental parameters stabilized. The groundwater samples were collected from discharge from the dedicated Tygon® tubing after chemical parameters stabilized. The Tygon® 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. The samples were transferred to labeled laboratory containers, packed in an ice chest filled with ice, and delivered under chain of custody control to Eurofins Xenco Laboratory (Xenco), a National Environmental Laboratory Accreditation Conference (NELAC) accredited laboratory, in Midland, Texas. A duplicate sample was collected from well MW-2 for laboratory quality assurance and quality control (QA/QC). Xenco analyzed the samples for benzene, toluene, ethylbenzene, xylene (BTEX) according to EPA SW-846 Method SW-8260D, chloride by EPA Method 300, and total dissolved solids (TDS) by EPA Method SM 2540C. Table 2 presents the laboratory analytical summary. Appendix C presents the laboratory report.

4.2.1 Organic Analysis

BTEX concentrations were below the laboratory analytical reporting limit (RL) and New Mexico Water Quality Control Commission (WQCC) human health standards in groundwater samples from all monitoring wells on March 2, 2022.

4.2.2 Inorganic Analysis

The laboratory reported chloride below the WQCC domestic water quality standard (250 mg/L) in groundwater samples from MW-3 (114 mg/L) and MW-4 (182 mg/L). Chloride exceeded the WQCC domestic water quality standard (250 mg/L) in groundwater samples from monitoring wells MW-1 (1,250 mg/L) and MW-2 (253 mg/L) on March 22, 2022. The chloride concentration in the duplicate (QA/QC) sample (Dup-1) collected from monitoring well MW-2 was 268 mg/L and within 5.93 percent of the original chloride value (253 mg/L). Figure 5 presents the chloride concentrations in groundwater map for March 22, 2022.

The laboratory reported TDS concentrations below the WQCC domestic water quality standard (1,000 mg/L) in groundwater samples from monitoring wells MW-3 (664 mg/L) and MW-4 (836 mg/L). TDS was reported above the WQCC domestic water quality standard (1,000 mg/L) in groundwater samples from monitoring wells MW-1 (2,500 mg/L) and MW-2 (1,110 mg/L). The TDS concentration in the duplicate (QA/QC) sample Dup-1 (1,090 mg/L) collected from MW-2 was consistent with original TDS value for MW-

2 (1,110 mg/L) and within 1.8 percent of the original value. Figure 6 presents the TDS concentrations in groundwater map for March 2, 2022.

5.0 CONCLUSIONS

The following observations are documented in this report:

- Apparent groundwater flow direction was from west to east at a gradient of approximately 0.0123 ft/ft, on March 2, 2022.
- BTEX concentrations were below the analytical method RL and New Mexico WQCC human health standards in all groundwater samples on March 2, 2022.
- Chloride concentrations in groundwater samples from monitoring wells MW-1 (1,250 mg/L) and MW-2 (253 mg/L) exceeded the WQCC domestic water quality standard of 250 mg/L.
- Chloride concentrations in groundwater samples from monitoring wells MW-3 (114 mg/L) and MW-4 (182 mg/L) were below the WQCC domestic water quality standard of 250 mg/L.
- TDS concentrations were below the WQCC domestic water quality standard (1,000 mg/L) in groundwater samples from monitoring wells MW-3 (664 mg/L) and MW-4 (836 mg/L).
- TDS concentrations exceeded the WQCC domestic water quality standard (1,000 mg/L) in groundwater samples from wells MW-1 (2,500 mg/L) and MW-2 (1,110 mg/L).
- The disposal trenches at NEDU #830 and NEDU #829 appear to be the sources for elevated chloride in TDS reported in groundwater samples from monitoring wells MW-1 and MW-2, respectively.

6.0 RECOMMENDATIONS

Apache proposes the following:

- Continue groundwater monitoring on a quarterly (4 times per year) for two (2) years.
- Gauge each well (MW-1 through MW-4) for depth to groundwater and collect groundwater samples from monitoring wells with sufficient groundwater during each quarterly event.
- Report the laboratory results to NMOCD in quarterly reports, unless significant changes in analyte concentrations are detected, at which time Apache will immediately report the results to OCD.
- Apache will provide notice to the NMOCD in Hobbs and Santa Fe, New Mexico, at least 7 working days prior to each monitoring event.

7.0 REFERENCES

August 13, 1993. *Guidelines for Remediation of Leaks, Spills and Releases*. New Mexico Oil Conservation Division, 1220 S. St. Francis Drive, Santa Fe New Mexico 87505

Tables

Table 1
1RP-313
Monitoring Well Completion and Gauging Summary
Apache Corportaion, NEDU Drill Pits
Lea County, New Mexico

Well Information									Groundwater Data				
Well No.	Date Drilled	Well Depth (Feet TOC)	Drilled Depth (Feet BGS)	Well Diameter (Inches)	Surface Elevation (Feet AMSL)	Screen Interval (Feet BGS)	Casing Stickup (Feet)	TOC Elevation (Feet AMSL)	Date Gauged	Depth to Water (Feet TOC)	Depth to Water (Feet BGS)	Water Column Height (Feet)	Groundwater Elevation (Feet AMSL)
MW-1	07/19/2021	74.08	71.08	2	3417.34	70.85-50.85	3.00	3,417.34	07/29/2021	57.40	54.40	16.68	3,359.94
									11/08/2021	57.40	54.40	16.68	3,359.94
									03/02/2022	57.36	54.36	16.72	3,359.98
MW-2	07/19/2021	74.86	71.86	2	3408.43	71.68-51.68	3.00	3,411.66	07/29/2021	54.81	51.81	20.05	3,356.85
									11/08/2021	54.85	51.85	20.01	3,356.81
									03/02/2022	54.91	51.91	19.95	3,356.75
MW-3	07/20/2021	65.35	62.75	2	3406.01	65.15-45.15	2.60	3,409.32	07/29/2021	53.55	50.95	11.80	3,355.77
									11/08/2021	53.67	51.07	9.68	3,355.65
									03/02/2022	53.83	51.23	11.52	3,355.49
MW-4	07/20/2021	76.01	72.93	2	3412.51	75.81-55.81	3.08	3,415.02	07/30/2021	44.38	41.30	31.63	3,370.64
									11/08/2021	43.44	40.36	32.57	3,371.58
									03/02/2022	43.44	40.36	32.57	3,371.58

Notes: monitoring wells installed by Environ-Drill, Albuquerque, New Mexico with 2 inch schedule 40 PVC casing and screen
bgs: below ground surface
TOC: top of casing
AMSL: denotes elevation in feet above mean sea level

Table 2
Groundwater Sample Analytical Data Summary
Apache Corporation, NEDU #830, 922, 928, and 929
Lea County, New Mexico

Sample	Collection Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	Chloride (mg/L)	TDS (mg/L)
NMWQCC Standard:		*0.005	* 1	*0.7	*0.62	**250	**1,000
MW-1 (NEDU #830)	7/29/2021	<0.00200	<0.00200	<0.00200	<0.00400	446	2,510
	11/8/2021	<0.00200	<0.00200	<0.00200	<0.00400	1,270	2,490
	3/2/2022	<0.00200	<0.00200	<0.00200	<0.00400	1,250	2,500
MW-2 (NEDU #922)	7/29/2021	0.0391	<0.00200	<0.00219	<0.00400	268	1,170
	11/8/2021	<0.00200	<0.00200	<0.00200	<0.00400	279	1,100
	3/2/2022	M0.00200	M0.00200	M0.00200	M0.00400	253	1,110
MW-3 (NEDU #929)	7/29/2021	0.00407	<0.00200	<0.00200	<0.00400	128	663
	11/8/2021	<0.00200	<0.00200	<0.00200	<0.00400	122	644
	3/2/2022	<0.00200	<0.00200	<0.00200	<0.00400	114	664
MW-4 (NEDU #928)	7/30/2021	<0.00200	<0.00200	<0.00200	<0.00400	559	1,030
	11/8/2021	<0.00200	<0.00200	<0.00200	<0.00400	203	832
	3/2/2022	<0.00200	<0.00200	<0.00200	<0.00400	182	836
Dup-1 (MW-2)	7/29/2021	<0.00200	<0.00200	<0.00200	<0.00400	244	1,160
	11/8/2021	<0.00200	<0.00200	<0.00200	<0.00400	270	1,100
	3/2/2022	<0.00200	<0.00200	<0.00200	<0.00400	268	1,090
Dup-2 (MW-4)	7/30/2021	<0.00200	<0.00200	<0.00200	<0.00400	235	1,030

Notes:

analysis performed by Xenco Laboratories, Midland, Texas by EPA SW-846 Method 8021B (BTEX) and Method 300 (chloride)

All values reported in milligrams per liter (mg/L) equivalent to parts per million (ppm)
< - denotes concentration is less than method reporting limit (RL).
* - NMWQCC human health standard
** - NMWQCC domestic water quality standard
bgs - below ground surface

Figures

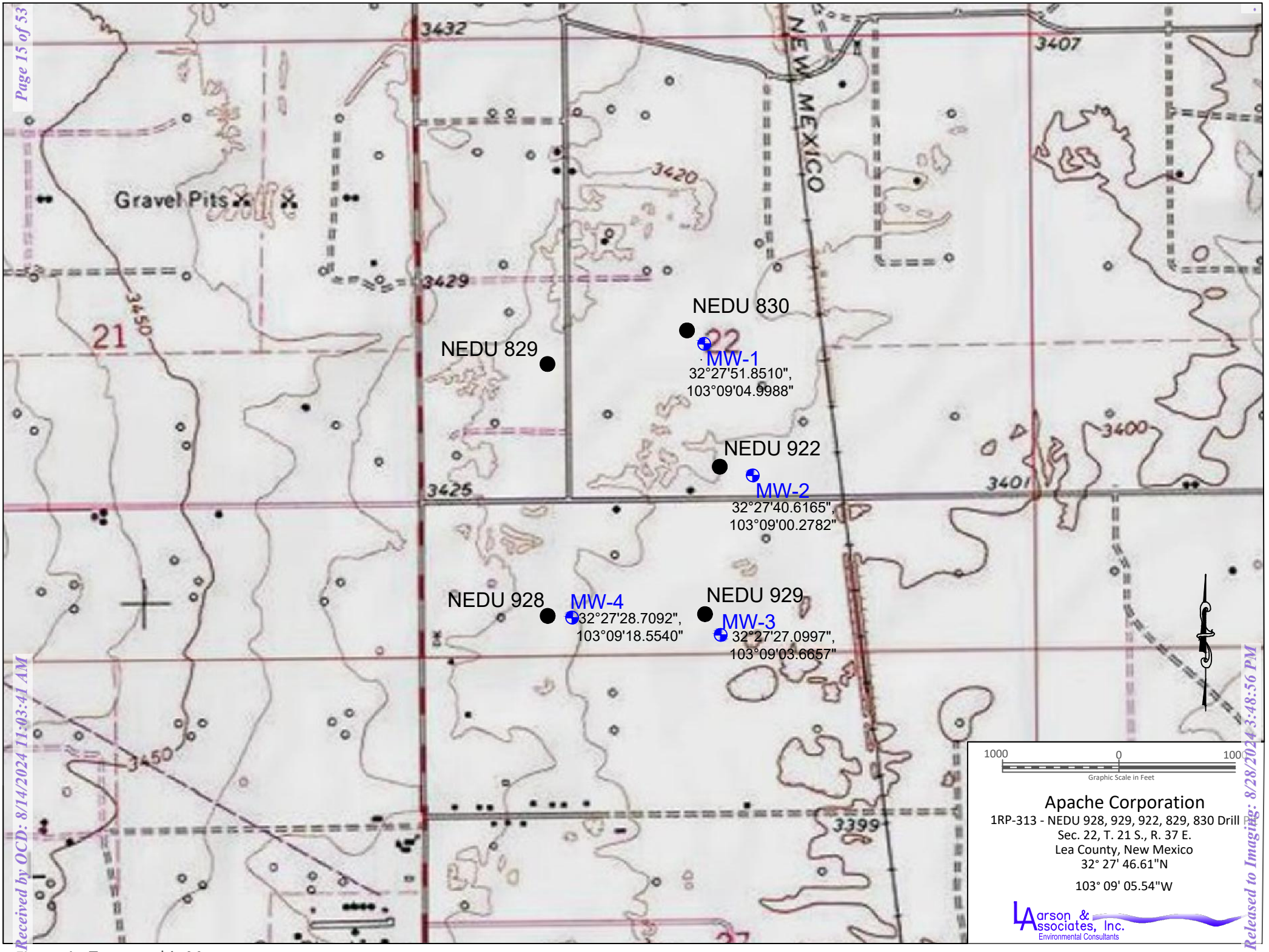


Figure 1 - Topographic Map

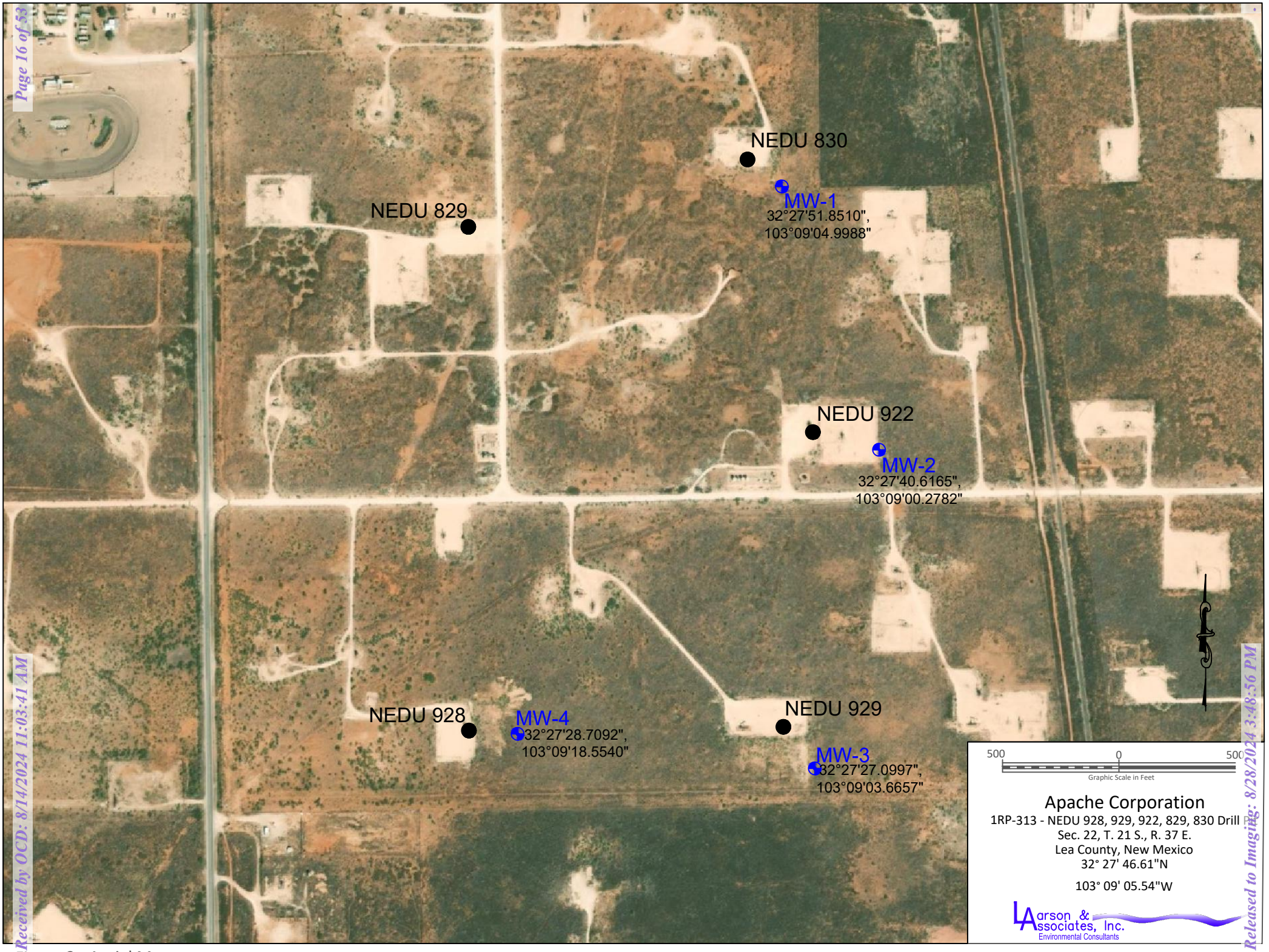


Figure 2 - Aerial Map

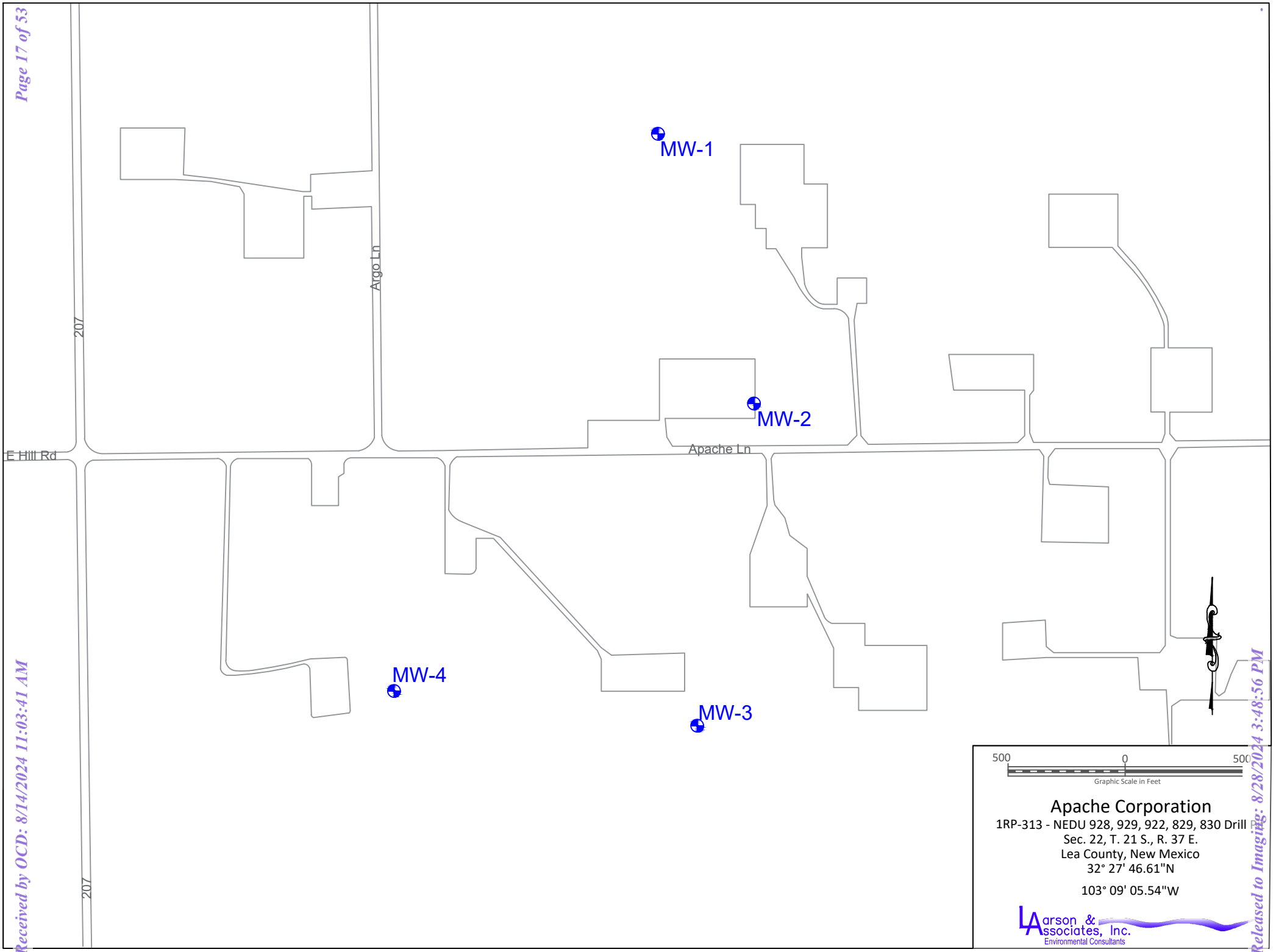


Figure 3 - Site Map

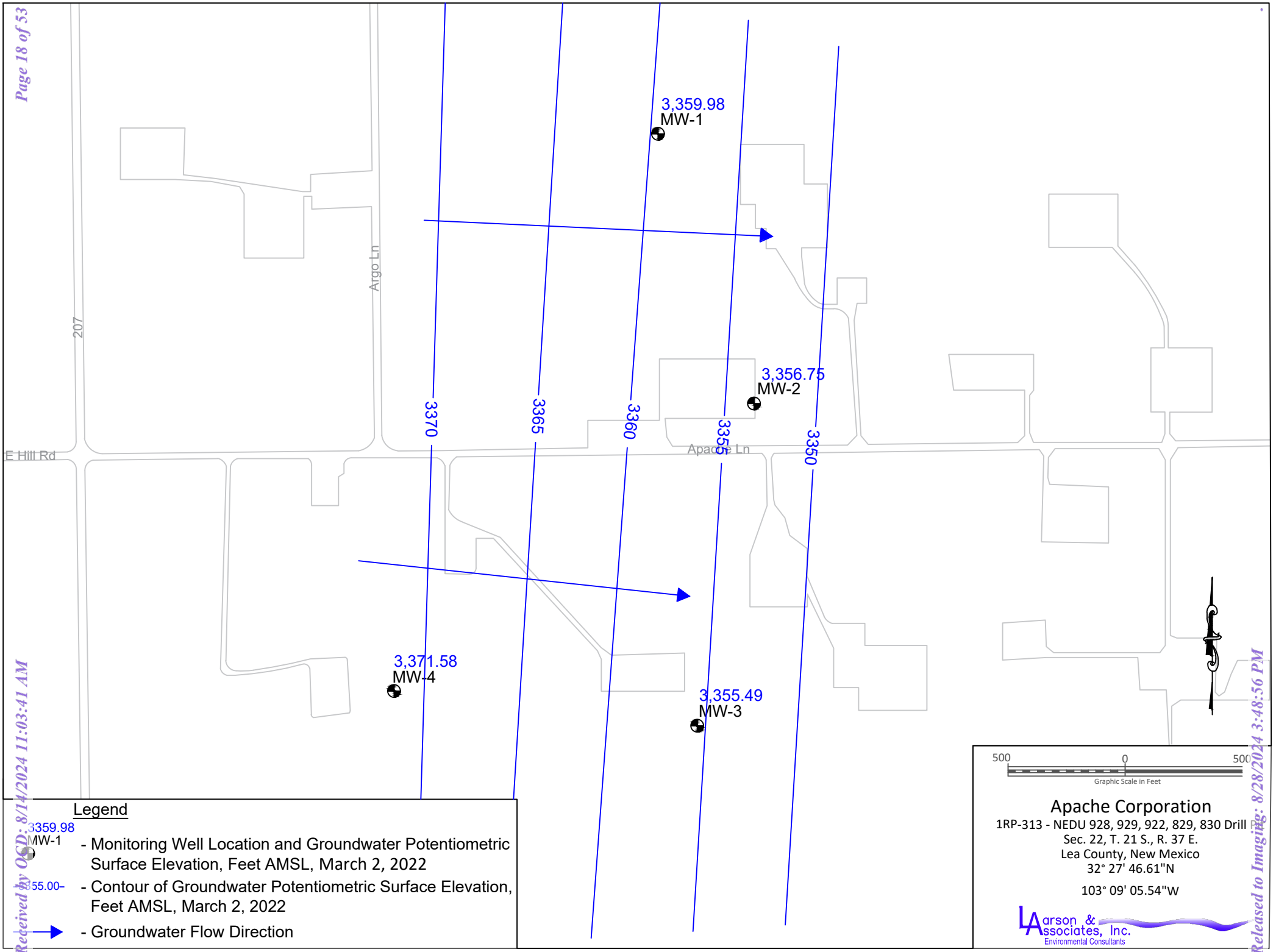


Figure 4 - Groundwater Potentiometric Map, March 2, 2022

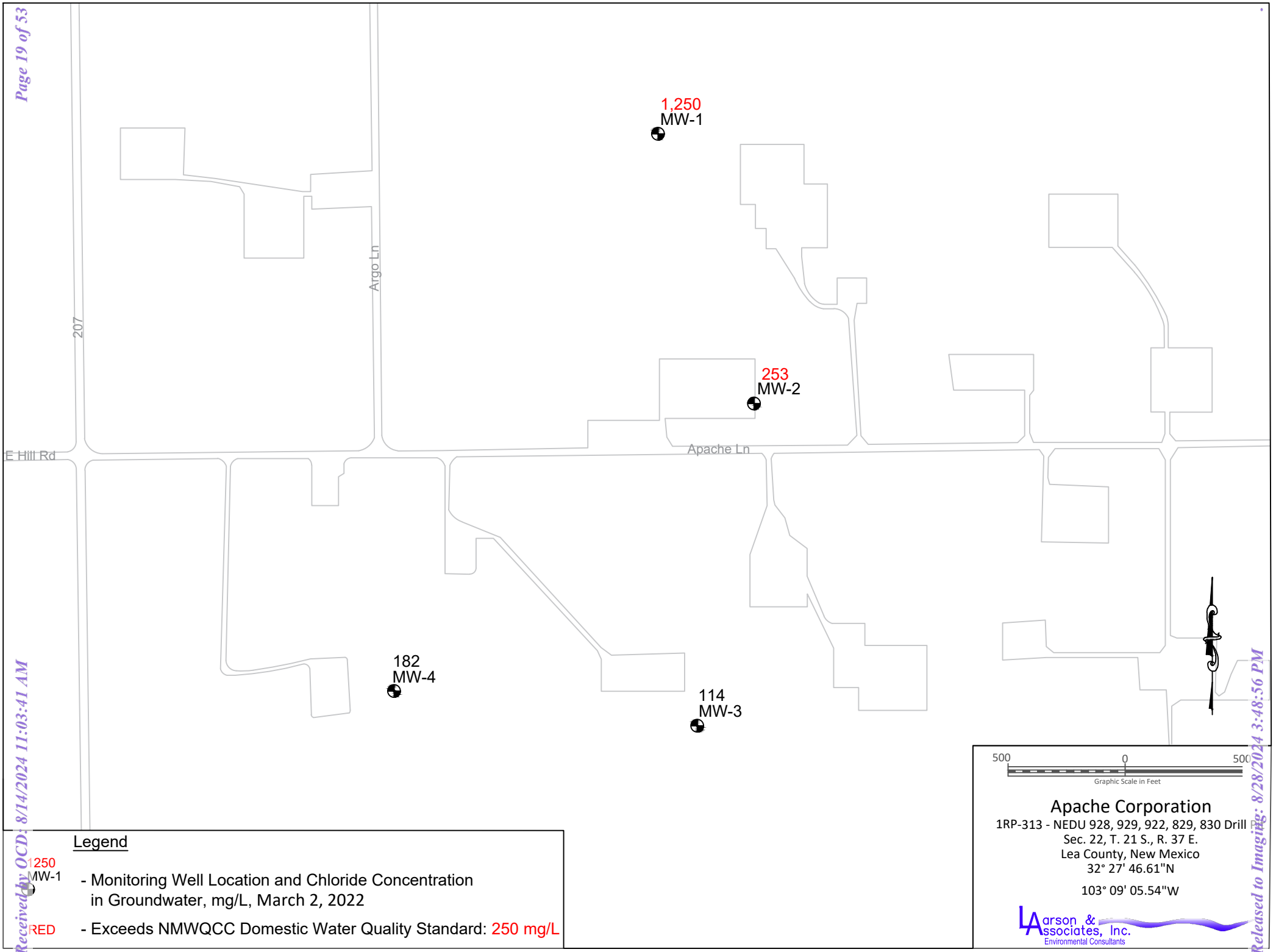


Figure 5 - Chloride Concentration in Groundwater, March 2, 2022

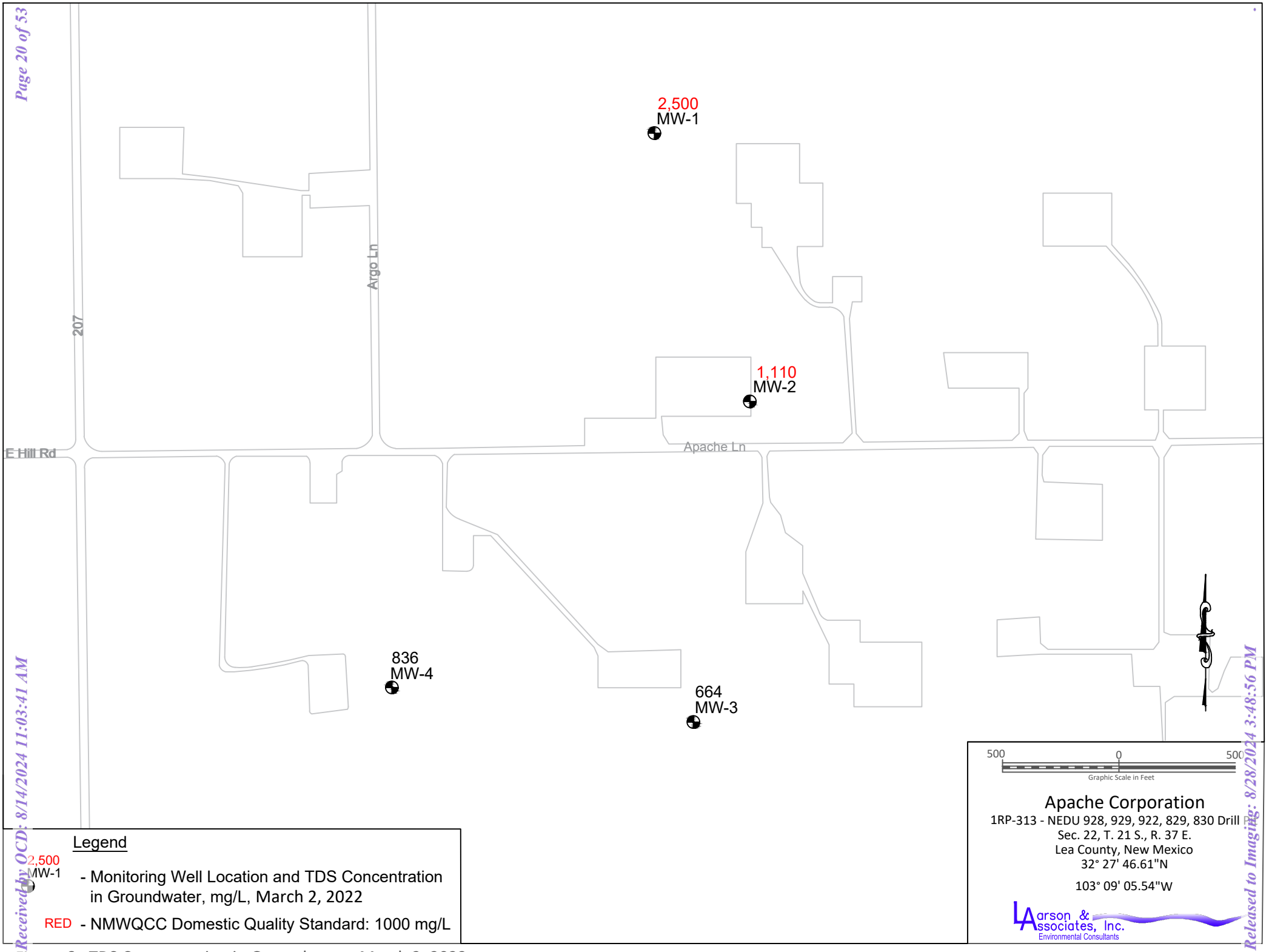


Figure 6 - TDS Concentration in Groundwater, March 2, 2022

Appendix A

NMOCD Communications

From: Baker, Larry
To: Robert Nelson
Subject: FW: [EXTERNAL] The Oil Conservation Division (OCD) has approved the application, Application ID: 10932
Date: Tuesday, July 13, 2021 3:24:03 PM

From: OCDOnline@state.nm.us [mailto:OCDOnline@state.nm.us]
Sent: Thursday, May 13, 2021 3:00 PM
To: Baker, Larry <Larry.Baker@apachecorp.com>
Subject: [EXTERNAL] The Oil Conservation Division (OCD) has approved the application, Application ID: 10932

To whom it may concern (c/o Larry Baker for APACHE CORPORATION),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nRM2031146817, with the following conditions:

- **Using new Rule make sure sidewall data and bottom data are correct. Requested variances for excavation and liner are approved. Get pre-approval for Monitor Well locations on map before installations.**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

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

Thank you,
Bradford Billings
Hydrologist/E.Spec.A
505-670-6549
bradford.billings@state.nm.us

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

From: Billings, Bradford, EMNRD
To: Robert Nelson
Cc: Mark Larson; Baker, Larry
Subject: RE: Apache Corp. (1RP-0313/nRM2031146817) Monitor Well Location Approval
Date: Wednesday, July 14, 2021 12:13:08 PM
Attachments: image001.png

07/14/2021

Hello,

Locations as indicated in attached PDF's are APPROVED. Question, one might consider some soil samples for same analytes, at least in the vicinity of anticipated/encountered groundwater.
Thank you for your efforts.

Sincerely,

Bradford Billings
EMNRD/OCD

From: Robert Nelson <rnelson@laenvironmental.com>
Sent: Wednesday, July 14, 2021 7:12 AM
To: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>
Cc: Mark Larson <Mark@laenvironmental.com>; Baker, Larry <Larry.Baker@apachecorp.com>
Subject: Apache Corp. (1RP-0313/nRM2031146817) Monitor Well Location Approval

Hello Bradford,

On October 31, 2019, Larson & Associates, Inc. (LAI) submitted a summary of work and path forward for remediation and closure of trenches associated with drillings pits at the Northeast Drinkard Unit (NEDU) Wells 829, 830, 922, 928, & 929 (1RP-0313). The trenches were discovered on April 6, 2001 when a landowner reported the drilling pits were being closed by disposing pit fluid in trenches adjacent to the drilling pits. Apache was notified and submitted the initial C-141 on April 23, 2001. OCD assigned the wells (trenches) remediation permit 1RP-313. On May 13, 2021, Apache received notification from OCD with approval for the submitted application for administrative approval of a release notification and corrective action (C-141), for incident ID (n#) nRM2031146817. OCD stated "**Using new Rule make sure sidewall data and bottom data are correct. Requested variance for excavation and liner are approved. Get pre- approval for Monitor Well locations on map before installations**".

The summary of work and path forward stated that monitor wells be installed approximately 50 feet hydraulically down gradient (east-southeast) from the trenches and complete with 15 feet of 2-inch schedule 40 screen to gauge depth to groundwater and collect groundwater samples for laboratory analysis (BTEX, chloride and total dissolved solids (TDS)). Please find attached the topographic map and proposed monitor well locations. The drilling rig is currently scheduled to complete the

installation of these monitor wells on Tuesday – Thursday (July 20th through July 22nd, 2021). Your approval of these monitor well locations is requested and greatly appreciated. Please feel free to contact Bruce Baker with Apache at (432) 631-6982 or Larry.Baker@apache.com, Mark Larson at (432) 687-0901 or mark@laenvironmental.com or me if you have any questions.

Thank you,

Robert Nelson
Sr. Geologist
Office – 432-687-0901
Cell – 432-664-4804
rnelson@laenvironmental.com

Appendix B

Monitoring Well Completion Records

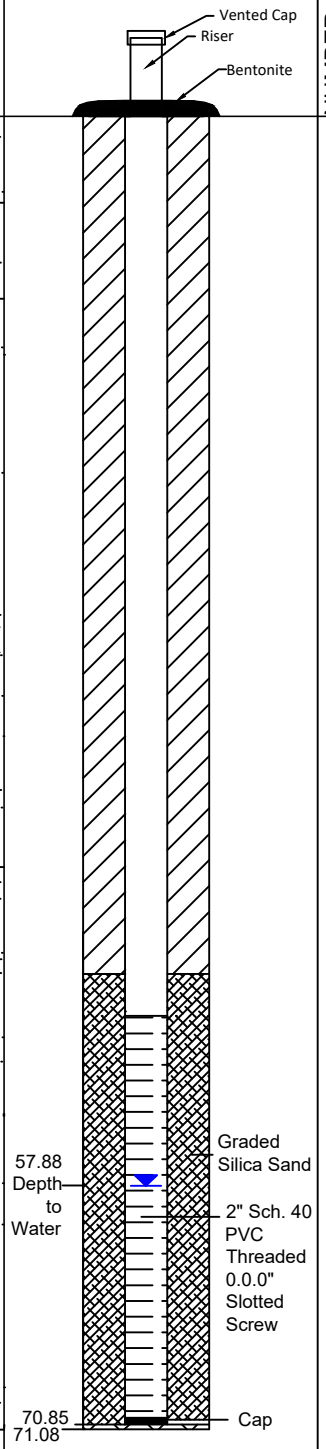
BORING RECORD

Start: 10:49 MST
Finish: 12:37

Surface Elevation:
TOC Elecation:

GEOLOGIC UNIT	DEPTH	DESCRIPTION LITHOLOGIC	DESCRIPTION USCS
	0	Sand, 10YR 5/6, Yellowish Brown, Fine Grained Quartz Sand, Well Sorted, Dry	SW
	5	Silty Sand, 10YR 5/6, Yellowish Brown, Fine Grained Quartz Sand, Well Sorted, Dry	SM
	10	Sand, 7.5YR 7/6, Reddish Yellow, Fine Grained Quartz Sand, Dry, Poorly Sorted	SW
	25	Sand, 7.5YR 7/6, Reddish Brown, Fine Grained Quartz Sand, Dry, 4.75mm Clasts, Poorly Sorted	SW
	40	Silty Sand, 7.5YR 8/6, Pink, Well Sorted, Fine Grained Quartz Sand, Dry	SM
	45	10 YR 7/6, Yellowish Brown, Fine Grained Quartz Sand, Well Sorted Dry	SM
	50	10 YR 7/6, Yellowish Brown, Moderately Sorted, 2mm Quartz Clasts, Dry	SM
57.88 Depth to Water	55	Water Injected at 55'	SM
	70	TD: 71.08'	

GRAPHIC LOG



NUMBER | RECOVERY | DEPTH

REMARKS
BACKGROUND PID READING
SOIL : PPM
SOIL : PPM

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 : 19-0112-22/ Apache
HOLE DIAMETER : 5'
LOCATION : NEDU #830
LAI GEOLOGIST : R. Nelson
DRILLING CONTRACTOR : SDI
DRILLING METHOD : Air Rotary

Larson & Associates, Inc. Environmental Consultants

DRILL DATE : 07/19/2021

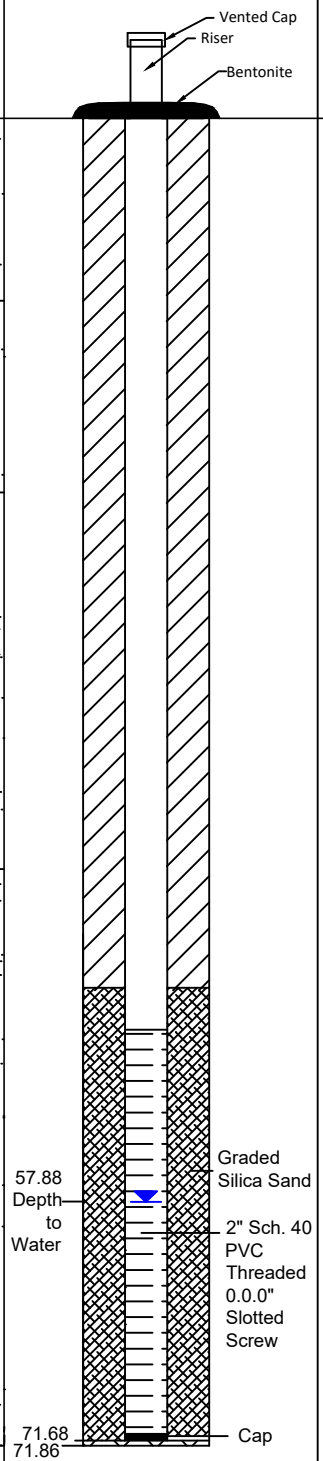
BORING NUMBER : MW-1

BORING RECORD

Start: 13:17 MST
Finish: 14:40

Surface Elevation:
TOC Elecation:

GEOLOGIC UNIT	DEPTH	DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG
	0	Sand, 7.5YR 4/6, Strong Brown, Fine Grained Quartz Sand, Well Sorted, Dry	SW	
	5			
	10	Silty Sand, 7.5YR 7/4, Pink, Fine Grained Quartz Sand, Moderately Sorted, Dry, Quartz Clasts 2mm	SM	
	15			
	20	7.5YR 6/6, Reddish Yellow, Fine Grained Quartz Sand, Moderately Sorted, Dry, Fine to Medium Quartz Clasts		
	25	Sand, 7.5YR 7/6, Reddish Yellow, Fine Grained Quartz Sand, Dry	SW	
	30	7.5YR 7/6, Reddish Yellow, Fine Grained Quartz Sand, Quartz Clasts		
	35			
	40	Silty Sand, 7.5YR 5/6, Strong Brown, Fine Grained Quartz Sand, Well Sorted, Dry		
	45			
	50	7.5YR 5/6, Strong Brown, Fine Grained Quartz Sand, Well Sorted, Dry, Quartz Clasts Medium to Coarse Grained	SM	
57.88 Depth to Water	55	Water Injected at 55'		
	60			
	65			
	70			
		TD: 71.86'		
	75			



NUMBER	RECOVERY	DEPTH

REMARKS

BACKGROUND PID READING
SOIL : _____ PPM
SOIL : _____ PPM

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

Larson & Associates, Inc. Environmental Consultants

DRILL DATE : 07/19/2021

BORING NUMBER : MW-2

JOB NUMBER : 19-0112-22/ Apache
HOLE DIAMETER : 5'
LOCATION : NEDU #922
LAI GEOLOGIST : R. Nelson
DRILLING CONTRACTOR : SDI
DRILLING METHOD : Air Rotary

BORING RECORD

Start: 13:45
Finish: 14:50

GEOLOGIC UNIT	DEPTH	DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG	PID READING PPM X	SAMPLE NUMBER	SAMPLE PID READING	SAMPLE RECOVERY	SAMPLE DEPTH	REMARKS BACKGROUND PID READING
	0	2.5YR 4/6, Red, Fine Grained Quartz Rich Sand, Very Well Sorted, Well Rounded, Unconsolidated								
	5					1			5	13:50
	10	Increase in Depth Lithology Remains Same Color Changes to 2.5YR 7/3 to 7/4 Light Reddish Brown at 13'	SM			2			10	13:54
	15					3			15	13:58
	20					4			20	14:03
	25	5YR 7/4, Pink, Fine to Medium Grained Quartz Rich Sand, Moderately Sorted, Rounded to Sub Rounded	SM			5			25	14:10
	30					6			30	14:13
	35					7			35	14:20
	40	7.5YR 9/2, Pale Yellowish Pink, Very Fine to Fine Grained Quartz Grained Sand, Well Sorted, Well Rounded to Sub Rounded				8			40	14:22
	45					9			45	14:25
Depth to Water: 53.71	50	7.5YR 6/8, Reddish Yellow, Very Fine to Fine Grained Quartz Sand, Well Sorted, Well Rounded	SM			10			50	14:30
	55					11			55	14:42
	60					12			60	14:44
	65	TD: 65.35'				13			65	14:50

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 : Apache/19-0112-22
HOLE DIAMETER : 5"
LOCATION : NEDU 929
LAI GEOLOGIST : T. Jackson
DRILLING CONTRACTOR : SDI
DRILLING METHOD : Air Rotary

Larson & Associates, Inc. Environmental Consultants

DRILL DATE : 7/20/2021

BORING NUMBER : MW- 3

BORING RECORD

Start: 9:35
Finish: 12:10

GEOLOGIC UNIT	DEPTH	DESCRIPTION LITHOLOGIC	DESCRIPTION USCS	GRAPHIC LOG	PID READING (PPM X)	SAMPLE NUMBER	SAMPLE PID READING	SAMPLE RECOVERY	SAMPLE DEPTH	REMARKS BACKGROUND PID READING
	0	Sand, 2.5YR 4/6, Red, Fine Grained Quart Sand, Very Well Sorted, Well Rounded, Unconsolidated, Quartz Rich Sand	SM							SOIL : PPM SOIL : PPM
	5					1			5	9:38
	10					2			10	9:40
	15	Sand, 2.5YR 7/4, Light Reddish Brown, Very Fine to Fine Grained Quartz Sand, Moderately Sorted, Sub Angular to Sub Rounded, with Depth Decrease in Grain Size and Becomes Well Sorted, Quartz Rich Sand				3			15	9:40
	20					4			20	9:42
	25	7.5YR 8/3, Pink, Fine to Medium Grained Quartz Sand, Sub Rounded to Sub Angular, Moderately Sorted, Quartz Rich Sand				5			25	9:45
	30		SM			6			30	10:30
	35	7.5YR 6/4, Light Brown, Fine Grained Quartz Sand, Well Sorted, Rounded to Sub Rounded, with Depth Increase in Consolidation and Cementation, Quartz Rich Sand				7			35	10:35
Depth to Water: 41.05	40					8			40	10:38
	45	7.5YR 7/4, Light Reddish Brown, Poorly Sorted, Fine to Coarse Grained Quartz Sand, Rounded to Angular, Very Consolidated with Red Sandstone Fragments in Cuttings, Quartz Rich Sand				9			45	11:14
	50									
	55									
	60	Introduced Water with Drilling	SM							
	65									
	70									
	75	TD: 76.01								

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

Larson & Associates, Inc. Environmental Consultants

DRILL DATE : 7/20/2021
BORING NUMBER : MW-4

JOB NUMBER : Apache/ 19-0112-22
HOLE DIAMETER : 5"
LOCATION : NEDU 928
LAI GEOLOGIST : T. Jackson
DRILLING CONTRACTOR : SDI
DRILLING METHOD : Air Rotary

Appendix C

Laboratory Report

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-11992-1
Laboratory Sample Delivery Group: 19-0112-22
Client Project/Site: 1RP-313, NEDU Drill Pit

For:
Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Attn: Mr. Mark J Larson

Holly Taylor

Authorized for release by:
3/10/2022 10:44:39 AM

Holly Taylor, Project Manager
(806)794-1296
holly.taylor@eurofinset.com

Client: Larson & Associates, Inc.
Project/Site: 1RP-313, NEDU Drill Pit

Laboratory Job ID: 880-11992-1
SDG: 19-0112-22

Table of Contents

Definitions/Glossary

Client: Larson & Associates, Inc. Job ID: 880-11992-1
Project/Site: 1RP-313, NEDU Drill Pit SDG: 19-0112-22

Qualifiers

GC VOA

Qualifier	Qualifier Description
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
F1	MS and/or MSD recovery exceeds control limits.
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: 1RP-313, NEDU Drill Pit

Job ID: 880-11992-1
SDG: 19-0112-22

Job ID: 880-11992-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-11992-1

Receipt
The samples were received on 3/3/2022 9:23 AM. 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 5.5°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_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 880-20826 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery 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: 1RP-313, NEDU Drill Pit

Job ID: 880-11992-1
SDG: 19-0112-22

Client Sample ID: MW-3

Date Collected: 03/02/22 10:11
Date Received: 03/03/22 09:23

Lab Sample ID: 880-11992-1
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			03/05/22 13:40	1
Toluene	<0.00200	U	0.00200		mg/L			03/05/22 13:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			03/05/22 13:40	1
m,p-Xylenes	<0.00400	U	0.00400		mg/L			03/05/22 13:40	1
o-Xylene	<0.00200	U	0.00200		mg/L			03/05/22 13:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			03/05/22 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*		*03/05/22 13:40*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*		*03/05/22 13:40*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			03/09/22 20:26	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**114**	**F1**	2.50		mg/L			03/03/22 22:23	5

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**664**		50.0		mg/L			03/04/22 12:16	1

Client Sample ID: MW-4

Date Collected: 03/02/22 10:52
Date Received: 03/03/22 09:23

Lab Sample ID: 880-11992-2
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			03/08/22 12:44	1
Toluene	<0.00200	U	0.00200		mg/L			03/08/22 12:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			03/08/22 12:44	1
m,p-Xylenes	<0.00400	U	0.00400		mg/L			03/08/22 12:44	1
o-Xylene	<0.00200	U	0.00200		mg/L			03/08/22 12:44	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			03/08/22 12:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*		*03/08/22 12:44*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*		*03/08/22 12:44*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			03/09/22 20:26	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**182**		2.50		mg/L			03/03/22 22:59	5

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**836**		50.0		mg/L			03/04/22 12:16	1

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: 1RP-313, NEDU Drill Pit

Job ID: 880-11992-1
SDG: 19-0112-22

Client Sample ID: MW-2

Date Collected: 03/02/22 12:01
Date Received: 03/03/22 09:23

Lab Sample ID: 880-11992-3
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			03/08/22 13:11	1
Toluene	<0.00200	U	0.00200		mg/L			03/08/22 13:11	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			03/08/22 13:11	1
m,p-Xylenes	<0.00400	U	0.00400		mg/L			03/08/22 13:11	1
o-Xylene	<0.00200	U	0.00200		mg/L			03/08/22 13:11	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			03/08/22 13:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*		*03/08/22 13:11*	*1*
1,4-Difluorobenzene (Surr)	*124*		*70 - 130*		*03/08/22 13:11*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			03/09/22 20:26	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**253**		5.00		mg/L			03/03/22 23:10	10

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1110**		50.0		mg/L			03/04/22 12:16	1

Client Sample ID: MW-1

Date Collected: 03/02/22 12:45
Date Received: 03/03/22 09:23

Lab Sample ID: 880-11992-4
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			03/08/22 13:37	1
Toluene	<0.00200	U	0.00200		mg/L			03/08/22 13:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			03/08/22 13:37	1
m,p-Xylenes	<0.00400	U	0.00400		mg/L			03/08/22 13:37	1
o-Xylene	<0.00200	U	0.00200		mg/L			03/08/22 13:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			03/08/22 13:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*		*03/08/22 13:37*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*		*03/08/22 13:37*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			03/09/22 20:26	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1250**		10.0		mg/L			03/03/22 23:46	20

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**2500**		200		mg/L			03/04/22 12:16	1

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: 1RP-313, NEDU Drill Pit

Job ID: 880-11992-1
SDG: 19-0112-22

Client Sample ID: Dup-1

Date Collected: 03/02/22 00:00
Date Received: 03/03/22 09:23

Lab Sample ID: 880-11992-5

Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			03/08/22 14:04	1
Toluene	<0.00200	U	0.00200		mg/L			03/08/22 14:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			03/08/22 14:04	1
m,p-Xylenes	<0.00400	U	0.00400		mg/L			03/08/22 14:04	1
o-Xylene	<0.00200	U	0.00200		mg/L			03/08/22 14:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			03/08/22 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*		*03/08/22 14:04*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*		*03/08/22 14:04*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			03/09/22 20:26	1

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**268**		5.00		mg/L			03/03/22 23:58	10

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1090**		50.0		mg/L			03/04/22 12:16	1

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: 1RP-313, NEDU Drill Pit

Job ID: 880-11992-1
SDG: 19-0112-22

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)
880-11992-1	MW-3	82	98
880-11992-1 MS	MW-3	81	115
880-11992-1 MSD	MW-3	77	108
880-11992-2	MW-4	78	101
880-11992-2 MS	MW-4	80	131 S1+
880-11992-2 MSD	MW-4	79	118
880-11992-3	MW-2	87	124
880-11992-4	MW-1	86	109
880-11992-5	Dup-1	84	106
LCS 880-20952/3	Lab Control Sample	91	117
LCS 880-21108/3	Lab Control Sample	75	120
LCSD 880-20952/4	Lab Control Sample Dup	73	104
LCSD 880-21108/4	Lab Control Sample Dup	69 S1-	130
MB 880-20952/8	Method Blank	48 S1-	106
MB 880-21108/8	Method Blank	50 S1-	107

Surrogate Legend

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

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: 1RP-313, NEDU Drill Pit

Job ID: 880-11992-1
SDG: 19-0112-22

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-20952/8
Matrix: Water
Analysis Batch: 20952

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			03/05/22 13:13	1
Toluene	<0.00200	U	0.00200		mg/L			03/05/22 13:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			03/05/22 13:13	1
m,p-Xylenes	<0.00400	U	0.00400		mg/L			03/05/22 13:13	1
o-Xylene	<0.00200	U	0.00200		mg/L			03/05/22 13:13	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			03/05/22 13:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*48*	*S1-*	*70 - 130*		*03/05/22 13:13*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*		*03/05/22 13:13*	*1*

Lab Sample ID: LCS 880-20952/3
Matrix: Water
Analysis Batch: 20952

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	0.1087		mg/L		109	70 - 130		
Toluene			0.100	0.1009		mg/L		101	70 - 130		
Ethylbenzene			0.100	0.1060		mg/L		106	70 - 130		
m,p-Xylenes			0.200	0.2160		mg/L		108	70 - 130		
o-Xylene			0.100	0.1043		mg/L		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

Lab Sample ID: LCSD 880-20952/4
Matrix: Water
Analysis Batch: 20952

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	0.09318		mg/L		93	70 - 130	15	20
Toluene			0.100	0.08670		mg/L		87	70 - 130	15	20
Ethylbenzene			0.100	0.09258		mg/L		93	70 - 130	13	20
m,p-Xylenes			0.200	0.1890		mg/L		95	70 - 130	13	20
o-Xylene			0.100	0.09202		mg/L		92	70 - 130	13	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 880-11992-1 MS
Matrix: Water
Analysis Batch: 20952

Client Sample ID: MW-3
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	0.1031		mg/L		103	70 - 130		
Toluene	<0.00200	U	0.100	0.08963		mg/L		90	70 - 130		

QC Sample Results

Client: Larson & Associates, Inc. Job ID: 880-11992-1
Project/Site: 1RP-313, NEDU Drill Pit SDG: 19-0112-22

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

Lab Sample ID: 880-11992-1 MS **Client Sample ID: MW-3**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 20952

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00200	U	0.100	0.09727		mg/L		97	70 - 130
m,p-Xylenes	<0.00400	U	0.200	0.1993		mg/L		100	70 - 130
o-Xylene	<0.00200	U	0.100	0.09751		mg/L		98	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*

Lab Sample ID: 880-11992-1 MSD **Client Sample ID: MW-3**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 20952

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	0.09275		mg/L		93	70 - 130	11	25
Toluene	<0.00200	U	0.100	0.08556		mg/L		86	70 - 130	5	25
Ethylbenzene	<0.00200	U	0.100	0.09031		mg/L		90	70 - 130	7	25
m,p-Xylenes	<0.00400	U	0.200	0.1851		mg/L		93	70 - 130	7	25
o-Xylene	<0.00200	U	0.100	0.09128		mg/L		91	70 - 130	7	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: MB 880-21108/8 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 21108

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			03/08/22 12:17	1
Toluene	<0.00200	U	0.00200		mg/L			03/08/22 12:17	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			03/08/22 12:17	1
m,p-Xylenes	<0.00400	U	0.00400		mg/L			03/08/22 12:17	1
o-Xylene	<0.00200	U	0.00200		mg/L			03/08/22 12:17	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			03/08/22 12:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*50*	*S1-*	*70 - 130*		*03/08/22 12:17*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*		*03/08/22 12:17*	*1*

Lab Sample ID: LCS 880-21108/3 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 21108

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene			0.100	0.09727		mg/L		97	70 - 130
Toluene			0.100	0.07916		mg/L		79	70 - 130
Ethylbenzene			0.100	0.08586		mg/L		86	70 - 130
m,p-Xylenes			0.200	0.1748		mg/L		87	70 - 130

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: 1RP-313, NEDU Drill Pit

Job ID: 880-11992-1
SDG: 19-0112-22

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

Lab Sample ID: LCS 880-21108/3
Matrix: Water
Analysis Batch: 21108

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
o-Xylene			0.100	0.08623		mg/L		86	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*
1,4-Difluorobenzene (Surr)	*120*		*70 - 130*

Lab Sample ID: LCSD 880-21108/4
Matrix: Water
Analysis Batch: 21108

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	0.09853		mg/L		99	70 - 130	1	20
Toluene			0.100	0.07709		mg/L		77	70 - 130	3	20
Ethylbenzene			0.100	0.09049		mg/L		90	70 - 130	5	20
m,p-Xylenes			0.200	0.1832		mg/L		92	70 - 130	5	20
o-Xylene			0.100	0.08930		mg/L		89	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*69*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*130*		*70 - 130*

Lab Sample ID: 880-11992-2 MS
Matrix: Water
Analysis Batch: 21108

Client Sample ID: MW-4
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	0.1083		mg/L		108	70 - 130		
Toluene	<0.00200	U	0.100	0.08896		mg/L		89	70 - 130		
Ethylbenzene	<0.00200	U	0.100	0.09693		mg/L		97	70 - 130		
m,p-Xylenes	<0.00400	U	0.200	0.1977		mg/L		99	70 - 130		
o-Xylene	<0.00200	U	0.100	0.09580		mg/L		96	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*
1,4-Difluorobenzene (Surr)	*131*	*S1+*	*70 - 130*

Lab Sample ID: 880-11992-2 MSD
Matrix: Water
Analysis Batch: 21108

Client Sample ID: MW-4
Prep Type: Total/NA

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	0.08841		mg/L		88	70 - 130	20	25
Toluene	<0.00200	U	0.100	0.08291		mg/L		83	70 - 130	7	25
Ethylbenzene	<0.00200	U	0.100	0.09142		mg/L		91	70 - 130	6	25
m,p-Xylenes	<0.00400	U	0.200	0.1859		mg/L		93	70 - 130	6	25
o-Xylene	<0.00200	U	0.100	0.09071		mg/L		91	70 - 130	5	25

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: 1RP-313, NEDU Drill Pit

Job ID: 880-11992-1
SDG: 19-0112-22

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

Lab Sample ID: 880-11992-2 MSD
Matrix: Water
Analysis Batch: 21108

Client Sample ID: MW-4
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-20826/3
Matrix: Water
Analysis Batch: 20826

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			03/03/22 16:24	1

Lab Sample ID: LCS 880-20826/4
Matrix: Water
Analysis Batch: 20826

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			25.0	25.64		mg/L		103	90 - 110		

Lab Sample ID: LCSD 880-20826/5
Matrix: Water
Analysis Batch: 20826

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			25.0	26.02		mg/L		104	90 - 110	1	20

Lab Sample ID: 880-11992-1 MS
Matrix: Water
Analysis Batch: 20826

Client Sample ID: MW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	114	F1	125	254.2	F1	mg/L		112	90 - 110		

Lab Sample ID: 880-11992-1 MSD
Matrix: Water
Analysis Batch: 20826

Client Sample ID: MW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	114	F1	125	256.7	F1	mg/L		114	90 - 110	1	20

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

Lab Sample ID: MB 880-20899/1
Matrix: Water
Analysis Batch: 20899

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<25.0	U	25.0		mg/L			03/04/22 12:16	1

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: 1RP-313, NEDU Drill Pit

Job ID: 880-11992-1
SDG: 19-0112-22

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

Lab Sample ID: LCS 880-20899/2
Matrix: Water
Analysis Batch: 20899

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	979.0		mg/L		98	80 - 120		

Lab Sample ID: LCSD 880-20899/3
Matrix: Water
Analysis Batch: 20899

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	1000		mg/L		100	80 - 120	2	10

Lab Sample ID: 880-11992-1 DU
Matrix: Water
Analysis Batch: 20899

Client Sample ID: MW-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	664			659.0		mg/L				0.8	10

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: 1RP-313, NEDU Drill Pit

Job ID: 880-11992-1
SDG: 19-0112-22

GC VOA

Analysis Batch: 20952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11992-1	MW-3	Total/NA	Water	8021B	
MB 880-20952/8	Method Blank	Total/NA	Water	8021B	
LCS 880-20952/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-20952/4	Lab Control Sample Dup	Total/NA	Water	8021B	
880-11992-1 MS	MW-3	Total/NA	Water	8021B	
880-11992-1 MSD	MW-3	Total/NA	Water	8021B	

Analysis Batch: 21108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11992-2	MW-4	Total/NA	Water	8021B	
880-11992-3	MW-2	Total/NA	Water	8021B	
880-11992-4	MW-1	Total/NA	Water	8021B	
880-11992-5	Dup-1	Total/NA	Water	8021B	
MB 880-21108/8	Method Blank	Total/NA	Water	8021B	
LCS 880-21108/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-21108/4	Lab Control Sample Dup	Total/NA	Water	8021B	
880-11992-2 MS	MW-4	Total/NA	Water	8021B	
880-11992-2 MSD	MW-4	Total/NA	Water	8021B	

Analysis Batch: 21271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11992-1	MW-3	Total/NA	Water	Total BTEX	
880-11992-2	MW-4	Total/NA	Water	Total BTEX	
880-11992-3	MW-2	Total/NA	Water	Total BTEX	
880-11992-4	MW-1	Total/NA	Water	Total BTEX	
880-11992-5	Dup-1	Total/NA	Water	Total BTEX	

HPLC/IC

Analysis Batch: 20826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11992-1	MW-3	Total/NA	Water	300.0	
880-11992-2	MW-4	Total/NA	Water	300.0	
880-11992-3	MW-2	Total/NA	Water	300.0	
880-11992-4	MW-1	Total/NA	Water	300.0	
880-11992-5	Dup-1	Total/NA	Water	300.0	
MB 880-20826/3	Method Blank	Total/NA	Water	300.0	
LCS 880-20826/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 880-20826/5	Lab Control Sample Dup	Total/NA	Water	300.0	
880-11992-1 MS	MW-3	Total/NA	Water	300.0	
880-11992-1 MSD	MW-3	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 20899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-11992-1	MW-3	Total/NA	Water	SM 2540C	
880-11992-2	MW-4	Total/NA	Water	SM 2540C	
880-11992-3	MW-2	Total/NA	Water	SM 2540C	
880-11992-4	MW-1	Total/NA	Water	SM 2540C	
880-11992-5	Dup-1	Total/NA	Water	SM 2540C	
MB 880-20899/1	Method Blank	Total/NA	Water	SM 2540C	

QC Association Summary

Client: Larson & Associates, Inc. Job ID: 880-11992-1
Project/Site: 1RP-313, NEDU Drill Pit SDG: 19-0112-22

General Chemistry (Continued)

Analysis Batch: 20899 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-20899/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 880-20899/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
880-11992-1 DU	MW-3	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: 1RP-313, NEDU Drill Pit

Job ID: 880-11992-1
SDG: 19-0112-22

Client Sample ID: MW-3
Date Collected: 03/02/22 10:11
Date Received: 03/03/22 09:23

Lab Sample ID: 880-11992-1
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	20952	03/05/22 13:40	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			21271	03/09/22 20:26	AJ	XEN MID
Total/NA	Analysis	300.0		5	0 mL	1.0 mL	20826	03/03/22 22:23	SC	XEN MID
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	20899	03/04/22 12:16	SC	XEN MID

Client Sample ID: MW-4
Date Collected: 03/02/22 10:52
Date Received: 03/03/22 09:23

Lab Sample ID: 880-11992-2
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		1	5 mL	5 mL	21108	03/08/22 12:44	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21271	03/09/22 20:26	AJ	XEN MID
Total/NA	Analysis	300.0		5	0 mL	1.0 mL	20826	03/03/22 22:59	SC	XEN MID
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	20899	03/04/22 12:16	SC	XEN MID

Client Sample ID: MW-2
Date Collected: 03/02/22 12:01
Date Received: 03/03/22 09:23

Lab Sample ID: 880-11992-3
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	21108	03/08/22 13:11	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21271	03/09/22 20:26	AJ	XEN MID
Total/NA	Analysis	300.0		10	0 mL	1.0 mL	20826	03/03/22 23:10	SC	XEN MID
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	20899	03/04/22 12:16	SC	XEN MID

Client Sample ID: MW-1
Date Collected: 03/02/22 12:45
Date Received: 03/03/22 09:23

Lab Sample ID: 880-11992-4
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	21108	03/08/22 13:37	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21271	03/09/22 20:26	AJ	XEN MID
Total/NA	Analysis	300.0		20	0 mL	1.0 mL	20826	03/03/22 23:46	SC	XEN MID
Total/NA	Analysis	SM 2540C		1	25 mL	200 mL	20899	03/04/22 12:16	SC	XEN MID

Client Sample ID: Dup-1
Date Collected: 03/02/22 00:00
Date Received: 03/03/22 09:23

Lab Sample ID: 880-11992-5
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	8021B		1	5 mL	5 mL	21108	03/08/22 14:04	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			21271	03/09/22 20:26	AJ	XEN MID
Total/NA	Analysis	300.0		10	0 mL	1.0 mL	20826	03/03/22 23:58	SC	XEN MID
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	20899	03/04/22 12:16	SC	XEN MID

Eurofins Midland

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: 1RP-313, NEDU Drill Pit

Job ID: 880-11992-1
SDG: 19-0112-22

Laboratory References:

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

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: 1RP-313, NEDU Drill Pit

Job ID: 880-11992-1
SDG: 19-0112-22

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	T104704400-21-22	06-30-22

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. Job ID: 880-11992-1
Project/Site: 1RP-313, NEDU Drill Pit SDG: 19-0112-22

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

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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:

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

Sample Summary

Client: Larson & Associates, Inc.
Project/Site: 1RP-313, NEDU Drill Pit

Job ID: 880-11992-1
SDG: 19-0112-22

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-11992-1	MW-3	Water	03/02/22 10:11	03/03/22 09:23
880-11992-2	MW-4	Water	03/02/22 10:52	03/03/22 09:23
880-11992-3	MW-2	Water	03/02/22 12:01	03/03/22 09:23
880-11992-4	MW-1	Water	03/02/22 12:45	03/03/22 09:23
880-11992-5	Dup-1	Water	03/02/22 00:00	03/03/22 09:23

1 2 3 4 5 6 7 8 9 10 11 12 13 14

No. 2407

11992 **CHAIN-OF-CUSTODY**

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

Data Reported to

DATE 3-3-22 PAGE 1 OF 1
PO#
LAB WORK ORDER#
PROJECT LOCATION OR NAME 1RP-313, NEDU Drill Pit
LAI PROJECT # 19-0112-22 COLLECTOR RN + TP

TRRP report? ☐ Yes ☒ No

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

TIME ZONE
Time zone/State MST/ NM

PRESERVATION: HCl 3X; HNO_3; H_2SO_4 ☐ NaOH ☐; ICE 2X; 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 VOC ☐ | TCLP - METALS (RCRA) ☐ Semi-VOC ☐ | TCLP - PEST ☐ HERB ☐ OTHER LIST ☐ | TOTAL METALS (RCRA) ☐ D W 200 8 ☐ TCLP ☐ | LEAD - TOTAL ☐ FLASHPOINT ☐ | RCI ☐ TOX ☐ % MOISTURE ☐ CYANIDE ☐ | TDS ☒ TSS ☐ HEXAVALENT CHROMIUM ☐ | pH ☐ PECHLORATE ☐ | EXPLOSIVES ☐ ANIONS ☐ ALKALINITY ☐ | CHLORIDE ☒

Field Sample I D	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 / NaOH	ICE	UNPRESSERVED	BTEX	TDS	CHLORIDE	FIELD NOTES
MW-3		3-2-22	1011	W	5	X			X		X	X	X	Bill Piret
MW-4		″	1052	″	″	″			″		″	″	″	to Apache
MW-2		″	1201	″	″	″			″		″	″	″	
MW-1		″	1246	″	″	″			″		″	″	″	
Dup-1		″		″	″	″			″		″	″	″	

FIELD NOTES: 1 Liter; 250 ml; 3 VOAs

880-11992 Chain of Custody

TOTAL 5

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)
[signature]	3/3/22 9:23	[signature]

LABORATORY Xenco

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

LABORATORY USE ONLY:
RECEIVING TEMP 5.6/5.5 THERM# IR8
CUSTODY SEALS - ☐ BROKEN ☒ INTACT ☐ NOT USED
☐ CARRIER BILL #
☒ HAND DELIVERED

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-11992-1
SDG Number: 19-0112-22

Login Number: 11992
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	

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

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

CONDITIONS

Action 373807

CONDITIONS

Operator: APACHE CORPORATION 303 Veterans Airpark Ln Midland, TX 79705	OGRID: 873
	Action Number: 373807
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	2022-Q1_Grounwater-Monitoring-Report_NEDU-Pits, received electronically by OCD on 08/14/2024, accepted for the record. App ID: 373807	8/28/2024