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2025

Incident NO. nOY1709044723/1RP-4664 Groundwater Abatement and 2024 Monitoring Report Epperson 16-Inch Pipeline Release Lea County, New Mexico

TARGA

Prepared for:

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1.0 EXECUTIVE SUMMARY

Larson & Associates, Inc. (LAI) on behalf of Targa Midstream Services, LLC (Targa) submits this report to the State of New Mexico Oil Conservation Division (NMOCD) to document the abatement of light nonaqueous phase liquid (LNAPL) consisting of natural gas condensate and dissolved benzene, toluene, ethylbenzene and xylenes (BTEX) in groundwater from monitoring well TMW-1 at the Epperson 16-inch pipeline (Site) located in Lea County, New Mexico. The abatement was performed in accordance with the requirements of the document titled, "*1RP-4664 (Incident No. nOY1709044723), Final Groundwater Abatement Plan, Epperson 16-Inch Pipeline Release, Lea County, New Mexico, January 20, 2022",* which was approved by NMOCD on August 29, 2023. The legal description is Unit M (SW/4, SW/4), Section 24, Township 11 South, Range 33 East. The geodetic coordinates are North 33.346925° and West -103.574597°. The LNAPL and dissolved hydrocarbon abatement was performed in accordance with New Mexico Administrative code (NMAC) 19.15.30.19.

High volume soil vapor extraction (SVE) was the selected methodology for abating LNAPL and dissolved hydrocarbons (BTEX) in groundwater at the Site. EcoVac Services (EcoVac), Moore, Oklahoma, used a truck-mounted dual phase SVE system with Enhanced Fluid Recovery® (EFR) to extract LNAPL and dissolved hydrocarbons (BTEX) in groundwater from monitoring well TMW-1. The EcoVac EFR system vacuum blower draws higher liquid and vapor volumes from the well and utilizes two (2) auxiliary internal combustion engines to combust vapors while liquids are contained in an onboard tank. Liquids were discharged to a portable (frac) tank leased from Gandy Corporation with recovered liquid disposed in an NMOCD permitted offsite commercial Class II SWD well. Vapors were combusted or supplemented with propane as fuel for two (2) internal combustion engines with emissions below the New Mexico Environment Department (NMED) limits for requiring a permit.

LNAPL and groundwater were gauged in four (4) monitoring wells (TMW-1, TMW-2, TMW-3 and TMW-4) prior to initiating SVE extraction on August 5, 2024. LNAPL (0.29 feet) was gauged in monitoring TMW-1 with groundwater gauged at 30.68 feet below ground surface (bgs). EcoVac successfully removed LNAPL from well TMW-1 during the first 3-day extraction event performed on August 5, 6 and August 7, 2024. A second 3-day extraction event was performed on September 10, 11 and 12, 2024. LNAPL was gauged weekly in the monitoring well TMW-1 between the SVE events and for 4 weeks after completing the second extraction event. LNAPL was not detected in well TMW-1 or the remaining monitoring wells (TMW-2, TMW-3 and TMW-4). Monitoring well TMW-4 was installed between wells TMW-1 and TMW-2 to allow monitoring for vapor extraction influence and groundwater drawdown. No vapor extraction influence or groundwater drawdown was detected in wells TMW-4 and TMW-2 located approximately 214 feet and 430 feet east from well TMW-1, respectively. During the first SVE event on August 5, 2024, the maximum hydrocarbon vapor concentration in the effluent stream was 13,000 parts per million per volume (ppmv) at the beginning of extraction and decreased to 400 ppmv near the end of extraction on August 7, 2024, about a 97 percent decrease in hydrocarbon vapor concentration.

The higher hydrocarbon concentration is likely from removal of LNAPL during the first extraction period. On September 10, 2024, the maximum hydrocarbon vapor concentration was 10,000 ppmv at the beginning of the extraction period ending at 4,500 ppmv near the end of the extraction period on September 12, 2024. The hydrocarbon vapor concentration decreased about 55 percent over the extraction period which suggests removal of dissolved hydrocarbons in groundwater. The data concludes that vacuum extraction and groundwater drawdown was centered around well TMW-1 and the release area. The EcoVac system recovered a total of 252.8 pounds equivalent to about 39.9 gallons of hydrocarbon as vapor and a total of 8,769 gallons of fluid consisting mainly of groundwater from monitoring well TMW-1, as shown on Table 1 and on Figure 2. LAI personnel collected groundwater samples from well TMW-1 during and following the extraction events and reported the following dissolved hydrocarbon (BTEX) concentrations:

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)
January 31, 2019	11.6	9.45	1.30	3.51
August 23, 2024	0.352	0.584	0.936	3.13
November 11, 2024	<0.0400	<0.0400	0.656	0.762

The groundwater monitoring data for well TMW-1 represents a significant decrease in dissolved hydrocarbon (BTEX) concentration from SVE extraction processes. BTEX concentrations in the remaining wells (TMW-2, TMW-3 and TMW-4) have been below the analytical method reporting limits and New Mexico Water Quality Control Commission (NMWQCC) human health standards. Chloride has been below the NMWQCC domestic water quality standard of 250 milligrams per liter (mg/L) in all wells except TMW-3 with chloride reported at 297 mg/L and 325 mg/L during semi-annual groundwater monitoring events on February 1, 2024 and November 11, 2024, respectively. The suspected source for the elevated chloride is an unlined produced water disposal pit that was observed on a historic aerial photograph (February 3, 1968) at a tank battery on the adjoining lease west of the Site. No significant changes in depth to groundwater, groundwater elevation or groundwater flow direction were noted from previous monitoring events. On October 24, 2024, Gandy Corporation, Tatum, New Mexico, disposed of an estimated 220 barrels of remediation derived waste, mainly groundwater, at the DKD, LLC, Richardson Fee SWD No. 002 located in Unit K (NE/4, SW/4), Section 5, Township 14 South, Range 36 East in Lea County, New Mexico.

Path Forward:

Targa will continue monitoring groundwater quality from monitoring wells TMW-1 through TMW-4 as presented in the NMOCD approved abatement plan with results presented to the NMOCD in annual reports.

2.0 INTRODUCTION

Larson & Associates, Inc. (LIA), on behalf of Targa Midstream Services, LLC (Targa) presents this report to the New Mexico Oil Conservation Commission (NMOCD) to document abatement of light nonaqueous phase liquid (LNAPL) in the form of natural gas condensate and dissolved benzene, toluene, ethylbenzene and xylenes (BTEX) in groundwater from monitoring well TMW-1 at the Epperson 16-inch pipeline release (Site) located in Lea County, New Mexico. The abatement was performed in accordance with the requirements of the document titled, "*1RP-4664 (Incident No. nOY1709044723), Final Groundwater Abatement Plan, Epperson 16-Inch Pipeline Release, Lea County, New Mexico, January 20, 2022"*. The Site is located about 15 miles west of Tatum, New Mexico, in Unit M (SW/4, SW/4), Section 24, Township 11 South, Range 33 East. The geodetic coordinates are North 33.346925° and West -103.574597°. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

2.1 Background

On May 27, 2016, Targa representative, Ralph England, and LAI personnel visited the Site to document the release. LAI personnel observed an area without vegetation measuring about 40 x 45 feet or about 1,800 square feet. On March 29, 2017, the initial C-141 was submitted to the NMOCD District 1, which assigned the release Incident Number nOY1709044723 and remediation permit number 1RP-4664. The spill was delineated according to NMOCD guidelines (Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993). The spill was remediated between October 13, 2017 and July 7, 2021, according to NMOCD approved plans. On July 18, 2021, NMOCD granted approval for backfilling the excavation according to 19.15.29.13D(1). Appendix A presents the NMOCD communications.

On December 5, 2022, LAI on behalf of Targa volunteered and submitted a draft groundwater abatement plan to NMOCD (Bradford Billings). On January 4, 2023, LAI on behalf of Targa submitted an email to Mr. Billings and Mr. Nelson Velez with NMOCD requesting an update on the approval status for the groundwater abatement plan. No response from NMOCD was received due to Mr. Billings retiring. On February 22, 2023, the *"1RP-4664 (Incident No. nOY1709044723, Final Groundwater Abatement Plan, January 20, 2022"* was submitted to Mr. Nelson Velez with NMOCD. Mr. Velez stated in a phone call (July 18, 2023) that he had approved the groundwater abatement plan and had forwarded it to Ms. Rosa Romero, NMOCD Environmental Bureau Chief, and Mike Bratcher, NMOCD District 2, for final approval. On August 29, 2023, NMOCD (Mike Buchanan) issued a letter to Targa stating that the Stage 2 abatement plan was administratively complete and approval of the Public Notice and Participation Proposal. NMOCD requested Targa to provide proof of public notice in accordance with Paragraph (2) of Subsection D of 19.15.30.13 NMAC. Appendix B presents the NMOCD approval letter.

On August 31, 2023, Targa submitted notices of the abatement to the State of New Mexico State Land Office (SLO) and Pearce Trust as landowners within 1-mile of the Site. On September 2, 2023 and September 3, 2023, notices of the abatement were published in the Albuquerque Journal and Hobbs News-Sun,

respectively. Appendix B presents the affidavits of publication for the public notices.

On February 25, 2025, Targa received an email from NMOCD (Mike Buchanan) that stated in part that NMOCD rejected the Application for administrative approval of a release notification and corrective action (C-141), for incident ID (n#) nOY1709044723, for the following reasons:

- Review of the January 20, 2022 Groundwater Abatement Plan is not approved based on the missing information, please revise and resubmit in thirty (30) days
  1. Please include more information on the disposal process for excavation derived waste. Recovery waste must also be clearly defined and sent to an approved OCD waste facility. If placed in an SWD well for disposal, please provide more detail on which one and where.
  2. Please revise sections 2.0 and 3.0, as both state "Stage 1 Abatement".
  3. Add a discussion on seasonal variability.
  4. If available, please include most recent sampling results and data through 2024.
  5. Resubmit the stage 1 & 2 abatement plan to OCD in thirty (30) days from today, no later than March 26, 2025.

On February 25, 2025, following a telephone discussion between Targa (Ms. Christina Higginbotham) and NMOCD (Mike Buchanan) it was determined that Targa had previously received approval for the Stage 2 abatement plan dated January 20, 2022. The information requested by NMOCD has been incorporated into this report, as applicable. Mr. Buchanan stated that the approval letter dated August 29, 2023, as well as public notice documentation, was uploaded to the NMOCD system and is part of the administrative record. Mr. Buchanan stated that the approval letter dated August 29, 2023, was uploaded to the NMOCD system and is part of the administrative record (see Appendix A for NMOCD communications and Appendix B for public notice affidavits and letter dated August 29, 2023).

3.0 LNAPL AND GROUNDWATER ABATEMENT

The LNAPL and dissolved hydrocarbon (BTEX) abatement was performed in accordance with New Mexico Administrative code (NMAC) 19.15.30.19 under the abatement plan approved by NMOCD on August 29, 2023.

3.1 Additional Monitoring Well Installation

On November 2, 2023, LAI submitted notice on behalf of Targa to NMOCD for installing an additional monitoring well (TMW-4) between TMW-1 and TMW-2 (November 13, 2023), collecting groundwater samples from the monitoring wells (November 17, 2023) and notice for the first SVE extraction event (December 4, 2023). On November 13, 2023, Scarborough Drilling, Inc. (SDI) under supervision from LAI installed monitoring TMW-4. The well was installed into a five (5) inch diameter boring advanced to forty-one (41) feet below ground surface (bgs) with an air rotary rig. The well was constructed with 2-inch diameter

schedule 40 PVC casing and twenty (2) feet of 0.010-inch factory slotted and screw threaded screen. The well screen was positioned above and below the groundwater level observed during drilling. Groundwater was gauged at 33.36 feet bgs. Figure 3 presents a Site drawing showing the monitoring location. Appendix A presents the NMOCD notification. Appendix C presents the State of New Mexico Office of the State Engineer (NMOSE) well permit. Appendix D presents the geologic log and well completion diagram for TMW-4.

3.2 LNAPL Abatement

The SVE extraction was initially scheduled to commence on December 4, 2023, however due to landowner approval, the remediation was delayed. On August 5 through 7, 2024 and September 10 through 12, 2024, EcoVac Services (EcoVac), Moore, Oklahoma, under supervision from LAI, used a truck-mounted dual phase SVE system with Enhanced Fluid Recovery® (EFR) to extract LNAPL and dissolved hydrocarbons (BTEX) in groundwater from monitoring well TMW-1. The EcoVac EFR system vacuum blower draws higher liquid and vapor volumes from the well and utilizes two (2) auxiliary internal combustion engines to combust vapors while liquids are contained in an onboard tank. Liquids were discharged to a portable (frac) tank leased from Gandy Corporation with recovered liquid disposed in an NMOCD permitted offsite commercial Class II SWD well. Taga provided notice to NMOCD prior to commencing remediation.

On August 5, 2024, groundwater and LNAPL were gauged in four (4) monitoring wells (TMW-1 through TMW-4) using an electronic oil and water interface probe that was decontaminated between wells with a solution of potable water and laboratory-grade detergent (Alconox®) and rinsed with distilled water. LNAPL was gauged at 0.29 feet thick in well TMW-1. LNAPL was not detected in the remaining wells. LNAPL was gauged each morning on August 6 and 7, 2024, prior to liquid and vapor extraction. LNAPL was not detected in well TMW-1 on August 6 and 7, 2024.

Between August 5 and 7, 2024, EcoVac recovered approximately 101.5 pounds equivalent to about 16.8 gallons of hydrocarbons as vapor and a total of 4,266 gallons of fluid consisting primarily of groundwater between August 5 and 7, 2024. No vacuum or groundwater drawdown influences were observed in wells TMW-4 and TMW-2 located about 214 and 430 feet, respectively, from well TMW-1.

Between September 10 and 12, 2024, the EcoVac system recovered approximately 141.3 pounds equivalent to about 23.1 gallons of hydrocarbon as vapor and a total of 4,503 gallons of fluid consisting primarily of groundwater between September 10 and 12, 2024. Vacuum and groundwater drawdown influence was not observed in the nearest wells (TMW-4 and TMW-2).

During the two (2) extraction events, EcoVac system recovered a total of 252.8 pounds equivalent to about 39.9 gallons of hydrocarbon as vapor and a total of 8,769 gallons of fluid consisting primarily of groundwater from monitoring well TMW-1. LNAPL was gauged in monitoring well TMW-1 once weekly between and after each extraction event. A hydrocarbon sheen was observed in well TMW-1 on August 23, 2024, September 3, 2024, and September 9, 2024. LNAPL greater than a sheen was not detected in the monitoring wells after the initial extraction event on August 5, 6 and 7, 2024.

During the first SVE event on August 5, 2024, the maximum hydrocarbon vapor concentration in the effluent stream was 13,000 parts per million per volume (ppmv) at the beginning of extraction and decreased to 400 ppmv near the end of extraction on August 7, 2024, about a 97 percent decrease in hydrocarbon vapor concentration. The higher hydrocarbon concentration confirms removal of LNAPL and hydrocarbon mass. On October 24, 2024, Gandy Corporation, Tatum, New Mexico, disposed of an estimated 220 barrels of remediation derived waste, mainly groundwater, at the DKD, LLC, Richardson Fee SWD No. 002 located in Unit K (NE/4, SW/4), Section 5, Township 14 South, Range 36 East in Lea County, New Mexico. Table 1a presents the LNAPL and groundwater gauging summary for monitoring well TMW-1. Appendix A presents the NMOCD communications. Appendix E presents the EcoVac reports. Appendix F presents the Gandy Corporation disposal ticket.

3.3 Dissolved Hydrocarbon (BTEX) Reduction

On September 10, 2024, the maximum hydrocarbon vapor concentration was 10,000 ppmv at the beginning of the extraction period ending at 4,500 ppmv near the end of the extraction period on September 12, 2024. The hydrocarbon vapor concentration decreased about 55 percent over the extraction period confirms removal of dissolved hydrocarbons in groundwater. On August 23, 2024, LAI personnel collected a groundwater sample from monitoring well TMW-1 to assess the effectiveness of the abatement process for reducing dissolved hydrocarbon (BTEX) concentration in groundwater. The sample was 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 flowrate until environmental parameters stabilize. The sample was collected from the discharge from dedicated disposable Tygon® pump tubing. The sample was delivered under chain of custody control (COC) and preservation to Eurofins Xenco Laboratories (Eurofins) located in Midland, Texas. Eurofins analyzed the sample for BTEX by EPA SW-846 Method 8021B. The following table presents the dissolved BTEX results in groundwater from monitoring well TMW-1 prior to, during and following SVE remediation:

Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)
January 31, 2019	11.6	9.45	1.30	3.51
August 23, 2024	0.352	0.584	0.936	3.13
November 11, 2024	<0.0400	<0.0400	0.656	0.762

Residual LNAPL was not present in monitoring well TMW-1 following SVE remediation. On November 11, 2024, benzene and toluene were not reported in groundwater samples from monitoring well TMW-1 at concentrations above the analytical reporting limit of 0.0400 milligrams per liter (mg/L) representing concentration reductions of about 89 and 93 percent, respectively, between the initial (August 5 through 7, 2024) and final (September 10 through 12, 2024) SVE extraction events. The benzene and toluene concentrations were reduced below the State of New Mexico Water Quality Control Commission (WQCC) human health standards of 0.005 mg/L and 1.0 mg/L, respectively, from monitoring well TMW-1 following the final SVE extraction event on September 10 through 12, 2024. Ethylbenzene and xylenes concentrations decreased about 49.5 and 78 percent, respectively, in groundwater from monitoring well TMW-1 between the initial (August 5 through 7, 2024) and final (September 10 through 12, 2024). On November 11, 2024, the ethylbenzene concentration (0.656 mg/L) in groundwater from monitoring well TMW-1 was below the State of New Mexico Water Quality Control Commission (WQCC) human health standard of 0.700 mg/L. The total xylenes concentration in groundwater from monitoring well TMW-1 (0.762 mg/L) was above the WQCC human health standard of 0.62 mg/L. Appendix G presents the laboratory report.

4.0 SEMI-ANNUAL GROUNDWATER MONITORING

4.1 February 1, 2024

The first 2024 semi-annual groundwater monitoring event was performed on February 1, 2024. Targa provided notification to the NMOCD. LNAPL and groundwater were gauged in three (3) monitoring wells (TMW-1, TMW-2 and TMW-3) with an electronic oil and water interface probe which was decontaminated between wells with a solution of potable water and laboratory-grade detergent (Alconox®) and rinsed with distilled water. LNAPL was gauged in TMW-1 at 0.79 feet on February 1, 2024. LNAPL was not detected in wells TMW-2 and TMW-3. Table 1b presents the monitoring well gauging and completion summary. Figure 4 presents the LNAPL thickness map.

Depth to groundwater ranged from 29.92 feet bgs in well TMW-3 to 31.38 feet bgs in well TMW-1. The groundwater potentiometric surface elevation ranged from 4,197.69 feet above mean sea level (MSL) in well TMW-1 (upgradient) to 4,196.71 feet above MSL in well TMW-3 (downgradient). The groundwater flow direction was from west to east-southeast at a gradient of 0.0015 feet per foot (ft/ft). Figure 5a presents the groundwater potentiometric map for February 1, 2024.

Since LNAPL (0.79 feet) was gauged in well TMW-1 no samples were collected from this well. Groundwater samples were collected from monitoring wells TMW-2 and TMW-3 using the low stress or low flow method as previously described. The Tygon® tubing was discarded after each use and the pump was thoroughly cleaned between wells with a solution of potable water and laboratory grade detergent (Alconox®) and rinsed with distilled water. The samples were submitted under COC and preservation to Eurofins, and were analyzed BTEX by EPA SW-846 Method 8021B and chloride by EPA Method 300. Table 2 presents the analytical laboratory data summary. Appendix F presents the laboratory report.

BTEX compounds were not detected at concentrations above the laboratory method reporting limits and NMWQCC human health standards in samples from monitoring wells TMW-2 and TMW-3. Chloride was reported at 51.6 mg/L in the sample from monitoring well TMW-2, which was below the NMWQCC domestic water quality standard of 250 mg/L. Chloride was above the NMWQCC domestic water quality standard at 297 mg/L in the sample from monitoring well TMW-3. As previously presented in the closure report titled, "*nOY1709044723 (RP-4664) Closure Report, Epperson 16 Inch Pipeline Release Site #1, Lea County, New Mexico, August 4, 2021*", the suspected source for the chloride in well TMW-3 is most likely associated with potential impacts from an unlined produced water disposal pit that was observed on a historic aerial photograph (February 3, 1968) at a tank battery on the adjoining lease west of the Site. Figure 6a presents the BTEX concentrations in groundwater samples on February 1, 2024. Figure 7 presents chloride concentrations in groundwater samples from monitoring wells.

4.2 November 11, 2024

The second 2024 semi-annual groundwater monitoring event was performed on November 11, 2024. Targa provided notification to the NMOCD. The electronic oil and water interface probe did not detect LNAPL in monitoring wells TMW-1 through TMW-4. Depth to groundwater was gauged between 30.06 feet bgs (TMW-3) and 30.89 feet bgs (TMW-1). The groundwater potentiometric surface elevation ranged from 4,197.63 feet above MSL in well TMW-1 (upgradient) and 4,196.57 feet above MSL in well TMW-3 (downgradient). The groundwater flow direction was from west to east-southeast at a gradient of 0.0016 ft/ft. Figure 5b presents the groundwater potentiometric map for November 11, 2024.

Groundwater samples were collected from the monitoring wells (TMW-1, TMW-2, TMW-3 and TMW-4) using the low stress or low flow method as previously described. Eurofins analyzed the samples for BTEX by EPA SW-846 Method 8021B and chloride by EPA Method 300. Table 2 presents the analytical laboratory data summary. Appendix F presents the laboratory report.

Benzene and toluene were not detected above the laboratory analytical method reporting limits and NMWQCC human health standards in samples from monitoring wells TMW-1 through TMW-4. Ethylbenzene and xylenes were not detected above the laboratory analytical method reporting limits and NMWQCC human health standards in samples from monitoring wells TMW-2, TMW-3 and TMW-4. Ethylbenzene (0.656 mg/L) and xylenes (0.762 mg/L) were reported in the sample from monitoring well TMW-1 with ethylbenzene below the NMWQCC human health standard of 0.700 mg/L and xylenes above the NMWQCC human health standard of 0.62 mg/L. The BTEX concentrations reported for well TMW-1 represent a significant concentration decrease resulting from LNAPL and groundwater extraction. The chloride in samples from TMW-1, TMW02 and TMW-3 were 73.5 mg/L. 49.9 mg/L and 51.3 mg/L, respectively, and were below the NMWQCC domestic water quality standard. Chloride in well TMW-3 (325 mg/L) exceeded the NMWQCC domestic water quality standard with the suspected source being an unlined produced water disposal pit that was observed on a historic aerial photograph (February 3, 1968) at a tank battery on the adjoining lease west of the Site. Figure 6b presents the BTEX concentrations in

groundwater samples on November 11, 2024. Figure 7 presents chloride concentrations in groundwater samples from monitoring wells.

5.0 CONCLUSION AND RECOMMENDATION

5.1 Conclusion

LNAPL (condensate) was removed and dissolved phase hydrocarbons (BTEX) concentrations greatly decreased in monitoring well TMW-1. During the first SVE event on August 5, 2024, the maximum hydrocarbon vapor concentration in the effluent stream was 13,000 ppmv at the beginning of extraction and decreased to 400 ppmv near the end of extraction on August 7, 2024, about a 97 percent decrease in hydrocarbon vapor concentration. The higher hydrocarbon concentration confirms removal of LNAPL and hydrocarbon mass. On September 10, 2024, the maximum hydrocarbon vapor concentration was 10,000 ppmv at the beginning of the extraction period ending at 4,500 ppmv near the end of the extraction period on September 12, 2024. The hydrocarbon vapor concentration decreased about 55 percent over the extraction period confirms removal of dissolved hydrocarbons in groundwater. No significant changes in depth to groundwater, groundwater elevation or groundwater flow direction were noted from previous monitoring events.

5.2 Recommendation

Per the NMOCD approved abatement plan, Targa will continue groundwater monitoring of wells TMW-1 through TMW-4 on a semi-annual (twice yearly) for two (2) years and laboratory analysis for BTEX and chloride by EPA SW-846 Method 8021B and Method 300, respectively. Groundwater monitoring will include gauging LNAPL and groundwater depth. Upon reaching the abatement standards and requirements set forth in 19.15.30.9 NMAC, an abatement completion report will be submitted along with any proposed changes to long-term monitoring and site maintenance requirements.

Tables

Table 1a
Monitoring Well TMW-1 Remediation Gauging Summary Targa Midstream Services, LLC, Epperson 16" Pipeline Release Lea County, New Mexico

Well Information		Groundwater Data					
Well ID		Date Gauged	Depth to Product (feet TOC)	Depth to Water (feet TOC)	LNAPL Thickness (feet)	Corrected Water Elevation (feet AMSL)	Depth to Water (feet BGS)
TMW-01							
Date Drilled:	03/13/2018	03/14/2018	--	33.25	--	4,198.17	30.35
Drilled Depth BGS (feet):	39	04/18/2019	--	33.31	--	4,198.11	30.41
Well Depth from TOC (feet):	40.55	01/31/2019	--	33.45	--	4,197.97	30.55
Well Diameter (inches):	2	07/18/2019	--	34.07	--	4,197.35	31.17
Screen Interval BGS (feet):	36.97-27.32	07/19/2019	33.24	33.84	0.60	4,197.58	30.94
Casing Stickup (feet):	2.9	08/08/2019	33.17	34.03	0.86	4,197.39	31.13
Ground Elevation AMSL (feet):	4,228.40	02/24/2020	33.19	33.74	0.55	4,197.68	30.84
TOC Elevation AMSL (feet):	4,231.42	09/03/2021	33.33	33.90	0.57	4,197.52	31.00
		02/01/2024	33.49	34.28	0.79	4,197.14	31.38
		08/05/2024	33.29	33.58	0.29	4,197.84	30.68
		08/16/2024	--	33.77	--	4,197.65	30.87
		08/23/2024	--	33.76	Sheen	4,197.66	30.86
		09/03/2024	--	33.77	Sheen	4,197.65	30.87
		09/06/2024	--	33.76	Sheen	4,197.66	30.86
		09/20/2024	--	33.77	--	4,197.65	30.87
		09/27/2024	--	33.78	--	4,197.64	30.88
		10/07/2024	--	33.78	--	4,197.64	30.88
		10/11/2024	--	33.78	--	4,197.64	30.88
		11/11/2024	--	33.79	--	4,197.63	30.89

Notes:

Wells drilled and installed by Scarborough Drilling, Inc., Lamesa, Texas, using 2 inch schedule 40 threaded PVC casing and screen.
Groundwater elevation corrected for LNAPL thickness assuming 0.7 specific gravity.
Elevations are above mean sea level referenced to 1984 Geodetic Datum.
bgs: below ground surface
TOC: top of casing
All values are in feet, unless otherwise noted.

Table 1b
Monitoring Well Completion and Gauging Summary
Targa Midstream Services, LLC, Epperson 16" Pipeline Release
Lea County, New Mexico

Well Information		Groundwater Data					
Well ID		Date Gauged	Depth to Product (feet TOC)	LNAPL Thickness (feet)	Depth to Water (feet TOC)	Depth to Water (feet BGS)	Corrected Water Elevation (feet AMSL)
TMW-01		03/14/2018	--	--	33.25	30.25	4,198.17
Date Drilled:	03/13/2018	04/18/2019	--	--	33.31	30.41	4,198.11
Drilled Depth BGS (feet):	39	01/31/2019	--	--	33.45	30.55	4,197.97
Well Depth from TOC (feet):	40.55	07/18/2019	--	--	34.07	31.17	4,197.35
Well Diameter (inches):	2	07/19/2019	33.24	0.60	33.84	30.94	4,198.00
Screen Interval BGS (feet):	36.97 to 27.32	08/08/2019	33.17	0.86	34.03	31.13	4,197.99
Casing Stickup (feet):	2.9	02/24/2020	33.19	0.55	33.74	30.84	4,198.06
Ground Elevation AMSL (feet)	4,228.40	09/03/2021	33.33	0.57	33.90	31.00	4,197.92
TOC Elevation AMSL (feet)	4,231.42	02//01/2024	33.49	0.79	34.28	31.38	4,197.69
		08/05/2024	33.29	0.29	33.58	30.68	4,197.69
		08/06/2024	--	--	33.73	30.83	4,197.36
		08/16/2024	--	--	33.74	30.84	4,197.69
		08/16/2024	--	--	33.76	30.86	4,197.70
		08/23/2024	--	Sheen	33.77	30.87	4,197.69
		09/03/2024	--	Sheen	33.76	30.86	4,197.70
		09/06/2024	--	Sheen	33.77	30.87	4,197.69
		09/20/2024	--	--	33.78	30.88	4,197.68
		09/27/2024	--	--	33.78	30.88	4,197.68
		10/07/2024	--	--	33.79	30.89	4,197.67
		10/11/2024	--	--	33.78	30.88	4,197.68
		11/11/2024	--	--	33.79	30.89	4,197.67
TMW-02		07/18/2019	--	--	32.29	29.76	4,197.01
Date Drilled:	07/16/2019	07/19/2019	--	--	32.22	29.68	4,197.08
Drilled Depth BGS (feet):	36	08/08/2019	--	--	32.21	29.63	4,197.09
Well Depth from TOC (feet):	38.31	02/24/2020	--	--	32.16	29.63	4,197.14
Well Diameter (inches):	2	09/03/2021	--	--	32.29	29.76	4,197.01
Screen Interval BGS (feet):	35.10 to 15.47	02/01/2024	--	--	32.55	30.02	4,196.75
Casing Stickup (feet):	2.53	08/05/2024	--	--	32.60	30.97	4,196.70
Ground Elevation AMSL (feet)	4,226.78	08/06/2024	--	--	32.58	30.05	4,196.72
TOC Elevation AMSL (feet)	4,229.30	08/07/2024	--	--	32.58	30.05	4,196.72
		08/16/2024	--	--	33.77	31.24	4,195.53
		08/23/2024	--	--	33.76	31.23	4,196.54
		11/11/2024	--	--	32.61	30.08	4,196.69
TMW-03		07/18/2019	--	--	32.13	29.62	4,197.01
Date Drilled:	07/16/2019	08/08/2019	--	--	32.13	29.62	4,197.01
Drilled Depth BGS (feet):	36	02/24/2020	--	--	32.05	29.54	4,197.09
Well Depth from TOC (feet):	38.34	09/03/2021	--	--	32.20	29.69	4,196.94
Well Diameter (inches):	2	02/01/2024	--	--	32.43	29.92	4,196.71
Screen Interval BGS (feet):	35.83 to 15.82	08/05/2024	--	--	32.51	30.00	4,196.63
Casing Stickup (feet):	2.51	08/06/2024	--	--	32.49	29.98	4,196.65
Ground Elevation AMSL (feet)	4,226.55	08/07/2024	--	--	32.49	29.98	4,196.65
TOC Elevation AMSL (feet)	4,229.14	11/11/2024	--	--	32.57	30.06	4,196.57

Table 1b
Monitoring Well Completion and Gauging Summary
Targa Midstream Services, LLC, Epperson 16" Pipeline Release
Lea County, New Mexico

Well Information		Groundwater Data					
Well ID		**Date Gauged**	**Depth to Product (feet TOC)**	**LNAPL Thickness (feet)**	**Depth to Water (feet TOC)**	Depth to Water (feet BGS)	**Corrected Water Elevation (feet AMSL)**
TMW-04		02/01/2024	--	--	32.78	30.05	4,197.37
Date Drilled:	11/13/2023	08/05/2024	--	--	32.87	30.14	4,197.28
Drilled Depth BGS (feet):	41.00	08/06/2024	--	--	32.85	30.12	4,197.30
Well Depth from TOC (feet):	43.73	08/07/2024	--	--	32.85	30.12	4,197.30
Well Diameter (inches):	2	11/11/2024	--	--	32.89	30.16	4,197.26
Screen Interval BGS (feet):	21.31 to 40.31						
Casing Stickup (feet):	2.73						
Ground Elevation AMSL (feet)	4,227.42						
TOC Elevation AMSL (feet)	4,230.15						

Notes: Wells drilled and installed by Scarborough Drilling, Inc., Lamesa, Texas, using 2 inch schedule 40 threaded PVC casing and screen
Groundwater elevation corrected for LNAPL thickness assuming 0.7 specific gravity
bgs: below ground surface
TOC: top of casing
Elevations are above mean sea level referenced to 1984 Geodetic Datum.
All values are in feet, unless otherwise noted.

Table 2
Groundwater Sample Analytical Data Summary
Targa Midstream Services, LLC, Epperson 16" Pipeline Release
Lea County, New Mexico
33.34696, -103.57471

Well ID	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	Chloride (mg/L)
NMWQCC Standard:		*0.005*	*1*	*0.7*	*0.62*	*250*
TMW-1	03/14/2018	**12.4**	**9.76**	0.48	0.425	66.3
	01/31/2019	**11.6**	**9.45**	**1.3**	**3.51**	150
	2/24/2020*	--	--	--	--	--
	9/3/2021*	--	--	--	--	--
	2/1/2024*	--	--	--	--	--
	08/23/2024	**0.352**	**0.584**	**0.936**	**3.13**	--
	11/11/2024	<0.0400	<0.0400	**0.655**	**0.762**	73.5
TMW-2	07/22/2019	<0.00100	<0.00100	<0.00100	<0.00300	47.0
	02/24/2020	<0.00100	<0.00100	<0.00100	<0.00300	47.7
	09/03/2021	<0.00100	<0.00100	<0.00100	<0.00300	52.8
	02/01/2024	<0.00200	<0.00200	<0.00200	<0.00400	51.6
	11/11/2024	<0.00200	<0.00200	<0.00200	<0.00400	49.9
TMW-3	07/22/2019	<0.00100	<0.00100	<0.00100	<0.00300	**276**
	02/24/2020	<0.00100	<0.00100	<0.00100	<0.00300	**265**
	09/03/2021	<0.00100	<0.00100	<0.00100	<0.00300	**305**
	02/01/2024	<0.00200	<0.00200	<0.00200	<0.00400	**297**
	11/11/2024	<0.00200	<0.00200	<0.00200	<0.00400	**325**
TMW-4	02/01/2024	<0.00200	<0.00200	<0.00200	<0.00400	52.3
	11/11/2024	<0.00200	<0.00200	<0.00200	<0.00400	51.3
QA/QC (Duplicate)						
TMW-3	09/03/2021	<0.00100	<0.00100	<0.00100	<0.00300	**301**
TMW-2	02/01/2024	<0.00200	<0.00200	<0.00200	<0.00400	52.2
TMW-2	11/11/2024	<0.00200	<0.00200	<0.00200	<0.00400	54.2

Notes: Analysis performed by Permian Basin Environmental Lab (PBEL) or Eurofins Laboratories (Eurofins), Midland, Texas by EPA Method SW-8021B (BTEX) and EPA Method E-300 (chloride)
mg/L: milligrams per liter; equivalent to parts per million (ppm)
--: no data available
*: sample not collected due to presence of LNAPL in monitoring well
Bold and highlighted indicates parameter concentration exceeds the NMWQCC human health standard or domestic water quality standard

Figures

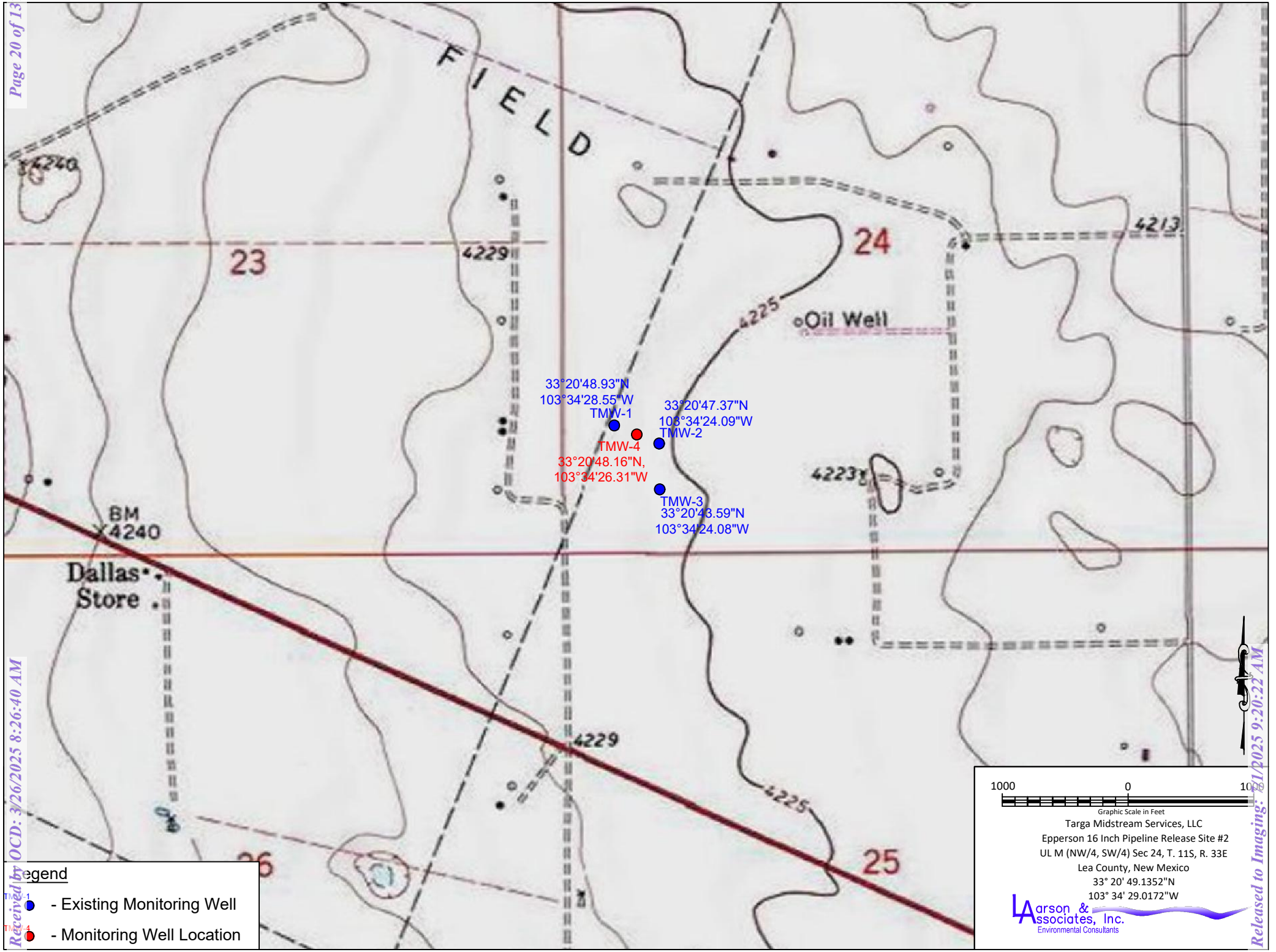

Figure 1 - Topographic Map

8.5" x 11"

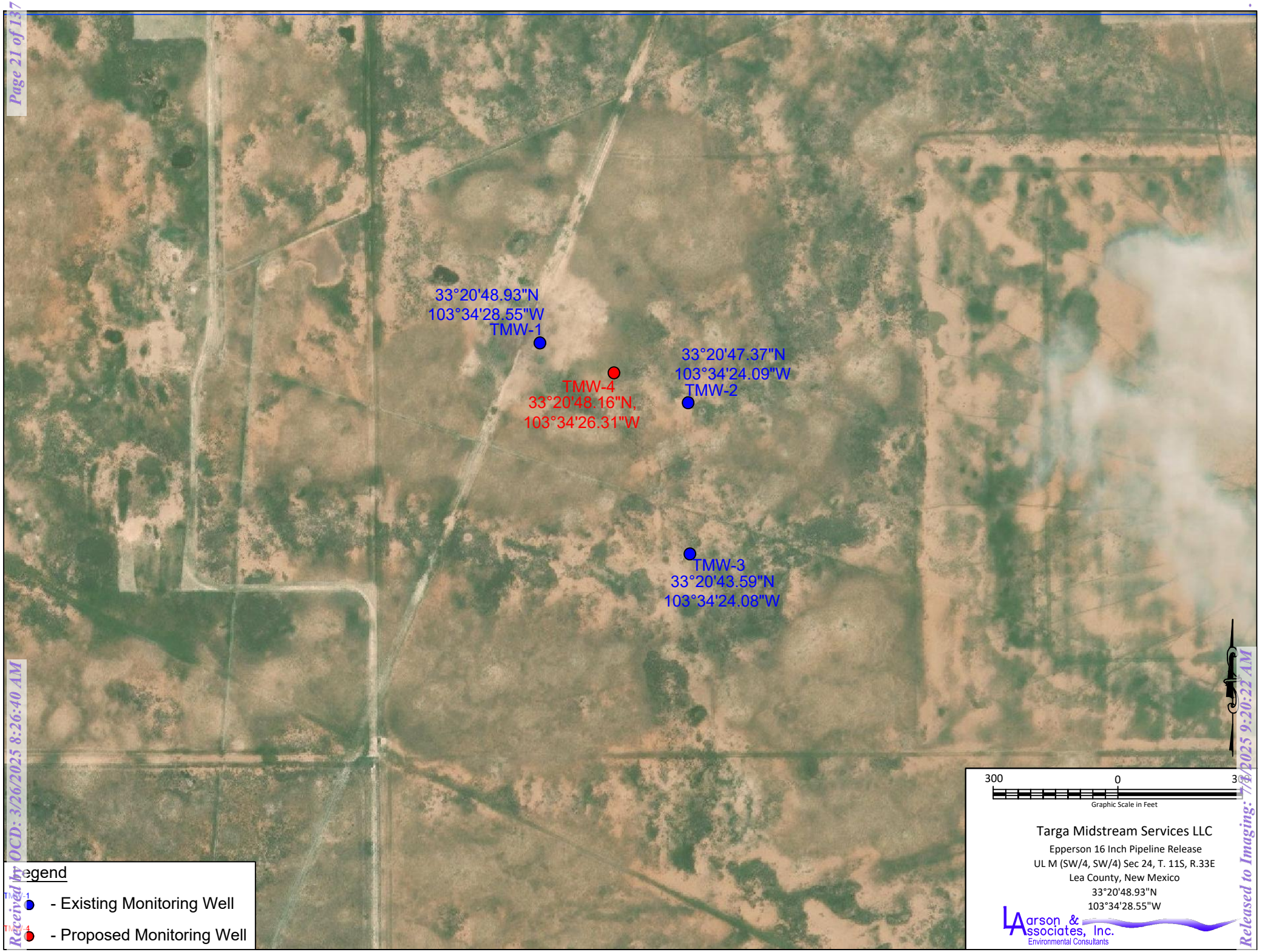

Figure 2 - Aerial Map

8.5" x 11"

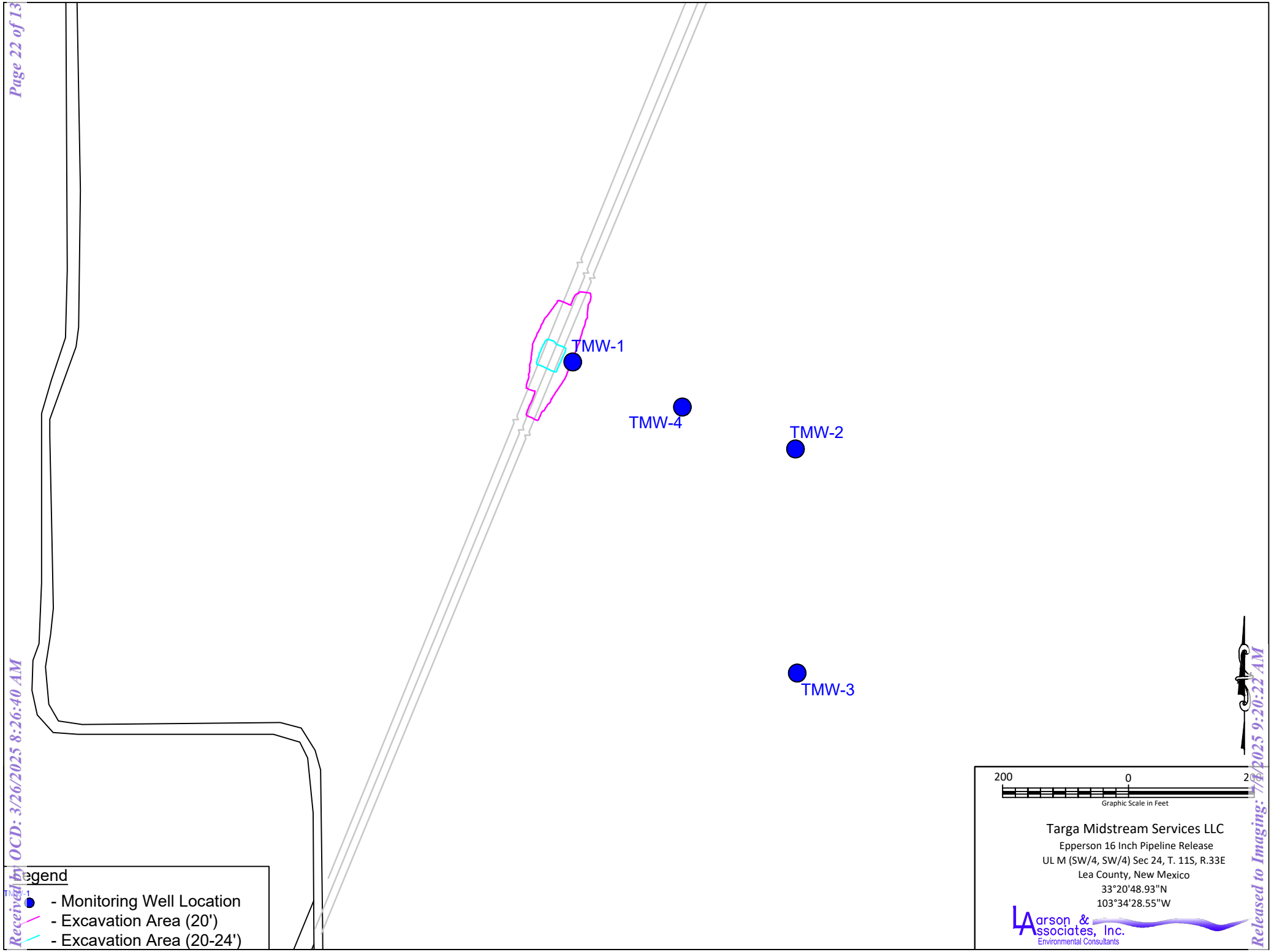

Figure 3 - Site Map

8.5" x 11"

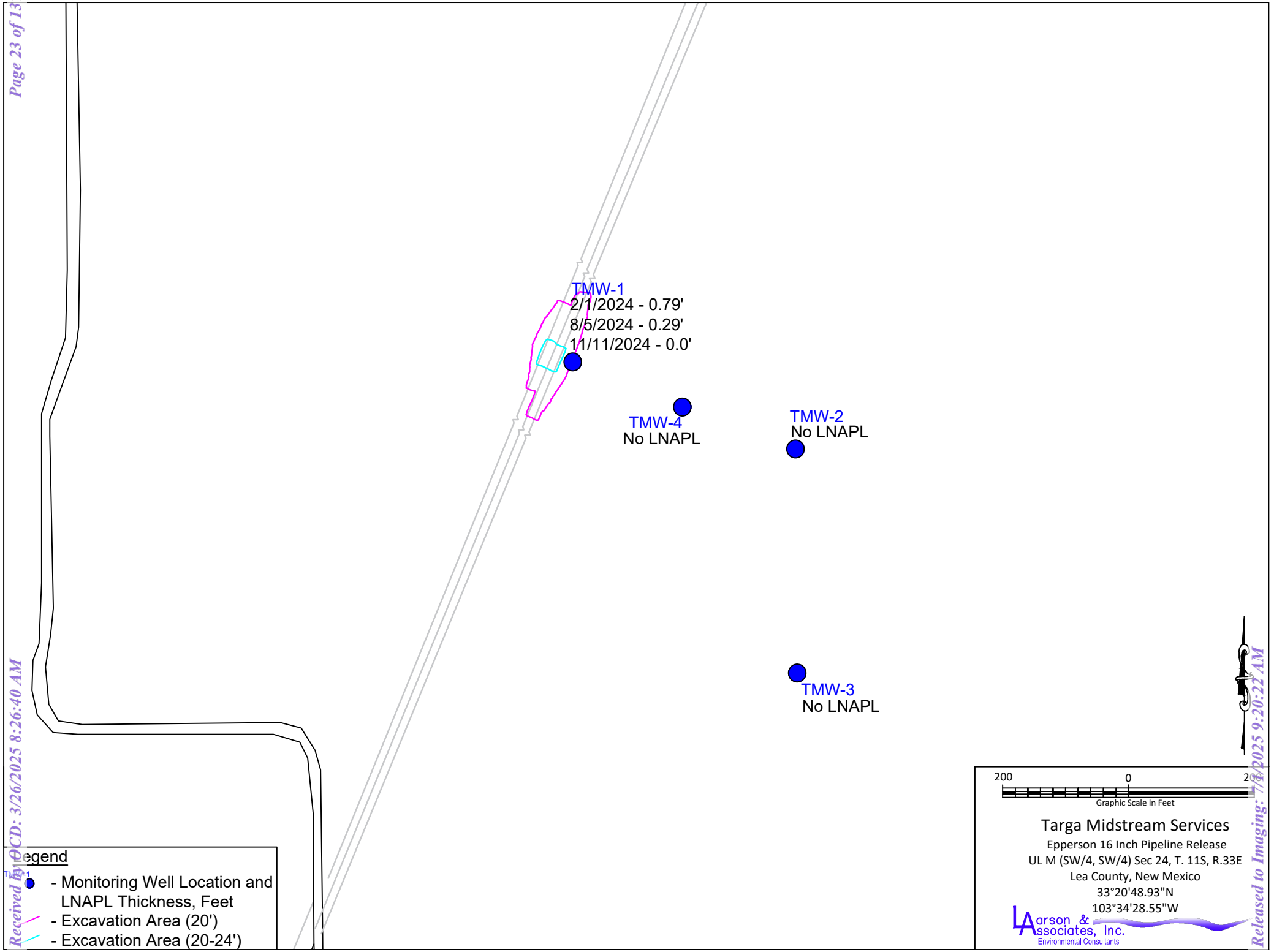

Figure 4 - LNAPL, Thickness Map

8.5" x 11"

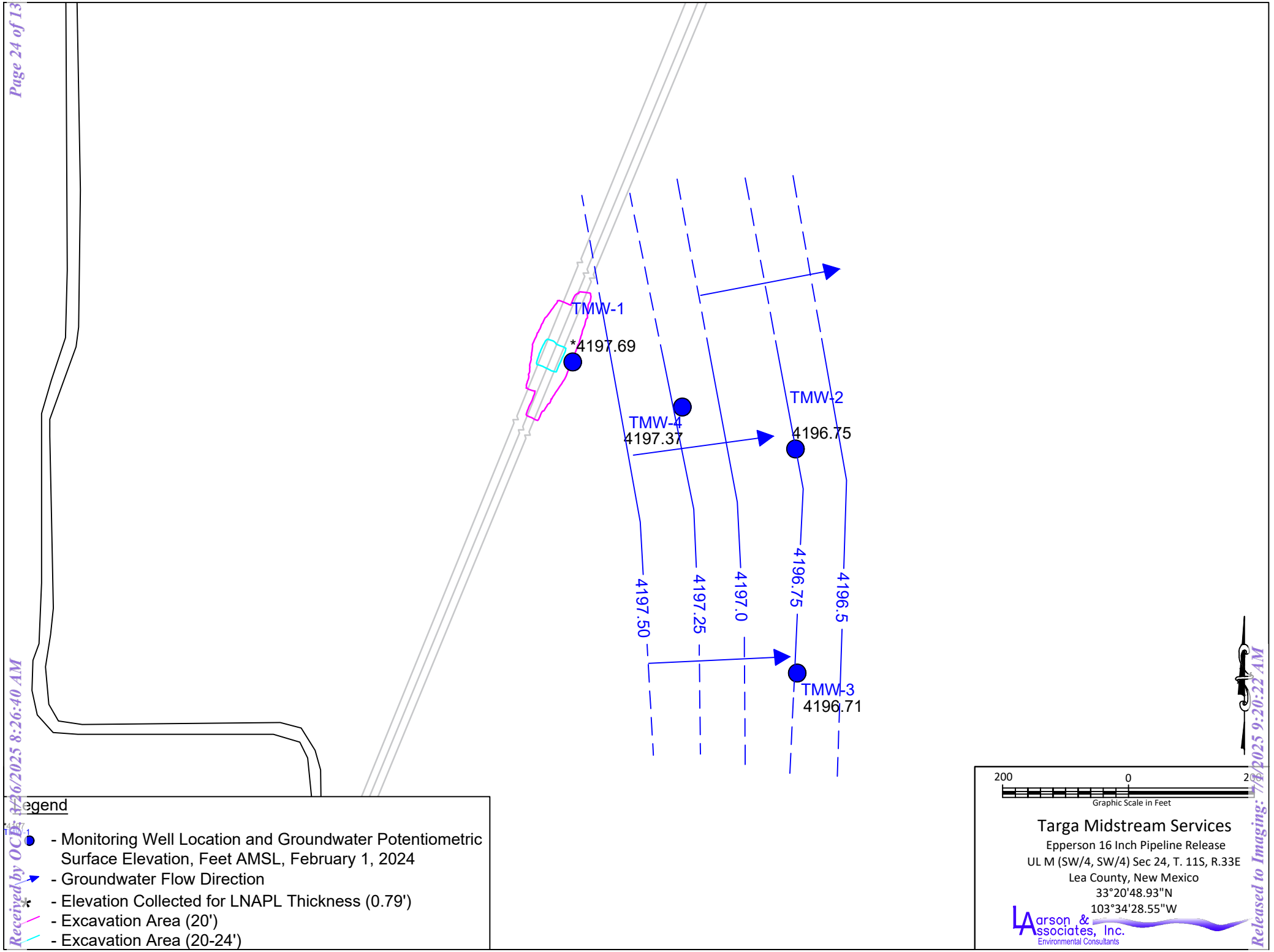

Figure 5a - Groundwater Potentiometric Surface Map, February 1, 2024

8.5" x 11"

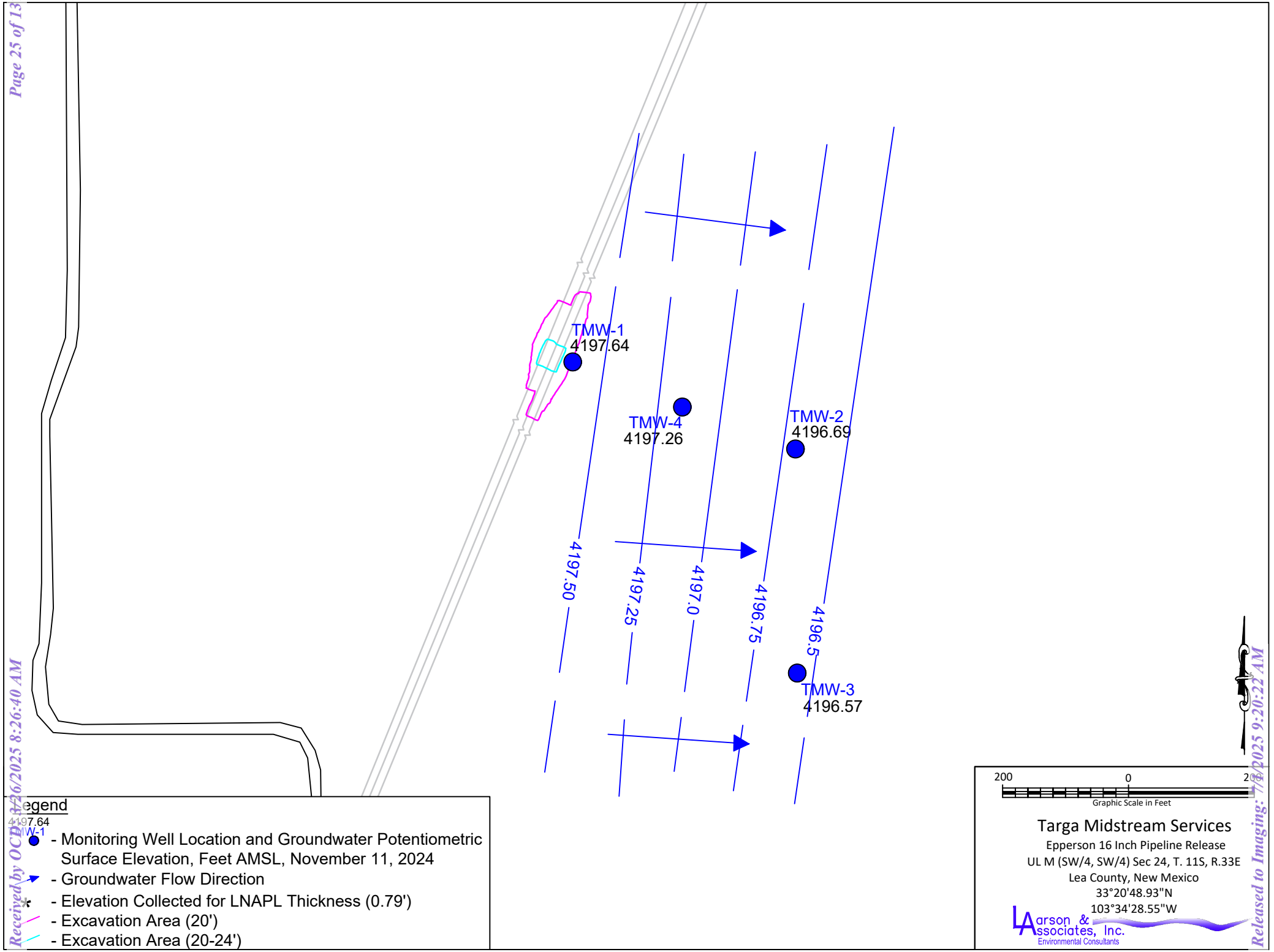

Figure 5b - Groundwater Potentiometric Surface Map, November 11, 2024

8.5" x 11"

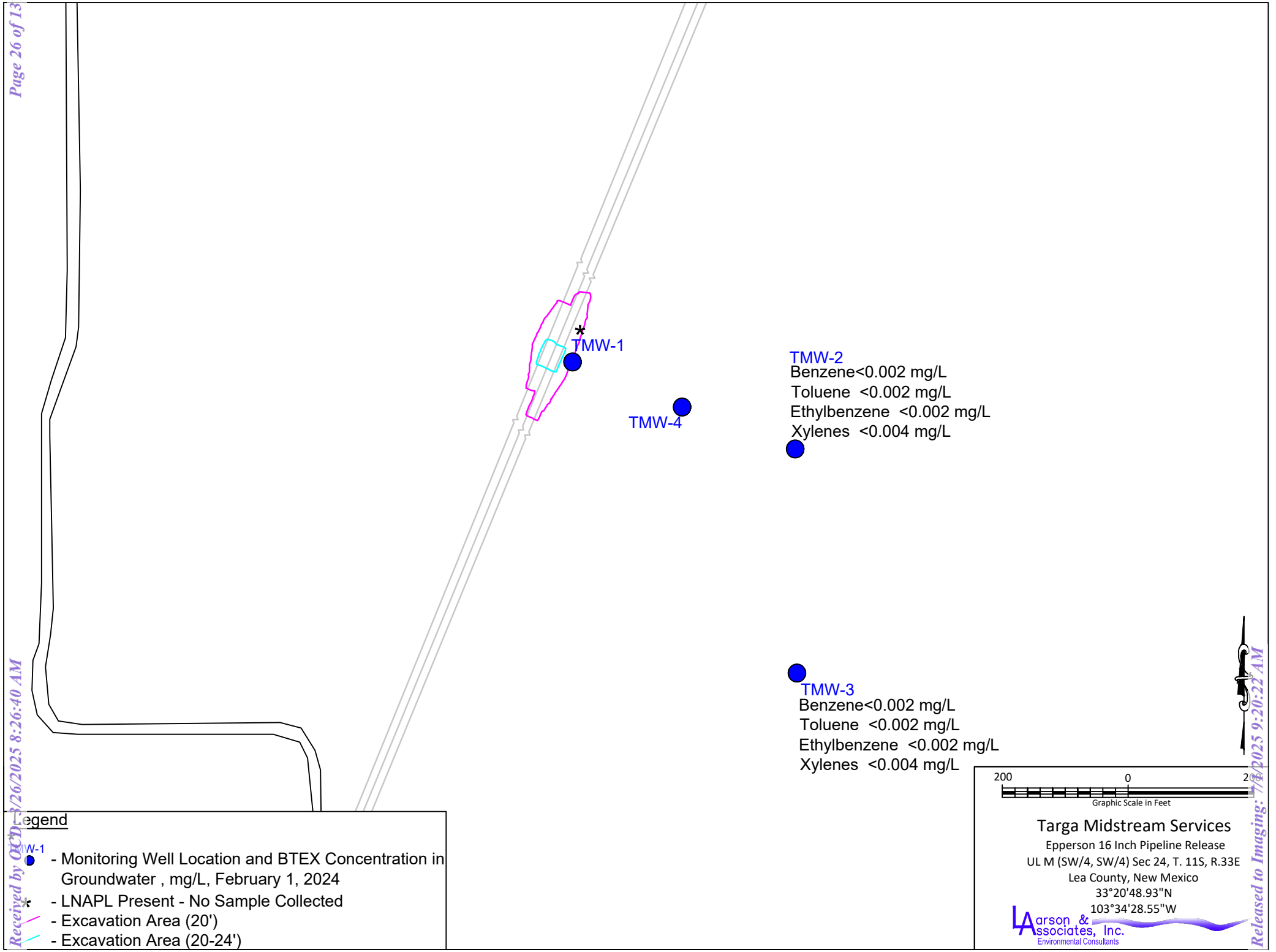

Figure 6a - BTEX Concentrations in Groundwater Map, February 1, 2024

8.5" x 11"

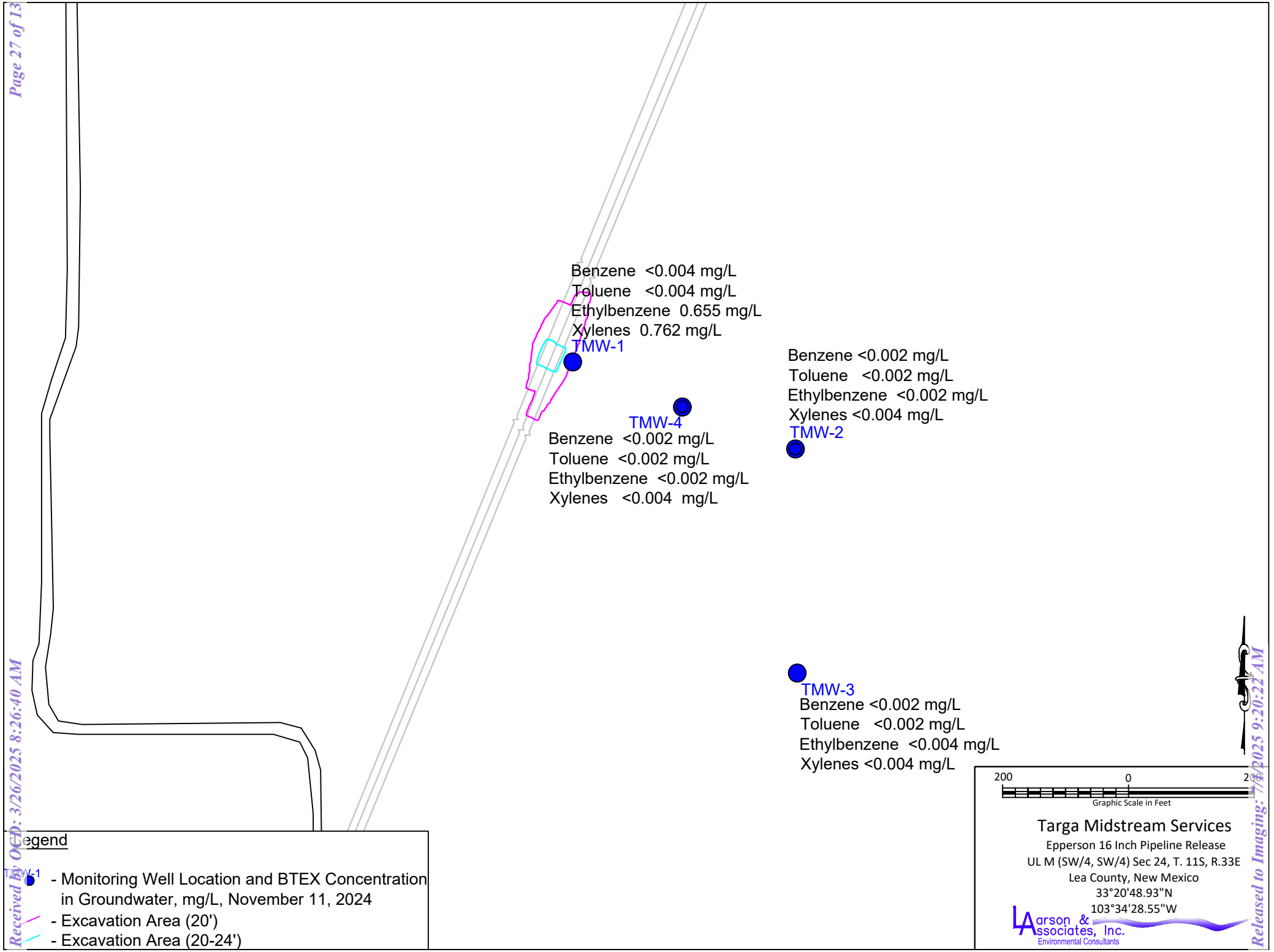

Figure 6b - BTEX Concentrations in Groundwater Map, November 11, 2024

8.5" x 11"

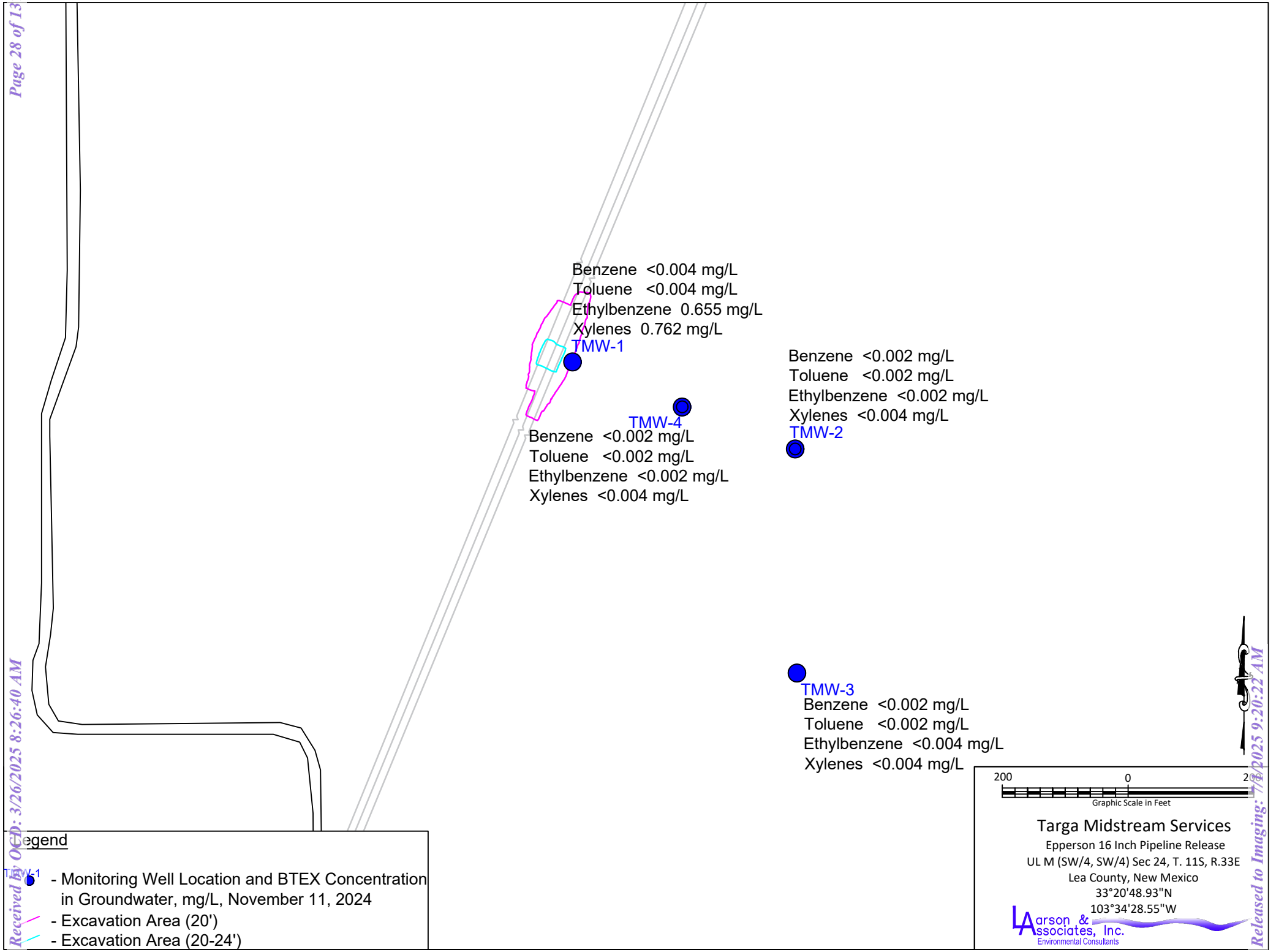

Figure 6b - BTEX Concentrations in Groundwater Map, November 11, 2024

8.5" x 11"

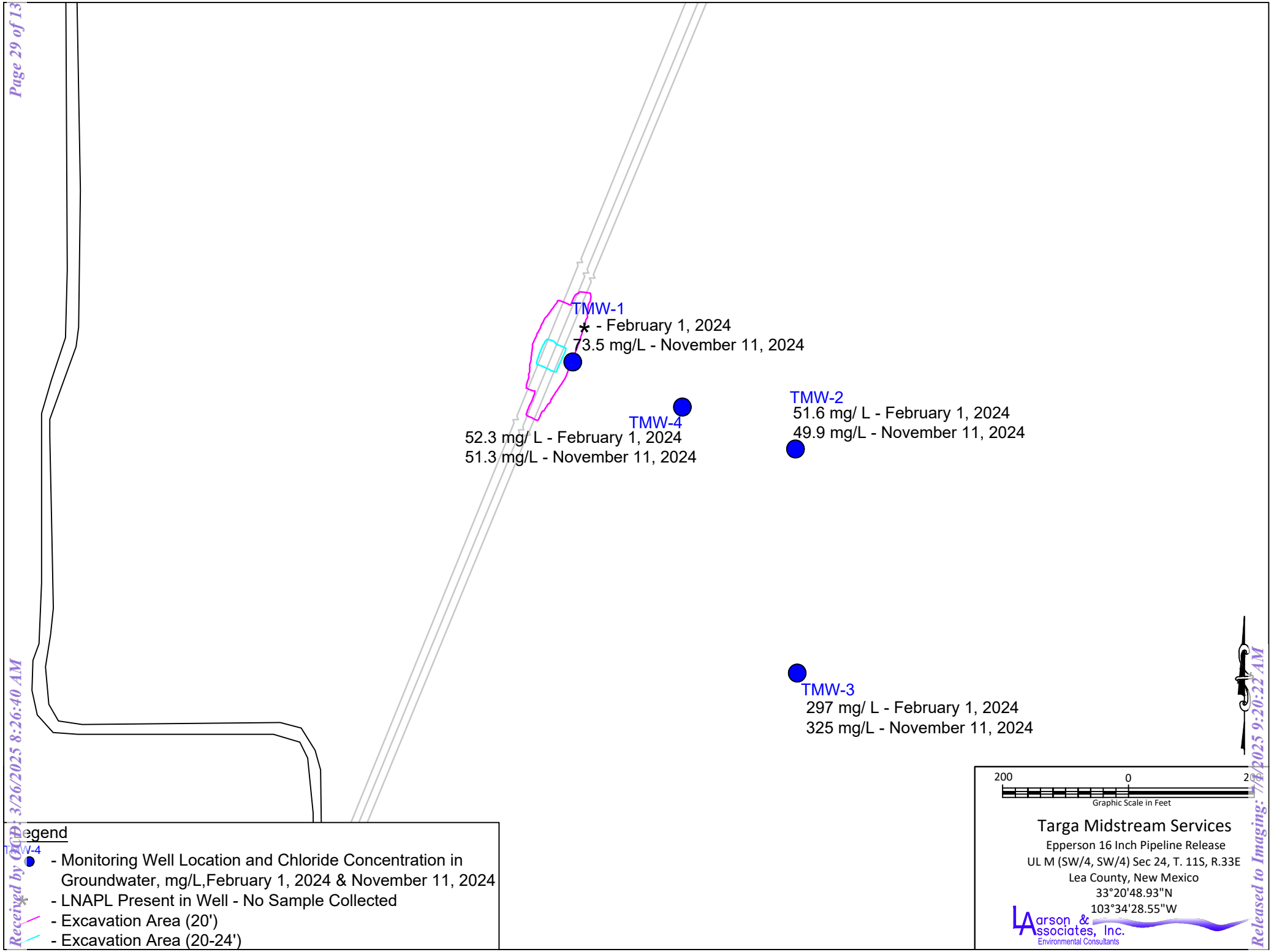

Figure 7 - Chloride Concentrations in Groundwater Map

8.5" x 11"

Appendix A

NMOCD Communications

From: Griswold, Jim, EMNRD <Jim.Griswold@emnrd.nm.gov>
Sent: Thursday, January 12, 2023 2:07 PM
To: Mark Larson <Mark@laenvironmental.com>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Subject: FW: [EXTERNAL] Re: 1RP-4664 - Epperson 16 Inch Pipeline Revised Groundwater Abatement Plan, Targa Midstream Services, LLC, December 1, 2022

Hi Mark,

Nelson is still with us. It appears you just typed his email address incorrectly (you forgot the "m" in "emnrd").

Jim

From: Mark Larson <Mark@laenvironmental.com>
Sent: Thursday, January 12, 2023 10:40 AM
To: Griswold, Jim, EMNRD <Jim.Griswold@emnrd.nm.gov>
Cc: Higginbotham, Christina <chigginbotham@targaresources.com>; Klein, Cynthia S. <cynthiaklein@targaresources.com>
Subject: FW: [EXTERNAL] Re: 1RP-4664 - Epperson 16 Inch Pipeline Revised Groundwater Abatement Plan, Targa Midstream Services, LLC, December 1, 2022

Hello Jim,
I am reaching out for assistance with Bradford retiring and Nelson no longer shown on the NMOCD contact list. The attached abatement plan was initially submitted to Bradford on December 5, 2022. The abatement plan was resubmitted after revising a regulatory citation but has not been uploaded the NMOCD web portal. Should we upload to the web portal?
Thank you,
Mark

From: Mark Larson
Sent: Wednesday, January 4, 2023 3:25 PM
To: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; 'Nelson.Velez@enrd.nm.gov' <Nelson.Velez@enrd.nm.gov>
Cc: Higginbotham, Christina <chigginbotham@targaresources.com>; Klein, Cindy S. <CynthiaKlein@targaresources.com>
Subject: FW: [EXTERNAL] Re: 1RP-4664 - Epperson 16 Inch Pipeline Revised Groundwater Abatement Plan, Targa Midstream Services, LLC, December 1, 2022

Hello Bradford/Nelson,
Just following up to see if you had a chance to review and approve the attached revised groundwater abatement plan for the Targa Midstream Services Epperson 16 Inch Pipeline Release site (1RP-4664/nOY1709044723) and/or if Targo needs to upload the abatement plan to the NMOCD web portal.
Thank you,

Mark J. Larson, P.G.
President/Sr. Hydrogeologist
507 N. Marienfeld St., Suite 202
Midland, Texas 79701
Office – 432-687-0901
Cell – 432- 556-8656

Fax – 432-687-0456
mark@laenvironmental.com

"Serving the Permian Basin Since 2000"

From: Mark Larson
Sent: Tuesday, December 13, 2022 1:31 PM
To: 'Billings, Bradford, EMNRD' <Bradford.Billings@emnrd.nm.gov>
Subject: RE: [EXTERNAL] Re: 1RP-4664 - Epperson 16 Inch Pipeline Revised Groundwater Abatement Plan, Targa Midstream Services, LLC, December 1, 2022

Bradford,
My oversight! Please see attached revised abatement plan.
Thank you,
Mark

From: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>
Sent: Tuesday, December 13, 2022 12:32 PM
To: Mark Larson <Mark@laenvironmental.com>
Subject: RE: [EXTERNAL] Re: 1RP-4664 - Epperson 16 Inch Pipeline Revised Groundwater Abatement Plan, Targa Midstream Services, LLC, December 1, 2022

Citation is

19.15.30.112A(7)

This keeps it in OCD and not the WQCC

Bradford

From: Mark Larson <Mark@laenvironmental.com>
Sent: Tuesday, December 13, 2022 9:37 AM
To: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>
Cc: Higginbotham, Christina <chigginbotham@targaresources.com>; cklein@targaresources.com
Subject: RE: [EXTERNAL] Re: 1RP-4664 - Epperson 16 Inch Pipeline Revised Groundwater Abatement Plan, Targa Midstream Services, LLC, December 1, 2022

Hello Bradford,
Just following up on your email to see if you've had a chance to look over the revised groundwater abatement plan and if Targa needs to upload to the NMOCD web portal.
Thank you,
Mark

From: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>
Sent: Monday, December 5, 2022 4:52 PM
To: Mark Larson <Mark@laenvironmental.com>
Subject: RE: [EXTERNAL] Re: 1RP-4664 - Epperson 16 Inch Pipeline Revised Groundwater Abatement Plan, Targa Midstream Services, LLC, December 1, 2022

I will let you know following my looksee.

Bradford

From: Mark Larson <Mark@laenvironmental.com>
Sent: Monday, December 5, 2022 3:50 PM
To: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>
Subject: RE: [EXTERNAL] Re: 1RP-4664 - Epperson 16 Inch Pipeline Revised Groundwater Abatement Plan, Targa Midstream Services, LLC, December 1, 2022

Same thought here except always good to see you. I will request Targa to upload if needed.

From: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>
Sent: Monday, December 5, 2022 4:40 PM
To: Mark Larson <Mark@laenvironmental.com>
Subject: RE: [EXTERNAL] Re: 1RP-4664 - Epperson 16 Inch Pipeline Revised Groundwater Abatement Plan, Targa Midstream Services, LLC, December 1, 2022

Hi, Way good to see you recently. Has this been uploaded to portal yet? Thanks!

Bradford

From: Mark Larson <Mark@laenvironmental.com>
Sent: Monday, December 5, 2022 3:30 PM
To: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>
Cc: Higginbotham, Christina <chigginbotham@targaresources.com>; Klein, Cynthia S. <cynthiaklein@targaresources.com>
Subject: [EXTERNAL] Re: 1RP-4664 - Epperson 16 Inch Pipeline Revised Groundwater Abatement Plan, Targa Midstream Services, LLC, December 1, 2022

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Hello Bradford,
Per our meeting on Wednesday, November 30, 2022, please find attached the revised groundwater abatement plan for the Targa Midstream Services, LLC (Targa) Epperson 16-inch pipeline release (1RP-4664). The abatement plan is submitted under the New Mexico Water Quality Control Commission (WQCC) emergency abatement provision in 20.6.2.4105(8). Please contact Christina Higginbotham with Targa at (713) 584-1396 or email chigginbothan@targaresources.com or me if you have questions. We look forward to your approval.
Respectfully,

Mark J. Larson, P.G.
President/Sr. Hydrogeologist
507 N. Marienfeld St., Suite 202
Midland, Texas 79701
Office – 432-687-0901
Cell – 432- 556-8656
Fax – 432-687-0456
mark@laenvironmental.com

<image001.png>

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Outlook

Re: Targa Midstream Services Epperson 16" Pipeline Release Draft Groundwater Abatement Plan

From Mark Larson <Mark@laenvironmental.com>
Date Wed 2/22/2023 9:15 AM
To Nelson.Velez@emnrd.nm.gov <Nelson.Velez@emnrd.nm.gov>
Cc Higginbotham, Christina <chigginbotham@targaresources.com>; Klein, Cindy S. <CynthiaKlein@targaresources.com>

1 attachment (11 MB)
Final Groundwater Abatement Plan, January 26, 2022.pdf;

Hello Nelson,
Per our recent telephone conversation please see the draft groundwater abatement plan attached for your review. The plan was submitted to Bradford Billings in January 2022 and after a telephone discussion he requested the plan to be resubmitted under the NMOCD emergency abatement provision. Please let me know if you have comments, concerns or if approved to upload to the NMOCD web portal.
Thank you,

Mark J. Larson, P.G.
President/Sr. Hydrogeologist
507 N. Marienfeld St., Suite 202
Midland, Texas 79701
Office – 432-687-0901
Cell – 432- 556-8656
Fax – 432-687-0456
mark@laenvironmental.com

Larson & Associates, Inc.
Environmental Consultants

"Serving the Permian Basin Since 2000"

From: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Sent: Friday, January 13, 2023 11:59 AM
To: Mark Larson <Mark@laenvironmental.com>
Cc: 'Barnhill, Amy D.' <ABarnhill@chevron.com>; Robert Nelson <rnelson@laenvironmental.com>
Subject: RE: [EXTERNAL] FW: Culebra Bluff SE 5 32 Fed Com 3 Background Sampling Variance Approval

Mark,

Ditto the sentiment. The pleasure was all mine. I'll plan on reviewing the early part of next week.

Have a great & enjoyable weekend.

Outlook

Approval Request - Targa Midstream Services, Epperson 16-Inch Pipeline Release Groundwater Abatement Plan, 1RP-4664, Lea County, New Mexico

From Mark Larson <Mark@laenvironmental.com>

Date Tue 7/18/2023 5:17 PM

To Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Romero, Rosa, EMNRD <RosaM.Romero@emnrd.nm.gov>; Nelson.Velez@emnrd.nm.gov <Nelson.Velez@emnrd.nm.gov>

Cc Klein, Cindy S. <CynthiaKlein@targaresources.com>; Higginbotham, Christina <chigginbotham@targaresources.com>

1 attachment (11 MB)

Revised Final Groundwater Abatement Plan, December 1, 2022 (July 18, 2023).pdf;

Hello Mike,
I'm following per our telephone conversation last week regarding approval to proceed with the public and landowner notices for the attached groundwater abatement plan for 1RP-4664 (Targa Midstream Services Epperson 16 Inch Pipeline Release) in Lea County, New Mexico. Nelson Valez stated in a call that he had approved the groundwater abatement plan and forwarded to you and Ms. Rosa Romero for final approval. Your consideration and approval of the groundwater abatement plan is requested and greatly appreciated. Please contact Ms. Christina Higginbotham (chigginbotham@targaresources.com), Cindy Klein (CynthiaKlein@targaresources.com) or me if you have questions.
Respectfully,

Mark J. Larson, P.G.
President/Sr. Hydrogeologist
507 N. Marienfeld St., Suite 202
Midland, Texas 79701
Office – 432-687-0901
Cell – 432- 556-8656
Fax – 432-687-0456
mark@laenvironmental.com

Larson & Associates, Inc.
Environmental Consultants

Outlook

Re: [EXTERNAL] Re: Epperson 16-inch Pipeline Release (1RP-4664/nOY1709044723) Monitoring Well Installation and Groundwater Sample Collection Notification

From Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Date Fri 11/3/2023 8:41 AM
To Mark Larson <Mark@laenvironmental.com>
Cc Higginbotham, Christina <chigginbotham@targaresources.com>; Klein, Cynthia S. <cynthiaklein@targaresources.com>; Robert Nelson <rnelson@laenvironmental.com>; Daniel St. Germain <dstgermain@laenvironmental.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>

Good morning Mark,

Thank you for the notice. If an OCD representative is not on-site on the date &/or time given, please proceed with your sampling. For whatever reason, the sample collection timeframe is altered, please notify the OCD as soon as possible so we may adjust our schedule(s). Failure to notify the OCD of the rescheduling may result in the sample(s) not being accepted.

Please keep a copy of this communication for inclusion within the appropriate reporting documentation.

Thanks again!

Regards,

Nelson Velez • Environmental Specialist - Adv
Environmental Bureau | EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87410
(505) 469-6146 | nelson.velez@emnrd.nm.gov
http://www.emnrd.state.nm.us/OCD/

From: Mark Larson <Mark@laenvironmental.com>
Sent: Thursday, November 2, 2023 4:12 PM
To: Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: Higginbotham, Christina <chigginbotham@targaresources.com>; Klein, Cynthia S. <cynthiaklein@targaresources.com>; Robert Nelson <rnelson@laenvironmental.com>; Daniel St. Germain <dstgermain@laenvironmental.com>

Subject: [EXTERNAL] Re: Epperson 16-inch Pipeline Release (1RP-4664/nOY1709044723) Monitoring Well Installation and Groundwater Sample Collection Notification

Nelson Velez, NMOCD Aztec
Mike Bratcher, NMOCD Artesia

This message is submitted to the New Mexico Oil Conservation Division (OCD) on behalf of Targa Resources (Targa) to provide notice that personnel from Larson & Associates, Inc. (LAI) will be at the Epperson 16-Inch Pipeline Release (1RP-4664/nOY1709044723) on November 13, 2023, at approximately 10:00am MST for the purpose of installing one (1) groundwater monitoring well (TMW-4) per the OCD approved groundwater abatement plan. The well will be developed the following day (November 14, 2023) and groundwater samples will be collected on November 17, 2023, and will be analyzed for BTEX and chloride. The first SVE extraction event is scheduled to commence on December 4, 2023. Please feel free to contact Christina Higginbotham with Targa at (713) 584-1396 or email chigginbotham@targaresources.com, Cindy Klein with Targa at (575) 631-7093 or email cklein@targaresources.com, Mark Larson at (432)687-0901 or email mark@laenvironmental.com or me if you have any questions.

Thank you,

Robert Nelson
Project Manager
Office – 432-687-0901
Cell – 432-664-4804
rnelson@laenvironmental.com
Larson & Associates, Inc.
Environmental Consultants

Outlook

FW: Epperson 16-inch Pipeline Release (1RP-4664/nOY1709044723) Monitoring Well Installation and Groundwater Sample Collection Notification

From Mark Larson <Mark@laenvironmental.com>
Date Tue 11/21/2023 1:15 PM
To Rainey, Colton D. <crainey@targaresources.com>; Higginbotham, Christina <chigginbotham@targaresources.com>; Klein, Cindy S. <CynthiaKlein@targaresources.com>

From: Mark Larson
Sent: Thursday, November 2, 2023 5:13 PM
To: Nelson.Velez@emnrd.nm.gov; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: Higginbotham, Christina <chigginbotham@targaresources.com>; Klein, Cindy S. <CynthiaKlein@targaresources.com>; Robert Nelson <rnelson@laenvironmental.com>; Daniel St. Germain <dstgermain@laenvironmental.com>
Subject: Re: Epperson 16-inch Pipeline Release (1RP-4664/nOY1709044723) Monitoring Well Installation and Groundwater Sample Collection Notification

Nelson Velez, NMOCD Aztec
Mike Bratcher, NMOCD Artesia

This message is submitted to the New Mexico Oil Conservation Division (OCD) on behalf of Targa Resources (Targa) to provide notice that personnel from Larson & Associates, Inc. (LAI) will be at the Epperson 16-Inch Pipeline Release (1RP-4664/nOY1709044723) on November 13, 2023, at approximately 10:00am MST for the purpose of installing one (1) groundwater monitoring well (TMW-4) per the OCD approved groundwater abatement plan. The well will be developed the following day (November 14, 2023) and groundwater samples will be collected on November 17, 2023, and will be analyzed for BTEX and chloride. The first SVE extraction event is scheduled to commence on December 4, 2023. Please feel free to contact Christina Higginbotham with Targa at (713) 584-1396 or email chigginbotham@targaresources.com, Cindy Klein with Targa at (575) 631-7093 or email cklein@targaresources.com, Mark Larson at (432)687-0901 or email mark@laenvironmental.com or me if you have any questions.

Thank you,

Robert Nelson
Project Manager
Office – 432-687-0901
Cell – 432-664-4804
rnelson@laenvironmental.com
Larson & Associates, Inc.
Environmental Consultants

Outlook

Fw: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 78564

From Mark Larson <Mark@laenvironmental.com>
Date Wed 2/26/2025 10:24 AM
To Mark Larson <Mark@laenvironmental.com>

From: Higginbotham, Christina M. <chigginbotham@targaresources.com>
Sent: Wednesday, February 26, 2025 10:02 AM
To: Mark Larson <Mark@laenvironmental.com>
Subject: FW: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 78564

Can you please send me proof of public notice for Epperson as well?

From: Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>
Sent: Wednesday, February 26, 2025 10:01 AM
To: Higginbotham, Christina M. <chigginbotham@targaresources.com>
Subject: RE: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 78564

Good morning, Christina

I went ahead and uploaded the approval letter, so it is now part of the record, and I made a note that it was approved on 08/29/2023. When you have a chance to upload the proof of distribution for the public notice, would you please let me know that way it's also on record?

Thank you,

Mike

From: Higginbotham, Christina M. <chigginbotham@targaresources.com>
Sent: Tuesday, February 25, 2025 1:02 PM
To: Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>
Subject: FW: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 78564

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Tuesday, February 25, 2025 12:44 PM
To: Higginbotham, Christina M. <chigginbotham@targaresources.com>
Subject: [EXTERNAL] The Oil Conservation Division (OCD) has rejected the application, Application ID: 78564

To whom it may concern (c/o Christina Higginbotham for TARGA MIDSTREAM SERVICES LLC),
The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nOY1709044723,
for the following reasons:

- **Review of the January 20, 2022 Groundwater Abatement Plan is not approved based on the missing information, please revise and resubmit in thirty (30) days. 1. Please include more information on the disposal process for excavation derived waste. Recovery waste must also be clearly defined and sent to an approved OCD waste facility. If placed in an SWD well for disposal, please provide more detail on which one and where. 2. Please revise the sections 2.0 and 3.0, as both state "Stage 1 Abatement." 3. Add a discussion on seasonal variability. 4. If available, please include most recent sampling results and data through 2024. 5. Resubmit the stage 1 & stage 2 abatement plan to OCD in thirty (30) days from today, no later than March 26, 2025.**

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 78564.
Please review and make the required correction(s) prior to resubmitting.
If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.
Thank you,
Michael Buchanan
Environmental Specialist
505-490-0798
Michael.Buchanan@emnrd.nm.gov
New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Appendix B

Affidavits of Notice Publication

PUBLIC NOTICE OF 30-DAY PUBLIC COMMENT PERIOD FOR STAGE 2 ABATEMENT PLAN FOR THE EPPERSON 16-INCH PIPELINE RELEASE

Targa Midstream Services, LLC, a subsidiary of Targa Resources Corp., has issued for public comment a Stage 2 Abatement Plan for the Epperson 16-Inch Pipeline release located about 15-miles west of Tatum, in Lea County, New Mexico. On March 31, 2017, the New Mexico Oil Conservation Division (NMOCD) issued the release incident number nOY1770904723 and remediation permit number 1RP-

RGAMIDSTREAMSERVICESLLCASUBSIDIARY

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO

County of Bernalillo SS

Wayne Barnard, the undersigned, authorized Representative of the Albuquerque Journal, on oath states that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, that payment therefore has been made of assessed as court cost; and that the notice, copy of which is hereto attached, was published in said paper in the regular daily edition, for 1 time(s) on the following date(s):

09/02/2023

Sworn and subscribed before me, a Notary Public, in and for the County of Bernalillo and State of New Mexico this 5 day of September of 2023

PRICE $134.53

Statement to come at the end of month.

ACCOUNT NUMBER 1108393

STATE OF NEW MEXICO
NOTARY PUBLIC
DAVID LINDSEY MONTOYA
COMMISSION NUMBER 1140229
EXPIRATION DATE 04-26-2027

David L Montoya

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
September 03, 2023
and ending with the issue dated
September 03, 2023.

Publisher

Sworn and subscribed to before me this
3rd day of September 2023.

Business Manager

My commission expires
January 29, 2027

(Seal) STATE OF NEW MEXICO
NOTARY PUBLIC
GUSSIE RUTH BLACK
COMMISSION # 1087526
COMMISSION EXPIRES 01/29/2027

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said publication has been made.

LEGAL NOTICE
September 3, 2023

PUBLIC NOTICE OF 30-DAY PUBLIC COMMENT PERIOD FOR STAGE 2 ABATEMENT PLAN FOR THE EPPERSON 16-INCH PIPELINE RELEASE

Targa Midstream Services, LLC, a subsidiary of Targa Resources Corp., has issued for public comment a Stage 2 Abatement Plan for the Epperson 16-Inch Pipeline release located about 15-miles west of Tatum, in Lea County, New Mexico. On March 31, 2017, the New Mexico Oil Conservation Division (NMOCD) issued the release incident number nOY17709044723 and remediation permit number 1RP-4664. The Stage 2 Abatement Plan summarizes environmental investigations, monitoring, soil remediation, describes current conditions, and need for abatement, as wells as the proposed abatement plan and implementation details.

The NMOCD Director has reviewed the Stage 2 Abatement Plan and determined that the Plan is administratively complete. The NMOCD Director has complied with Subsection B of 19.15.30.15 of the New Mexico Administrative Code by reviewing the document and concluding that it satisfies the requirements of Subsection C of 19.15.30.13.

The public may view the Stage 2 Abatement Plan electronically on the NMOCD public database at https://wwwapps.emnrd.nm.gov/OCD/OCDPermitting/Data/Incidents/Incidents.aspx. Enter nOY1709044723 in the Incident ID box, then scroll to the bottom of the page and click on Continue. To find the Stage 2 Abatement Plan, click on application ID 78564 dated March 30, 2023. The Stage 2 Abatement Plan can also be viewed by contacting the NMOCD office listed below.

NMOCD is accepting written comments and requests for public hearing that include reasons why a hearing should be held. Before approving the Stage 2 Abatement Plan, NMOCD will consider comments and requests if received within 30 days after publication of this public notice.

Please submit written comments by October 3, 2023, to Nelson Velez, Environmental Specialist, New Mexico Oil Conservation Division, 5200 Oakland Avenue, NE Suite 100, Albuquerque, NM 87113 or via email at nelson.velez@emnrd.nm.gov. The responsible party's address is Targa Resources Corp., Christina Higginbotham, 811 Louisiana Street, Suite 2100, Houston, Texas 77002.

This notice was publish.ad on or near September 3, 2023, in the Albuquerque Journal and Hobbs News-Sun newspapers.
#00282339

02105581 00282339

MARK LARSON
LARSON AND ASSOCIATES
507 NORTH MARIENFELD STE 202
MIDLAND, TX 79701

State of New Mexico
Energy, Minerals and Natural Resources Department

Christina Higginbotham
Targa Midstream Services, LLC
811 Louisiana Street, Ste 2100
Houston, TX 77002

RE: Determination of Administratively Complete Stage 2 Abatement Plan for Epperson 16" Pipeline Incident #s NOY1709044723; Application ID: 78564; Admin. Order #: 1RP-4664

Ms. Higginbotham:

Oil Conservation Division (OCD) received a Stage 2 Abatement Plan as well as a Proposed Public Notice and Participation submittal prepared for Targa Midstream Services, LLC's (Targa) on behalf by Larson & Associates, dated February 4, 2022.

We have reviewed the plan and determined it to be administratively complete.

The OCD also approves the draft of the Public Notice and Participation Proposal. The required public notice and participation should now proceed under the provisions of Subsections A and B of 19.15.30.15 NMAC.

Pursuant to 19.15.30.15 Subsection A, paragraph (7), please ***provide a copy of proof of public notice distribution to the OCD.***

Stage 2 abatement plan document satisfies the requirements of Paragraph (2) of Subsection D of 19.15.30.13 NMAC. ***Proof of notice to be provided to the OCD.***

The division shall distribute notice of the abatement plan's filing with the next division and commission hearing docket.

If you have any questions, please contact Mike Buchanan of the Environmental Incident Group at (505) 490-0798 or by email at *michael.buchanan@emnrd.nm.gov*

On behalf of the OCD, I wish to thank you and your staff for your cooperation during this remediation and abatement process.

Respectfully,

Michael Buchanan

Mike Buchanan
Environmental Specialist-Adv.

Date: 08/29/2023

Appendix C

NMOSE Well Permit

Mike A. Hamman, P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 761593
File Nbr: L 15724

Jun. 12, 2024

CHRISTINA HIGGINBOTHAM
TARGA RESOURCES INC
811 LOUISIANA SUITE 2100
HOUSTON, TX 77002

Greetings:

Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

* If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.

* If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.

* The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.

* This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us.

Sincerely,

Azucena Ramirez
(575)622-6521

Enclosure

explore

File No. L-15724 POD1

NEW MEXICO OFFICE OF THE STATE ENGINEER

WR-07 APPLICATION FOR PERMIT TO DRILL

A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: http://www.ose.state.nm.us/

Purpose:	☐ Pollution Control And/Or Recovery	☐ Ground Source Heat Pump
☐ Exploratory Well*(Pump test)	☐ Construction Site/Public Works Dewatering	☐ Other(Describe):
☒ Monitoring Well	☐ Mine Dewatering	

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

*New Mexico Environment Department-Drinking Water Bureau (NMED-DWB) will be notified if a proposed exploratory well is used for public water supply.

☐ Temporary Request - Requested Start Date: Requested End Date:

Plugging Plan of Operations Submitted? ☐ Yes ☐ No

1. APPLICANT(S)

Name: Targa Resources, Inc.	Name:
Contact or Agent: check here if Agent ☐ Christina Higginbotham	Contact or Agent: check here if Agent ☐
Mailing Address: 811 Louisiana, Suite 2100	Mailing Address:
City: Houston	City:
State: TX Zip Code: 77002	State: Zip Code:
Phone: (281) 620-7835 ☐ Home ☒ Cell Phone (Work): (713) 584-1396	Phone: ☐ Home ☐ Cell Phone (Work):
E-mail (optional): chigginbotham@targaresources.com	E-mail (optional):

RCVD JUN 10 2024 2:23

FOR OSE INTERNAL USE	Application for Permit, Form WR-07, Rev 07/12/22	
File No.: L-15724	Trn. No.: 761593	Receipt No.: 2-46372
Trans Description (optional): MON		
Sub-Basin: L	PCW/LOG Due Date: 6/12/25	

2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

☐ NM State Plane (NAD83) (Feet)
☐ NM West Zone
☐ NM East Zone
☐ NM Central Zone

☐ UTM (NAD83) (Meters)
☐ Zone 12N
☐ Zone 13N

☒ Lat/Long (WGS84) (to the nearest 1/10th of second)

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (*Quarters or Halves , Section, Township, Range*) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
L-15724 POD1 TMW-4	103° 34 26.31 W	33° 20 48.16 N	Unit M (SW/4, SW/4), S.24, T.11S, R33E, Lea County, NM

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
Additional well descriptions are attached: ☐ Yes ☒ No **If yes, how many**

Other description relating well to common landmarks, streets, or other:

Well is on land owned by: Ricky Pearce and Pearce Trust

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. **Attached?** ☐ Yes ☐ No
If yes, how many

Approximate depth of well (feet): 35 - 40	Outside diameter of well casing (inches): 2.00
Driller Name: Lane Scarborough	Driller License Number: WD-1188

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Well will be used to monitor groundwater for up to 2 years

FOR OSE INTERNAL USE Application for Permit, Form WR-07 Version 07/12/22

File No.: L-15724 Trn No.: 761593

4. **SPECIFIC REQUIREMENTS:** The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application.

Exploratory:	**Pollution Control and/or Recovery:**	**Construction De-Watering:**	**Mine De-Watering:**
Is proposed well a future public water supply well? ☐ Yes ☐ NO If Yes, an application must be filed with NMED-DWB, concurrently. ☐ Include a description of the requested pump test if applicable.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for the pollution control or recovery operation. ☐ The estimated maximum period of time for completion of the operation. ☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. ☐ The method and place of discharge. ☐ The method of measurement of water produced and discharged. ☐ The source of water to be injected. ☐ The method of measurement of water injected. ☐ The characteristics of the aquifer. ☐ The method of determining the resulting annual consumptive use of water and depletion from any related stream system. ☐ Proof of any permit required from the New Mexico Environment Department. ☐ An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	☐ Include a description of the proposed dewatering operation, ☐ The estimated duration of the operation, ☐ The maximum amount of water to be diverted, ☐ A description of the need for the dewatering operation, and, ☐ A description of how the diverted water will be disposed of.	☐ Include a plan for pollution control/recovery, that includes the following ☐ A description of the need for mine dewatering. ☐ The estimated maximum period of time for completion of the operation. ☐ The source(s) of the water to be diverted. ☐ The geohydrologic characteristics of the aquifer(s). ☐ The maximum amount of water to be diverted per annum. ☐ The maximum amount of water to be diverted for the duration of the operation. ☐ The quality of the water. ☐ The method of measurement of water diverted ☐ The recharge of water to the aquifer ☐ Description of the estimated area of hydrologic effect of the project ☐ The method and place of discharge. ☐ An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. ☐ A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐ Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.
Monitoring ☒ The reason and duration of the monitoring is required.		**Ground Source Heat Pump:** ☐ Include a description of the geothermal heat exchange project, ☐ The number of boreholes for the completed project and required depths ☐ The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. ☐ Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	

ACKNOWLEDGEMENT

I, We (name of applicant(s)), Christina Higginbotham
Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER

This application is:

☑ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 12th day of June 20 24, for the State Engineer,

Mike A. Hamman, P.E., State Engineer

By K.Parekh
Signature

Kashyap Parekh
Print

Title Water Resources Manager I
Print

FOR OSE INTERNAL USE Application for Permit, Form WR-07 Version 07/12/22

File No. L-15724 Trn No. 761593

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

17-16 Construction of a water well by anyone without a valid New Mexico Well Driller License is illegal, and the landowner shall bear the cost of plugging the well by a licensed New Mexico well driller. This does not apply to driven wells, the casing of which does not exceed two and three-eighths inches outside diameter.

17-1B Depth of the well shall not exceed the thickness of the Ogallala formation.

17-4 No water shall be appropriated and beneficially used under this permit.

17-6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging.

Trn Desc: L 15724 POD1 File Number: L 15724
Trn Number: 761593

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.

17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.
The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.

17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.

17-Q The State Engineer retains jurisdiction over this permit.

17-R Pursuant to section 72-8-1 NMSA 1978, the permittee shall allow the State Engineer and OSE representatives entry upon private property for the performance of their respective duties, including access to the ditch or acequia to measure flow and also to the well for meter reading and water level measurement.

Trn Desc: L 15724 POD1

File Number: L 15724
Trn Number: 761593

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

LOG The Point of Diversion L 15724 POD1 must be completed and the Well Log filed on or before 06/12/2025.

ACTION OF STATE ENGINEER

Notice of Intention Rcvd:	Date Rcvd. Corrected:
Formal Application Rcvd: 06/10/2024	Pub. of Notice Ordered:
Date Returned - Correction:	Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 12 day of Jun A.D., 2024

Mike A. Hamman, P.E., State Engineer

By: K. Parekh
KASHYAP PAREKH

Trn Desc: L 15724 POD1

File Number: L 15724
Trn Number: 761593

page: 3

OFFICE OF THE STATE ENGINEER/INTERSTATE STREAM COMMISSION – ROSWELL OFFICE

OFFICIAL RECEIPT NUMBER: 2 - 46372 DATE: 11-8-23 FILE NO.: New

TOTAL: 5.00 RECEIVED: five DOLLARS CHECK NO.: 185102 CASH: _____

PAYOR: Targa Resources, INC. ADDRESS: 811 Louisiana, Suite 2100 CITY: Houston STATE: TX

ZIP: 77002 RECEIVED BY: VC

INSTRUCTIONS: Indicate the number of actions to the left of the appropriate type of filing. Complete the receipt information. **Original** to payor; **pink** copy to Program Support/ASD; and **yellow** copy for Water Rights. If a mistake is made, void the original and all copies and submit to Program Support/ASD as part of your daily deposit.

A. Ground Water Filing Fees

___	1. Change of Ownership of Water Right	$ 2.00
___	2. Application to Appropriate or Supplement Domestic 72-12-1 Well	$ 125.00
___	3. Application to Repair or Deepen 72-12-1 Well	$ 75.00
___	4. Application for Replacement 72-12-1 Well	$ 75.00
___	5. Application to Change Purpose of Use 72-12-1 Well	$ 75.00
___	6. Application for Stock Well/Temp. Use	$ 5.00
___	7. Application to Appropriate Irrigation, Municipal, or Commercial Use	$ 25.00
___	8. Declaration of Water Right	$ 1.00
___	9. Application for Additional Point of Diversion Non 72-12-1 Per Well	$ 25.00
___	10. Application to Change Place or Purpose of Use Non 72-12-1 Well	$ 25.00
___	11. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Ground Water	$ 50.00
___	12. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Ground Water	$ 50.00
___	13. Application to Change Point of Diversion of Non 72-12-1 Well	$ 25.00
___	14. Application to Repair or Deepen Non 72-12-1 Well	$ 5.00
1	15. Application for Test, Expl. Observ. Well	$ 5.00
___	16. Application for Extension of Time	$ 25.00
___	17. Proof of Application to Beneficial Use	$ 25.00
___	18. Notice of Intent to Appropriate	$ 25.00

B. Surface Water Filing Fees

___	1. Change of Ownership of a Water Right	$ 5.00
___	2. Declaration of Water Right	$ 10.00
___	3. Amended Declaration	$ 25.00
___	4. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Surface Water	$ 200.00
___	5. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Surface Water	$ 200.00
___	6. Application to Change Point of Diversion	$ 100.00
___	7. Application to Change Place and/or Purpose of Use	$ 100.00
___	8. Application to Appropriate	$ 25.00
___	9. Notice of Intent to Appropriate	$ 25.00
___	10. Application for Extension of Time	$ 50.00
___	11. Supplemental Well to a Surface Right	$ 100.00
___	12. Return Flow Credit	$ 100.00
___	13. Proof of Completion of Works	$ 25.00
___	14. Proof of Application of Water to Beneficial Use	$ 25.00
___	15. Water Development Plan	$ 100.00
___	16. Declaration of Livestock Water Impoundment	$ 10.00
___	17. Application for Livestock Water Impoundment	$ 10.00

All fees are non-refundable.

C. Well Driller Fees

___	1. Application for Well Driller's License	$ 50.00
___	2. Application for Renewal of Well Driller's License	$ 50.00
___	3. Application to Amend Well Driller's License	$ 50.00

D. Reproduction of Documents

___ @ 0.25¢ $_____

___ Map(s) @ $3.00 $_____

E. Certification $_____

F. Other $_____

G. Comments:

Mail

Appendix D

TMW-4

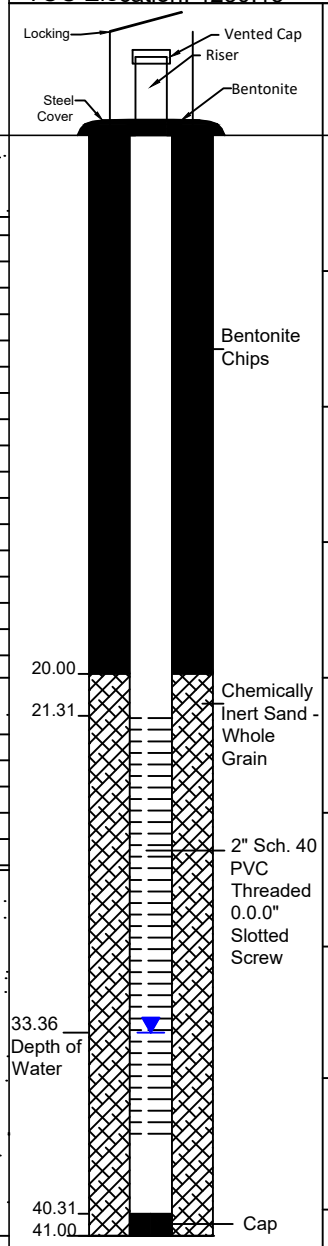
Geologic Log and Well Completion Diagram

BORING RECORD

Start: 10:19
Finish: 11:30

Surface Elevation: 4227.42
TOC Elecation: 4230.15

GEOLOGIC UNIT	DEPTH	DESCRIPTION LITHOLOGIC	DESCRIPTION USCS
	0	Sand, 7.5 YR 4/3, Brown, Well Sorted, Well Rounded, Top Soil	SP
	5	Caliche, 7.5 YR 8/4, Pink, Well Cemented	Caliche
	10	Caliche, 7.5 YR 8/4, Pink, Loosely Cemented	
	15		
	20	Sandstone, 7.5 YR 8/2, Pinkish White, Well Sorted, Medium to Coarse Grained Quartz Sand	SP
	25	Caliche, 7.5 YR 8/4, Pink, Fine Coarse Grained Quatz Sand, Loosely Cemented	Caliche
DTW: 33.36	30	Sand, 7.5YR 6/4, Light Brown, Fine Grained, Moderately Sorted with 5-10mm Quartz Clasts, Moist	SW
	35		
	40	TD: 41'	
	45		
	50		



NUMBER	RECOVERY	DEPTH
		5
		10
		15
		20
		25
		30
		35
		40

REMARKS

DRILLING TIME

SOIL :
SOIL :

10:19

11:30

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 : Targa/ 23-0115-01
HOLE DIAMETER : 5"
LOCATION : Epperson 16"
LAI GEOLOGIST : R. Nelson
DRILLING CONTRACTOR : SDI
DRILLING METHOD : Air Rotary

Larson & Associates, Inc. Environmental Consultants

DRILL DATE : 11/13/2023

BORING NUMBER : TMW-4

Appendix E

EcoVac Reports

ECOVAC SERVICES
The World Leader in Mobile Dual-Phase/Multi-Phase Extraction
Patented SURFAC®/COSOLV®/ISCO-EFR®
Treatability Testing/Research and Development

August 13, 2024

Mr. Mark Larson
President
Larson & Associates, Inc.
507 N Marienfeld St #205
Midland, Texas 79701-4356
Mark@laenvironmental.com

Subject: **Enhanced Fluid Recovery (EFR®) Report**
August 05 through 07, 2024
Targa Midstream Services
Epperson 16 Inch Pipeline Release
Lea County, New Mexico

Dear Mr. Larson:

Please find attached the data summary for the EFR® remediation conducted at the subject site on August 05 thru 07, 2024. The EFR® remediation was implemented in well TMW-1. EFR® is a mobile multi-phase/dual-phase extraction technology shown to be effective for mass removal of hydrocarbons in the soils/groundwater.

August 05, 2024

EFR® was performed for 8.0 hours at well TMW-1 for this event. Separate-phase hydrocarbons (SPH) were detected in well TMW-1, at a thickness of 0.29' prior to conducting this event. SPH was not detected in well TMW-1 upon conclusion of this event.

A calculated total of 45.8 pounds of petroleum hydrocarbons (approximately 7.6 equivalent gallons of hydrocarbon) in vapor concentrations were removed during this EFR® event on August 05, 2024.

The hydrocarbon vapor extraction removal rate varied from a high of 15.7 pounds per hour at the beginning of the event, to a low of 2.9 pounds per hour near the end of the event. The hydrocarbon removal rate was slightly elevated throughout the event.

Vapor concentrations ranged from a high of 13,000 parts per million by volume (PPM_V) at the beginning of the event, to a low of 2,700 PPMv near the end of the event. The concentrations were high to elevated throughout event.

The range of vacuum readings recorded during this EFR® event from the monitor well is detailed in the attached EFR® Field Data Sheet and summarized below:

Extraction Well	Vacuum Readings
Truck	23 inches of mercury
TMW-1	2 inches of mercury

Vacuum Influence

The differential pressure data are detailed in the Field Data Sheets in Attachment 1. Differential pressures from the nearest monitor wells were recorded during this event to assess the vacuum induced by EFR® in the vadose zone. A vacuum influence was not observed at a distance of 214 or 430 feet from well TMW-1. The differential pressure data are detailed in the attached table and summarized below:

Monitor Well	Maximum Change	Nearest Extraction Well (Approx. Distance)
TMW-2	0.00 inches of water	TMW-1 (430 feet)
TMW-4	0.00 inches of water	TMW-1 (214 feet)

Groundwater Drawdown

Groundwater levels were recorded during this event to assess the groundwater drawdown created by EFR®. The groundwater drawdown data is summarized below:

Monitor Well	Maximum Change	Well Type
TMW-1	-0.27 feet	Extraction Well
TMW-2	0.03 feet	TMW-1 (430 feet)
TMW-4	0.02 feet	TMW-1 (214 feet)

Groundwater Extraction

A total of 1,339 gallons of fluid were extracted from the well during this 8.0-hour event. The water was offloaded into a frac tank on-site.

August 06, 2024

EFR® was performed for 8.0 hours at well TMW-1 for this event. Separate-phase hydrocarbons (SPH) were not detected in well TMW-1 prior to conducting this event, or upon conclusion of this event.

A calculated total of 33.8 pounds of petroleum hydrocarbons (approximately 5.6 equivalent gallons of hydrocarbon) in vapor concentrations were removed during this EFR® event on August 06, 2024.

The hydrocarbon vapor extraction removal rate varied from a high of 8.9 pounds per hour at the beginning of the event, to a low of 2.0 pounds per hour at the end of the event. The hydrocarbon removal rate was slightly elevated throughout the event.

Vapor concentrations ranged from a high of 9,800 parts per million by volume (PPM_V) at the beginning of the event, to a low of 2,200 PPMv at the end of the event. The concentrations were high to elevated throughout event.

The range of vacuum readings recorded during this EFR® event from the monitor well is detailed in the attached EFR® Field Data Sheet and summarized below:

Extraction Well	Vacuum Readings
Truck	22 inches of mercury
TMW-1	3 inches of mercury

Vacuum Influence

The differential pressure data are detailed in the Field Data Sheets in Attachment 1. Differential pressures from the nearest monitor wells were recorded during this event to assess the vacuum induced by EFR® in the vadose zone. A vacuum influence was not observed at a distance of 214 or 430 feet from well TMW-1. The differential pressure data are detailed in the attached table and summarized below:

Monitor Well	Maximum Change	Nearest Extraction Well (Approx. Distance)
TMW-2	0.00 inches of water	TMW-1 (430 feet)
TMW-4	0.00 inches of water	TMW-1 (214 feet)

Groundwater Drawdown

Groundwater levels were recorded during this event to assess the groundwater drawdown created by EFR®. The groundwater drawdown data is summarized below:

Monitor Well	Maximum Change	Well Type
TMW-1	-0.78 feet	Extraction Well
TMW-2	0.00 feet	TMW-1 (430 feet)
TMW-4	0.00 feet	TMW-1 (214 feet)

Groundwater Extraction

A total of 1,426 gallons of fluid were extracted from the well during this 8.0-hour event. The water was offloaded into a frac tank on-site.

August 07, 2024

EFR® was performed for 8.0 hours at well TMW-1 for this event. Separate-phase hydrocarbons (SPH) were not detected in well TMW-1 prior to conducting this event, or upon conclusion of this event.

A calculated total of 21.9 pounds of petroleum hydrocarbons (approximately 3.6 equivalent gallons of hydrocarbon) in vapor concentrations were removed during this EFR® event on August 07, 2024.

The hydrocarbon vapor extraction removal rate varied from a high of 5.4 pounds per hour at the beginning of the event, to a low of 0.4 pounds per hour at the end of the event. The hydrocarbon removal rate was slightly elevated throughout the event.

Vapor concentrations ranged from a high of 4,500 parts per million by volume (PPM_V) at the beginning of the event, to a low of 400 PPMv at the end of the event. The concentrations were high to elevated throughout event.

The range of vacuum readings recorded during this EFR® event from the monitor well is detailed in the attached EFR® Field Data Sheet and summarized below:

Extraction Well	Vacuum Readings
Truck	24 inches of mercury
TMW-1	3 inches of mercury

Vacuum Influence

The differential pressure data are detailed in the Field Data Sheets in Attachment 1. Differential pressures from the nearest monitor wells were recorded during this event to assess the vacuum induced by EFR® in the vadose zone. A vacuum influence was not observed at a distance of 214 or 430 feet from well TMW-1. The differential pressure data are detailed in the attached table and summarized below:

Monitor Well	Maximum Change	Nearest Extraction Well (Approx. Distance)
TMW-2	0.00 inches of water	TMW-1 (430 feet)
TMW-4	0.00 inches of water	TMW-1 (214 feet)

Groundwater Drawdown

Groundwater levels were recorded during this event to assess the groundwater drawdown created by EFR®. The groundwater drawdown data is summarized below:

Monitor Well	Maximum Change	Well Type
TMW-1	-0.70 feet	Extraction Well
TMW-2	0.02 feet	TMW-1 (430 feet)
TMW-4	0.01 feet	TMW-1 (214 feet)

Groundwater Extraction
A total of 1,501 gallons of fluid were extracted from the well during this 8.0-hour event. The water was offloaded into a frac tank on-site.

Conclusions
The following conclusions are based on the data collected during this event.

1. A hydrocarbon mass of 101.5 pounds (16.8 equivalent gallons) via vapors was extracted during this 3-day event.
2. A total of 4,266 gallons of fluids were extracted during this 3-day event.
3. A vacuum influence was not observed in TMW-2 and TMW-4, at a distance of 430 and 214 feet, respectively, from TMW-1.
4. A groundwater drawdown influence was not observed in TMW-2 and TMW-4, at a distance of 430 and 214 feet, respectively, from TMW-1.

Thank you for this opportunity to team with Larson & Associates, Inc. in serving the environmental needs of your clients. We look forward to working with you again in the future to provide innovative and cost-effective environmental solutions at this and other sites.

Sincerely,
EcoVac Services

Jeffrey M. Brammer, PG
Western Regional Manager, Hydrogeologist

Attachments:
1. Field Data Sheets

ATTACHMENT 1

FIELD DATA SHEETS

EFR® FIELD DATA SHEET

Client: Larson & Associates	Facility: Epperson 16" P/L		Event #
Facility Address : Lea County, NM		Technician: Mosley	Date: 08/05/2024

Extraction Well(s)	Time hh:mm	Extraction Well-head Vacuum (in. Hg)								Vacuum Truck Exhaust				
Start Time:	8:30	Inlet	TMW-1							Concentration PPM	Offgas Velocity FT/MIN	Flow Rate CFM	Removal Rate LBS/HR	Interval Removal LBS
TMW-1	9:00	23	2							13,000	2000	98	15.7	3.9
	9:15	23	2							12,800	2000	98	15.5	3.9
	9:30	23	2							11,000	2000	98	13.3	3.3
	9:45	23	2							10,800	2000	98	13.1	3.3
	10:00	23	2							10,500	2000	98	12.7	3.2
	10:30	23	2							9,000	2000	98	10.9	5.4
	11:00	23	2							6,000	1500	74	5.4	2.7
	12:00	23	2							5,000	1500	74	4.5	4.5
	13:00	23	2							4,900	1500	74	4.4	4.4
	14:00	23	2							4,700	1500	74	4.3	4.3
	15:00	23	2							2,700	1500	74	2.5	2.5
	16:30	23	2							3,200	1500	74	2.9	4.4

Well Gauging Data:			Before EFR® Event			After EFR® Event			Corr. DTW
Well No.	Diam.	TD (ft)	DTS (ft)	DTW (ft)	SPH (ft)	DTS (ft)	DTW (ft)	SPH (ft)	Change (ft)
TMW-1	2"		33.99	34.28	0.29	-	34.30	0.00	-0.27
TMW-2	2"		-	32.60	0.00	-	32.57	0.00	0.03
TMW-4	2"		-	32.87	0.00	-	32.85	0.00	0.02

Vacuum Truck Information		Well ID	Breather Port	Stinger Depth
Subcontractor:	EcoVac	TMW-1	closed	36'
Truck Operator:	Vitovic			
Truck No.:	153			
Vacuum Pumps:	Becker			
Pump Type:	Twin LC-44s			
Tank Capacity (gal.):	2,894			
Stack I.D. (inches)	3.0			

Recovery/Disposal Information		
Hydrocarbons (vapor):	45.8	pounds
Hydrocarbons (liquid):		gallons
Total Hydrocarbons:	7.6	equiv. gals.
Molecular Weight Utilized:	78.0	g/mole
Disposal Facility:	On-Site	
Manifest Number:		
Total Liquids Removed:	1,339	gallons

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405-895-9990

Pump Information	
Time:	8:30-16:30
# Pumps:	2
RPMs:	1,000

Notes :

Differential Pressure and Groundwater Drawdown Data Recorded During EFR®
August/5/2024
Epperson 16" P/L
Lea County, NM

DIFFERENTIAL PRESSURE DATA

		Well Designation:	
		TMW-2	TMW-4
Nearest Extraction Well:		TMW-1	TMW-1
Approximate Distance:		430 feet	214 feet
Time	Elapsed Time	Differential Pressures (inches of water):	
10:00	1.5 hrs.	0.00	0.00
11:00	2.5 hrs.	0.00	0.00
12:00	3.5 hrs.	0.00	0.00
13:00	4.5 hrs.	0.00	0.00
14:00	5.5 hrs.	0.00	0.00
15:00	6.5 hrs.	0.00	0.00
Maximum Change:		0.00	0.00

GROUNDWATER DRAWDOWN DATA

		Well Designation:	
		TMW-2	TMW-4
Nearest Extraction Well:		TMW-1	TMW-1
Approximate Distance:		430 feet	214 feet
Time	Elapsed Time	Depth to Liquid (feet below top of casing):	
Prior to EFR®		32.60	32.87
After EFR®		32.57	32.85
Maximum Change:		0.03	0.02

EFR® FIELD DATA SHEET

Client: Larson & Associates	Facility: Epperson 16" P/L		Event #
Facility Address : Lea County, NM		Technician: Mosley	Date: 08/06/2024

Extraction Well(s)	Time hh:mm	Extraction Well-head Vacuum (in. Hg)								Vacuum Truck Exhaust				
Start Time:	7:15	Inlet	TMW-1							Concentration PPM	Offgas Velocity FT/MIN	Flow Rate CFM	Removal Rate LBS/HR	Interval Removal LBS
TMW-1	7:30	22	3							9,800	1500	74	8.9	2.2
	7:45	22	3							9,800	1500	74	8.9	2.2
	8:00	22	3							9,100	1500	74	8.3	2.1
	8:15	22	3							9,500	1500	74	8.6	2.2
	8:45	22	3							9,300	1500	74	8.4	4.2
	9:15	22	3							7,500	1500	74	6.8	3.4
	10:15	22	3							5,000	1500	74	4.5	4.5
	11:15	22	3							3,500	1500	74	3.2	3.2
	12:15	22	3							3,300	1500	74	3.0	3.0
	13:15	22	3							2,800	1500	74	2.5	2.5
	14:15	22	3							2,500	1500	74	2.3	2.3
	15:15	22	3							2,200	1500	74	2.0	2.0

Well Gauging Data:			Before EFR® Event			After EFR® Event			Corr. DTW
Well No.	Diam.	TD (ft)	DTS (ft)	DTW (ft)	SPH (ft)	DTS (ft)	DTW (ft)	SPH (ft)	Change (ft)
TMW-1	2"		-	33.73	0.00	-	34.51	0.00	-0.78
TMW-2	2"		-	32.58	0.00	-	32.58	0.00	0.00
TMW-4	2"		-	32.85	0.00	-	32.85	0.00	0.00

Vacuum Truck Information		Well ID	Breather Port	Stinger Depth
Subcontractor:	EcoVac	TMW-1	closed	36'
Truck Operator:	Vitovic			
Truck No.:	153			
Vacuum Pumps:	Becker			
Pump Type:	Twin LC-44s			
Tank Capacity (gal.):	2,894			
Stack I.D. (inches)	3.0			

Recovery/Disposal Information		
Hydrocarbons (vapor):	33.8	pounds
Hydrocarbons (liquid):		gallons
Total Hydrocarbons:	5.6	equiv. gals.
Molecular Weight Utilized:	78.0	g/mole
Disposal Facility:	On-Site	
Manifest Number:		
Total Liquids Removed:	1,426	gallons

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405-895-9990

Pump Information	
Time:	7:15-15:15
# Pumps:	2
RPMs:	1,000

Notes :

Differential Pressure and Groundwater Drawdown Data Recorded During EFR®
August/6/2024
Epperson 16" P/L
Lea County, NM

DIFFERENTIAL PRESSURE DATA

		Well Designation:	
		TMW-2	TMW-4
Nearest Extraction Well:		TMW-1	TMW-1
Approximate Distance:		430 feet	214 feet
Time	Elapsed Time	Differential Pressures (inches of water):	
8:15	1.0 hr.	0.00	0.00
9:15	2.0 hrs.	0.00	0.00
10:15	3.0 hrs.	0.00	0.00
11:15	4.0 hrs.	0.00	0.00
12:15	5.0 hrs.	0.00	0.00
13:15	6.0 hrs.	0.00	0.00
14:15	7.0 hrs.	0.00	0.00
Maximum Change:		0.00	0.00

GROUNDWATER DRAWDOWN DATA

		Well Designation:	
		TMW-2	TMW-4
Nearest Extraction Well:		TMW-1	TMW-1
Approximate Distance:		430 feet	214 feet
Time	Elapsed Time	Depth to Liquid (feet below top of casing):	
Prior to EFR®		32.58	32.85
After EFR®		32.58	32.85
Maximum Change:		0.00	0.00

EFR® FIELD DATA SHEET

Client: Larson & Associates	Facility: Epperson 16" P/L		Event #
Facility Address : Lea County, NM		Technician: Mosley	Date: 08/07/2024

Extraction Well(s)	Time hh:mm	Extraction Well-head Vacuum (in. Hg)									Vacuum Truck Exhaust				
Start Time:	7:00	Inlet	TMW-1								Concentration PPM	Offgas Velocity FT/MIN	Flow Rate CFM	Removal Rate LBS/HR	Interval Removal LBS
TMW-1	7:15	24	3								4,500	2000	98	5.4	1.4
	7:30	24	3								4,200	2000	98	5.1	1.3
	7:45	24	3								4,200	2000	98	5.1	1.3
	8:00	24	3								4,000	2000	98	4.8	1.2
	8:30	24	3								4,000	2000	98	4.8	2.4
	9:00	24	3								3,800	2000	98	4.6	2.3
	10:00	24	3								3,200	1800	88	3.5	3.5
	11:00	24	3								2,400	1800	88	2.6	2.6
	12:00	24	3								2,200	1800	88	2.4	2.4
	13:00	24	3								1,800	1800	88	2.0	2.0
	14:00	24	3								1,100	1800	88	1.2	1.2
	15:00	24	3								400	1800	88	0.4	0.4

Well Gauging Data:			Before EFR® Event			After EFR® Event			Corr. DTW
Well No.	Diam.	TD (ft)	DTS (ft)	DTW (ft)	SPH (ft)	DTS (ft)	DTW (ft)	SPH (ft)	Change (ft)
TMW-1	2"		-	33.74	0.00	-	34.44	0.00	-0.70
TMW-2	2"		-	32.58	0.00	-	32.56	0.00	0.02
TMW-4	2"		-	32.85	0.00	-	32.84	0.00	0.01

Vacuum Truck Information		Well ID	Breather Port	Stinger Depth
Subcontractor:	EcoVac	TMW-1	closed	36'
Truck Operator:	Vitovic			
Truck No.:	153			
Vacuum Pumps:	Becker			
Pump Type:	Twin LC-44s			
Tank Capacity (gal.):	2,894			
Stack I.D. (inches)	3.0			

Recovery/Disposal Information		
Hydrocarbons (vapor):	21.9	pounds
Hydrocarbons (liquid):		gallons
Total Hydrocarbons:	3.6	equiv. gals.
Molecular Weight Utilized:	78.0	g/mole
Disposal Facility:	On-Site	
Manifest Number:		
Total Liquids Removed:	1,501	gallons

ECOVAC SERVICES
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405-895-9990

Pump Information	
Time:	7:00-15:00
# Pumps:	2
RPMs:	1,000

Notes :

Differential Pressure and Groundwater Drawdown Data Recorded During EFR®
August/7/2024
Epperson 16" P/L
Lea County, NM

DIFFERENTIAL PRESSURE DATA

		Well Designation:	
		TMW-2	TMW-4
Nearest Extraction Well:		TMW-1	TMW-1
Approximate Distance:		430 feet	214 feet
Time	Elapsed Time	Differential Pressures (inches of water):	
8:00	1.0 hr.	0.00	0.00
9:00	2.0 hrs.	0.00	0.00
10:00	3.0 hrs.	0.00	0.00
11:00	4.0 hrs.	0.00	0.00
12:00	5.0 hrs.	0.00	0.00
13:00	6.0 hrs.	0.00	0.00
14:00	7.0 hrs.	0.00	0.00
Maximum Change:		0.00	0.00

GROUNDWATER DRAWDOWN DATA

		Well Designation:	
		TMW-2	TMW-4
Nearest Extraction Well:		TMW-1	TMW-1
Approximate Distance:		430 feet	214 feet
Time	Elapsed Time	Depth to Liquid (feet below top of casing):	
Prior to EFR®		32.58	32.85
After EFR®		32.56	32.84
Maximum Change:		0.02	0.01

ECOVAC SERVICES
The World Leader in Mobile Dual-Phase/Multi-Phase Extraction
Patented SURFAC®/COSOLV®/ISCO-EFR®
Treatability Testing/Research and Development

September 13, 2024

Mr. Mark Larson
President
Larson & Associates, Inc.
507 N Marienfeld St #205
Midland, Texas 79701-4356
Mark@laenvironmental.com

Subject: **Enhanced Fluid Recovery (EFR®) Report**
September 10 through 12, 2024
Targa Midstream Services
Epperson 16 Inch Pipeline Release
Lea County, New Mexico

Dear Mr. Larson:

Please find attached the data summary for the EFR® remediation conducted at the subject site on September 10 thru 12, 2024. The EFR® remediation was implemented in well TMW-1. EFR® is a mobile multi-phase/dual-phase extraction technology shown to be effective for mass removal of hydrocarbons in the soils/groundwater.

September 10, 2024

EFR® was performed for 8.0 hours at well TMW-1 for this event. Separate-phase hydrocarbons (SPH) were not detected in well TMW-1 prior to conducting this event, or upon conclusion of this event.

A calculated total of 45.2 pounds of petroleum hydrocarbons (approximately 7.2 equivalent gallons of hydrocarbon) in vapor concentrations were removed during this EFR® event on September 10, 2024.

The hydrocarbon vapor extraction removal rate varied from a high of 10.9 pounds per hour at the beginning of the event, to a low of 4.2 pounds per hour at the end of the event. The hydrocarbon removal rate was slightly elevated throughout the event.

Vapor concentrations ranged from a high of 10,000 parts per million by volume (PPM_V) at the beginning of the event, to a low of 4,300 PPMv at the end of the event. The concentrations were high to elevated throughout event.

The range of vacuum readings recorded during this EFR® event from the truck and the monitor well are detailed in the attached EFR® Field Data Sheet and summarized below:

Extraction Well	Vacuum Readings
Truck	22 inches of mercury
TMW-1	2 inches of mercury

Groundwater Drawdown

Groundwater levels were recorded during this event to assess the groundwater drawdown created by EFR®. The groundwater drawdown data is summarized below:

Monitor Well	Maximum Change	Well Type
TMW-1	-0.61 feet	Extraction Well
TMW-4	0.02 feet	TMW-1 (214 feet)

Groundwater Extraction

A total of 1,501 gallons of fluid were extracted from the well during this 8.0-hour event. The water was offloaded into a frac tank on-site.

September 11, 2024

EFR® was performed for 8.0 hours at well TMW-1 for this event. Separate-phase hydrocarbons (SPH) were not detected in well TMW-1 prior to conducting this event, or upon conclusion of this event.

A calculated total of 54.9 pounds of petroleum hydrocarbons (approximately 9.1 equivalent gallons of hydrocarbon) in vapor concentrations were removed during this EFR® event on September 11, 2024.

The hydrocarbon vapor extraction removal rate varied from a high of 7.7 pounds per hour toward the middle of the event, to a low of 4.4 pounds per hour toward the beginning of the event. The hydrocarbon removal rate was slightly elevated throughout the event.

Vapor concentrations ranged from a high of 8,000 parts per million by volume (PPM_V) in the middle of the event, to a low of 4,500 PPMv at the beginning of the event. The concentrations were high to elevated throughout event.

The range of vacuum readings recorded during this EFR® event from the truck and the monitor well is detailed in the attached EFR® Field Data Sheet and summarized below:

Extraction Well	Vacuum Readings
Truck	22 inches of mercury
TMW-1	2 inches of mercury

Groundwater Drawdown

Groundwater levels were recorded during this event to assess the groundwater drawdown created by EFR®. The groundwater drawdown data is summarized below:

Monitor Well	Maximum Change	Well Type
TMW-1	-1.01 feet	Extraction Well
TMW-4	0.01 feet	TMW-1 (214 feet)

Groundwater Extraction

A total of 1,555 gallons of fluid were extracted from the well during this 8.0-hour event. The water was offloaded into a frac tank on-site.

September 12, 2024

EFR® was performed for 8.0 hours at well TMW-1 for this event. Separate-phase hydrocarbons (SPH) were not detected in well TMW-1 prior to conducting this event, or upon conclusion of this event.

A calculated total of 41.2 pounds of petroleum hydrocarbons (approximately 6.8 equivalent gallons of hydrocarbon) in vapor concentrations were removed during this EFR® event on September 12, 2024.

The hydrocarbon vapor extraction removal rate varied from a high of 5.9 pounds per hour at the beginning of the event, to a low of 4.6 pounds per hour toward the middle of the event. The hydrocarbon removal rate was slightly elevated throughout the event.

Vapor concentrations ranged from a high of 5,800 parts per million by volume (PPM_V) toward the end of the event, to a low of 4,500 PPMv toward the beginning of the event. The concentrations were high to elevated throughout event.

The range of vacuum readings recorded during this EFR® event from the truck and the monitor well is detailed in the attached EFR® Field Data Sheet and summarized below:

Extraction Well	Vacuum Readings
Truck	22 inches of mercury
TMW-1	2 inches of mercury

Groundwater Drawdown

Groundwater levels were recorded during this event to assess the groundwater drawdown created by EFR®. The groundwater drawdown data is summarized below:

Monitor Well	Maximum Change	Well Type
TMW-1	-0.52 feet	Extraction Well
TMW-4	-0.02 feet	TMW-1 (214 feet)

Groundwater Extraction
A total of 1,447 gallons of fluid were extracted from the well during this 8.0-hour event. The water was offloaded into a frac tank on-site.

Conclusions
The following conclusions are based on the data collected during this event.

1. A hydrocarbon mass of 141.3 pounds (23.1 equivalent gallons) via vapors was extracted during this 3-day event.
2. A total of 4,503 gallons of fluids were extracted during this 3-day event.

Thank you for this opportunity to team with Larson & Associates, Inc. in serving the environmental needs of your clients. We look forward to working with you again in the future to provide innovative and cost-effective environmental solutions at this and other sites.

Sincerely,
EcoVac Services

Jeffrey M. Brammer, PG
Western Regional Manager, Hydrogeologist

Attachments:
1. Field Data Sheets

ATTACHMENT 1

FIELD DATA SHEETS

EFR® FIELD DATA SHEET

Client: Larson & Associates	Facility: Epperson 16" P/L		Event #
Facility Address : Lea County, NM		Technician: Mosley	Date: 09/10/2024

Extraction Well(s)	Time hh:mm	Extraction Well-head Vacuum (in. Hg)									Vacuum Truck Exhaust				
Start Time:	8:30	Inlet	TMW-1								Concentration PPM	Offgas Velocity FT/MIN	Flow Rate CFM	Removal Rate LBS/HR	Interval Removal LBS
TMW-1	8:45	22	2								10,000	1800	88	10.9	2.7
	9:00	22	2								9,000	1800	88	9.8	2.5
	9:15	22	2								8,000	1800	88	8.7	2.2
	9:30	22	2								7,200	1800	88	7.8	2.0
	10:00	22	2								7,000	1800	88	7.6	3.8
	10:30	22	2								6,800	1800	88	7.4	3.7
	11:30	22	2								6,200	1500	74	5.6	5.6
	12:30	22	2								5,600	1500	74	5.1	5.1
	13:30	22	2								4,600	1700	83	4.7	4.7
	14:30	22	2								4,500	1700	83	4.6	4.6
	15:30	22	2								4,300	1600	78	4.2	4.2
	16:30	22	2								4,300	1600	78	4.2	4.2

Well Gauging Data:			Before EFR® Event			After EFR® Event			Corr. DTW
Well No.	Diam.	TD (ft)	DTS (ft)	DTW (ft)	SPH (ft)	DTS (ft)	DTW (ft)	SPH (ft)	Change (ft)
TMW-1	2"		-	33.75	0.00	-	34.36	0.00	-0.61
TMW-4	2"		-	32.88	0.00	-	32.86	0.00	0.02

Vacuum Truck Information		Well ID	Breather Port	Stinger Depth
Subcontractor:	EcoVac	TMW-1	closed	35'
Truck Operator:	Vitovic			
Truck No.:	153			
Vacuum Pumps:	Becker			
Pump Type:	Twin LC-44s			
Tank Capacity (gal.):	2,894			
Stack I.D. (inches)	3.0			

Recovery/Disposal Information		
Hydrocarbons (vapor):	45.2	pounds
Hydrocarbons (liquid):		gallons
Total Hydrocarbons:	7.5	equiv. gals.
Molecular Weight Utilized:	78.0	g/mole
Disposal Facility:	On-Site	
Manifest Number:		
Total Liquids Removed:	1,501	gallons

ECOVAC SERVICES
www.ecovacservices.com
405-895-9990

Pump Information	
Time:	8:30-16:30
# Pumps:	2
RPMs:	1,000

Notes :

EFR® FIELD DATA SHEET

Client: Larson & Associates	Facility: Epperson 16" P/L	Event #
Facility Address : Lea County, NM	Technician: Mosley	Date: 09/11/2024

Extraction Well(s)	Time hh:mm	Extraction Well-head Vacuum (in. Hg)									Vacuum Truck Exhaust				
Start Time:	8:15	Inlet	TMW-1								Concentration PPM	Offgas Velocity FT/MIN	Flow Rate CFM	Removal Rate LBS/HR	Interval Removal LBS
TMW-1	8:30	22	2								4,500	2000	98	5.4	1.4
	8:45	22	2								4,500	1800	88	4.9	1.2
	9:00	22	2								4,500	1600	78	4.4	1.1
	9:15	22	2								6,100	1600	78	5.9	1.5
	9:45	22	2								7,000	1600	78	6.8	3.4
	10:15	22	2								8,000	1600	78	7.7	3.9
	11:15	22	2								7,500	1600	78	7.3	7.3
	12:15	22	2								7,700	1600	78	7.5	7.5
	13:15	22	2								7,800	1600	78	7.6	7.6
	14:15	22	2								7,400	1600	78	7.2	7.2
	15:15	22	2								7,000	1600	78	6.8	6.8
	16:15	22	2								6,500	1600	78	6.3	6.3

Well Gauging Data:			Before EFR® Event			After EFR® Event			Corr. DTW
Well No.	Diam.	TD (ft)	DTS (ft)	DTW (ft)	SPH (ft)	DTS (ft)	DTW (ft)	SPH (ft)	Change (ft)
TMW-1	2"		-	33.79	0.00	-	34.80	0.00	-1.01
TMW-4	2"		-	32.86	0.00	-	32.85	0.00	0.01

Vacuum Truck Information		Well ID	Breather Port	Stinger Depth
Subcontractor:	EcoVac	TMW-1	closed	35'
Truck Operator:	Vitovic			
Truck No.:	153			
Vacuum Pumps:	Becker			
Pump Type:	Twin LC-44s			
Tank Capacity (gal.):	2,894			
Stack I.D. (inches)	3.0			

Recovery/Disposal Information		
Hydrocarbons (vapor):	54.9	pounds
Hydrocarbons (liquid):		gallons
Total Hydrocarbons:	9.1	equiv. gals.
Molecular Weight Utilized:	78.0	g/mole
Disposal Facility:	On-Site	
Manifest Number:		
Total Liquids Removed:	1,555	gallons

ECOVAC SERVICES
www.ecovacservices.com
405-895-9990

Pump Information	
Time:	8:15-16:15
# Pumps:	2
RPMs:	1,000

Notes :

EFR® FIELD DATA SHEET

Client: Larson & Associates	Facility: Epperson 16" P/L		Event #
Facility Address : Lea County, NM		Technician: Mosley	Date: 09/12/2024

Extraction Well(s)	Time hh:mm	Extraction Well-head Vacuum (in. Hg)								Vacuum Truck Exhaust				
Start Time:	7:15	Inlet	TMW-1							Concentration PPM	Offgas Velocity FT/MIN	Flow Rate CFM	Removal Rate LBS/HR	Interval Removal LBS
TMW-1	7:30	22	2							5,400	1800	88	5.9	1.5
	7:45	22	2							5,000	1800	88	5.4	1.4
	8:00	22	2							4,500	1800	88	4.9	1.2
	8:15	22	2							4,800	1600	78	4.6	1.2
	8:45	22	2							5,200	1600	78	5.0	2.5
	9:15	22	2							5,400	1600	78	5.2	2.6
	10:15	22	2							5,000	1600	78	4.8	4.8
	11:15	22	2							4,800	1600	78	4.6	4.6
	12:15	22	2							5,200	1600	78	5.0	5.0
	13:15	22	2							5,400	1600	78	5.2	5.2
	14:15	22	2							5,800	1600	78	5.6	5.6
	15:15	22	2							5,700	1600	78	5.5	5.5

Well Gauging Data:			Before EFR® Event			After EFR® Event			Corr. DTW
Well No.	Diam.	TD (ft)	DTS (ft)	DTW (ft)	SPH (ft)	DTS (ft)	DTW (ft)	SPH (ft)	Change (ft)
TMW-1	2"		-	33.79	0.00	-	34.31	0.00	-0.52
TMW-4	2"		-	32.88	0.00	-	32.90	0.00	-0.02

Vacuum Truck Information		Well ID	Breather Port	Stinger Depth
Subcontractor:	EcoVac	TMW-1	closed	35'
Truck Operator:	Vitovic			
Truck No.:	153			
Vacuum Pumps:	Becker			
Pump Type:	Twin LC-44s			
Tank Capacity (gal.):	2,894			
Stack I.D. (inches)	3.0			

Recovery/Disposal Information		
Hydrocarbons (vapor):	41.2	pounds
Hydrocarbons (liquid):		gallons
Total Hydrocarbons:	6.8	equiv. gals.
Molecular Weight Utilized:	78.0	g/mole
Disposal Facility:	On-Site	
Manifest Number:		
Total Liquids Removed:	1,447	gallons

ECOVAC SERVICES
www.ecovacservices.com
405-895-9990

Pump Information	
Time:	7:15-15:15
# Pumps:	2
RPMs:	1,000

Notes :

Appendix F

Gandy Corporation Disposal Ticket

Gandy Corporation
P.O. Box 2140
Lovington, NM 88260

Phone 575-396-0522
Fax 575-396-0797

gandycorporation.com

Invoice

Date	Invoice #
10/24/2024	256230

Bill To: Targa Midstream Services
Accounts Payable
811 Louisiana, Suite 2100
Houston, TX 77002-1400

Lease: Saunders Plant
50 Warren Road
Lovington, NM 88260
Epperson
Kandi Pardue

PO Number		Terms	Due Date
TAR 397146		Net 30	11/23/2024

Quantity	Item Code	Description	U/M	Price Each	Amount
		10/18/24 WT 586681			
9.5	3D	Vacuum Truck w/130 bbl Tank and Operator	HR	96.00	912.00T
220	160	Disposal - DKD Richardson	BBLS	0.90	198.00T
1	150	Fuel & Environmental Surcharge		91.20	91.20T

TERMS: Net 30-Interest of 1 1/2% per month (18% per annum) added to accounts over 90 days

Subtotal	$1,201.20
Sales Tax (5.25%)	$63.06
Payments/Credits	$0.00
Total	$1,264.26

INVOICE SUPPORTING DOCUMENTS

24-HOUR SERVICE, CALL
LOVINGTON (575) 396-4948
TATUM (575) 398-4960

GANDY CORPORATION

KILL TRUCKS - VACUUM TRUCKS - WINCH TRUCKS
ROLL OFFS - TANK CLEANING - ROUSTABOUTING
PRC #14225

P.O. BOX 2140
LOVINGTON, NEW MEXICO 88260

586681
256230

Date 10-18-24 Truck No. 405

Company Targa Purchase Order No. Invoice No.

From Epperson Rig No. Location

To Lease Well No. Location

Time Out A.M. P.M. Time In A.M. P.M.

Diesel Brine Water Fresh Water
Crude Oil Produced Water Bbls. Hauled 220

	TIME	RATE	AMOUNT
		.90	198.00
Driver, Operator or Pusher Santos Pedro	9.5	96.00	912.00
Helper 1096 F.S.	9.5	9.60	91.20
Helper			
Helper			
Other Charges			

Description of Work Had to empty out frac & took to SWD
Had to haul loads of P/W

Richardson - 12309
12311

Sub Total	1201.20
Sales Tax	63.06
TOTAL	1264.26

Authorized By:

SUPERIOR PRINTING SERVICE, INC.

Facility Operator	
DKD, LLC	
Facility	Richardson SWD
Ticket #	12311
Date	October 18 2024
Start Time	**End Time**
01:29 PM	
Service Company	
GANDY CORPORATION	
Driver	Santos Palacio
Truck #	**Service Ticket #**
405	586681
Source Operator	
TARGA	
Source Name (Lease)	
EPPERSON	
Source #	**Well #**
	EPPERSON
Material	**Volume**
Production	100 bbls

X

Facility Operator	
DKD, LLC	
Facility	Richardson SWD
Ticket #	12309
Date	October 18 2024
Start Time	**End Time**
11:29 AM	
Service Company	
GANDY CORPORATION	
Driver	Santos Palacio
Truck #	**Service Ticket #**
405	586681
Source Operator	
TARGA	
Source Name (Lease)	
EPPERSON	
Source #	**Well #**
	EPPERSON
Material	**Volume**
Production	120 bbls

X

Appendix G

Laboratory Reports

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Brenda Balbino
Larson & Associates, Inc.
507 N Marienfeld
Suite 202
Midland, Texas 79701

Generated 8/27/2024 5:10:39 PM

JOB DESCRIPTION

Epperson
23-O115-03

JOB NUMBER

880-47655-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

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

Holly Taylor

Generated
8/27/2024 5:10:39 PM

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

Client: Larson & Associates, Inc.
Project/Site: Epperson

Laboratory Job ID: 880-47655-1
SDG: 23-O115-03

Table of Contents

Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-47655-1
SDG: 23-O115-03

Qualifiers

GC VOA

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: 880-47655-1
Project: Epperson

Job ID: 880-47655-1 Eurofins Midland

Job Narrative
880-47655-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The sample was received on 8/23/2024 5:00 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was -0.3°C.

GC VOA
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: Epperson

Job ID: 880-47655-1
SDG: 23-O115-03

Client Sample ID: TWM-1

Date Collected: 08/23/24 11:00
Date Received: 08/23/24 17:00

Lab Sample ID: 880-47655-1

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	352		40.0		ug/L			08/26/24 14:54	20
Toluene	584		40.0		ug/L			08/26/24 14:54	20
Ethylbenzene	936		40.0		ug/L			08/26/24 14:54	20
m,p-Xylenes	2130		80.0		ug/L			08/26/24 14:54	20
o-Xylene	997		40.0		ug/L			08/26/24 14:54	20
Xylenes, Total	3130		80.0		ug/L			08/26/24 14:54	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*		*08/26/24 14:54*	*20*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*		*08/26/24 14:54*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	5.00		0.0800		mg/L			08/26/24 14:54	1

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-47655-1
SDG: 23-O115-03

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)								
880-47655-1	TWM-1	126	105								
LCS 880-89364/3	Lab Control Sample	102	103								
LCSD 880-89364/4	Lab Control Sample Dup	98	106								
MB 880-89364/8	Method Blank	103	90								

Surrogate Legend

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

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-47655-1
SDG: 23-O115-03

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-89364/8
Matrix: Water
Analysis Batch: 89364

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<2.00	U	2.00		ug/L			08/26/24 13:10	1
Toluene	<2.00	U	2.00		ug/L			08/26/24 13:10	1
Ethylbenzene	<2.00	U	2.00		ug/L			08/26/24 13:10	1
m,p-Xylenes	<4.00	U	4.00		ug/L			08/26/24 13:10	1
o-Xylene	<2.00	U	2.00		ug/L			08/26/24 13:10	1
Xylenes, Total	<4.00	U	4.00		ug/L			08/26/24 13:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*08/26/24 13:10*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*		*08/26/24 13:10*	*1*

Lab Sample ID: LCS 880-89364/3
Matrix: Water
Analysis Batch: 89364

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			100	114.3		ug/L		114	70 - 130		
Toluene			100	107.8		ug/L		108	70 - 130		
Ethylbenzene			100	110.8		ug/L		111	70 - 130		
m,p-Xylenes			200	226.7		ug/L		113	70 - 130		
o-Xylene			100	114.7		ug/L		115	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: LCSD 880-89364/4
Matrix: Water
Analysis Batch: 89364

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			100	119.7		ug/L		120	70 - 130	5	20
Toluene			100	109.8		ug/L		110	70 - 130	2	20
Ethylbenzene			100	113.1		ug/L		113	70 - 130	2	20
m,p-Xylenes			200	230.9		ug/L		115	70 - 130	2	20
o-Xylene			100	116.4		ug/L		116	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-47655-1
SDG: 23-O115-03

GC VOA

Analysis Batch: 89364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-47655-1	TWM-1	Total/NA	Water	8021B	
MB 880-89364/8	Method Blank	Total/NA	Water	8021B	
LCS 880-89364/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-89364/4	Lab Control Sample Dup	Total/NA	Water	8021B	

Analysis Batch: 89479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-47655-1	TWM-1	Total/NA	Water	Total BTEX	

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-47655-1
SDG: 23-O115-03

Client Sample ID: TWM-1
Date Collected: 08/23/24 11:00
Date Received: 08/23/24 17:00

Lab Sample ID: 880-47655-1
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		20	5 mL	5 mL	89364	08/26/24 14:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			89479	08/26/24 14:54	SM	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-47655-1
SDG: 23-O115-03

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	06-30-25

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: Epperson

Job ID: 880-47655-1
SDG: 23-O115-03

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
5030B	Purge and Trap	SW846	EET MID

Protocol References:

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: Epperson

Job ID: 880-47655-1
SDG: 23-O115-03

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-47655-1	TWM-1	Water	08/23/24 11:00	08/23/24 17:00

No. 3327

CHAIN-OF-CUSTODY

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

DATE: 8/23/2024 PAGE 1 OF 1

PO#: LAB WORK ORDER#: 47655

PROJECT LOCATION OR NAME: Epperson

LAI PROJECT #: 23-0115-03 COLLECTOR: DSH/JR

Data Reported to:

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MNT/NM

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	ANALYSES: BTEX ☒ MTBE ☐
TMW-1		8/23/24	1100	W	3	X			X		X

ANALYSES: TPH 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 ☐ | FIELD NOTES

TOTAL 1

RELINQUISHED BY:(Signature) DATE/TIME 8/23/24 1700 RECEIVED BY: (Signature)

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

LABORATORY: Envirotech

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

LABORATORY USE ONLY:
RECEIVING TEMP: 0.2/0.3 THERM#: TD8
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

880-47655 Chain of Custody

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-47655-1
SDG Number: 23-O115-03

Login Number: 47655
List Number: 1
Creator: Vasquez, Julisa

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 2/14/2024 3:23:31 PM

JOB DESCRIPTION

Epperson
3233

JOB NUMBER

880-38793-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

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

Holly Taylor

Generated
2/14/2024 3:23:31 PM

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

Client: Larson & Associates, Inc.
Project/Site: Epperson

Laboratory Job ID: 880-38793-1
SDG: 3233

Table of Contents

Definitions/Glossary

Client: Larson & Associates, Inc. Job ID: 880-38793-1
Project/Site: Epperson SDG: 3233

Qualifiers

GC VOA

Qualifier	Qualifier Description
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.

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: 880-38793-1
Project: Epperson

Job ID: 880-38793-1 Eurofins Midland

Job Narrative
880-38793-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 2/1/2024 4:27 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 1.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 880-73077 was outside control limits. Sample non-homogeneity is suspected.

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 and precision for analytical batch 880-72526 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.

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-38793-1
SDG: 3233

Client Sample ID: TMW-3
Date Collected: 02/01/24 09:35
Date Received: 02/01/24 16:27

Lab Sample ID: 880-38793-1
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<2.00	U	2.00		ug/L			02/14/24 06:10	1
Toluene	<2.00	U	2.00		ug/L			02/14/24 06:10	1
Ethylbenzene	<2.00	U	2.00		ug/L			02/14/24 06:10	1
m,p-Xylenes	<4.00	U	4.00		ug/L			02/14/24 06:10	1
o-Xylene	<2.00	U	2.00		ug/L			02/14/24 06:10	1
Xylenes, Total	<4.00	U	4.00		ug/L			02/14/24 06:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*		*02/14/24 06:10*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*		*02/14/24 06:10*	*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			02/14/24 06:10	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**297**	**F1**	5.00		mg/L			02/07/24 08:18	10

Client Sample ID: TMW-2
Date Collected: 02/01/24 10:23
Date Received: 02/01/24 16:27

Lab Sample ID: 880-38793-2
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<2.00	U	2.00		ug/L			02/14/24 06:30	1
Toluene	<2.00	U	2.00		ug/L			02/14/24 06:30	1
Ethylbenzene	<2.00	U	2.00		ug/L			02/14/24 06:30	1
m,p-Xylenes	<4.00	U	4.00		ug/L			02/14/24 06:30	1
o-Xylene	<2.00	U	2.00		ug/L			02/14/24 06:30	1
Xylenes, Total	<4.00	U	4.00		ug/L			02/14/24 06:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*		*02/14/24 06:30*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*		*02/14/24 06:30*	*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			02/14/24 06:30	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**51.6**		2.50		mg/L			02/07/24 08:38	5

Client Sample ID: TMW-4
Date Collected: 02/01/24 11:07
Date Received: 02/01/24 16:27

Lab Sample ID: 880-38793-3
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<2.00	U	2.00		ug/L			02/14/24 06:51	1
Toluene	<2.00	U	2.00		ug/L			02/14/24 06:51	1

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-38793-1
SDG: 3233

Client Sample ID: TMW-4

Lab Sample ID: 880-38793-3
Matrix: Water
Date Collected: 02/01/24 11:07
Date Received: 02/01/24 16:27

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<2.00	U	2.00		ug/L			02/14/24 06:51	1
m,p-Xylenes	<4.00	U	4.00		ug/L			02/14/24 06:51	1
o-Xylene	<2.00	U	2.00		ug/L			02/14/24 06:51	1
Xylenes, Total	<4.00	U	4.00		ug/L			02/14/24 06:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*		*02/14/24 06:51*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*		*02/14/24 06:51*	*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			02/14/24 06:51	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**52.3**		2.50		mg/L			02/07/24 08:45	5

Client Sample ID: Dup-1

Lab Sample ID: 880-38793-4
Matrix: Water
Date Collected: 02/01/24 00:00
Date Received: 02/01/24 16:27

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<2.00	U	2.00		ug/L			02/14/24 07:11	1
Toluene	<2.00	U	2.00		ug/L			02/14/24 07:11	1
Ethylbenzene	<2.00	U	2.00		ug/L			02/14/24 07:11	1
m,p-Xylenes	<4.00	U	4.00		ug/L			02/14/24 07:11	1
o-Xylene	<2.00	U	2.00		ug/L			02/14/24 07:11	1
Xylenes, Total	<4.00	U	4.00		ug/L			02/14/24 07:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*		*02/14/24 07:11*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*		*02/14/24 07:11*	*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			02/14/24 07:11	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**52.2**		2.50		mg/L			02/07/24 08:52	5

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-38793-1
SDG: 3233

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)										
880-38793-1	TMW-3	108	90										
880-38793-1 MS	TMW-3	124	98										
880-38793-1 MSD	TMW-3	109	101										
880-38793-2	TMW-2	106	103										
880-38793-3	TMW-4	111	101										
880-38793-4	Dup-1	110	100										
LCS 880-73077/34	Lab Control Sample	111	95										
LCSD 880-73077/35	Lab Control Sample Dup	114	95										
MB 880-72955/5-A	Method Blank	79	98										
MB 880-73077/39	Method Blank	80	99										

Surrogate Legend

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

QC Sample Results

Client: Larson & Associates, Inc. Job ID: 880-38793-1
Project/Site: Epperson SDG: 3233

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-72955/5-A **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 73077 **Prep Batch: 72955**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<2.00	U	2.00		ug/L		02/12/24 16:23	02/13/24 19:14	1
Toluene	<2.00	U	2.00		ug/L		02/12/24 16:23	02/13/24 19:14	1
Ethylbenzene	<2.00	U	2.00		ug/L		02/12/24 16:23	02/13/24 19:14	1
m,p-Xylenes	<4.00	U	4.00		ug/L		02/12/24 16:23	02/13/24 19:14	1
o-Xylene	<2.00	U	2.00		ug/L		02/12/24 16:23	02/13/24 19:14	1
Xylenes, Total	<4.00	U	4.00		ug/L		02/12/24 16:23	02/13/24 19:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*02/12/24 16:23*	*02/13/24 19:14*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*02/12/24 16:23*	*02/13/24 19:14*	*1*

Lab Sample ID: MB 880-73077/39 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 73077

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<2.00	U	2.00		ug/L			02/14/24 05:48	1
Toluene	<2.00	U	2.00		ug/L			02/14/24 05:48	1
Ethylbenzene	<2.00	U	2.00		ug/L			02/14/24 05:48	1
m,p-Xylenes	<4.00	U	4.00		ug/L			02/14/24 05:48	1
o-Xylene	<2.00	U	2.00		ug/L			02/14/24 05:48	1
Xylenes, Total	<4.00	U	4.00		ug/L			02/14/24 05:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*		*02/14/24 05:48*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*		*02/14/24 05:48*	*1*

Lab Sample ID: LCS 880-73077/34 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 73077

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			100	79.93		ug/L		80	70 - 130		
Toluene			100	106.8		ug/L		107	70 - 130		
Ethylbenzene			100	100.6		ug/L		101	70 - 130		
m,p-Xylenes			200	209.1		ug/L		105	70 - 130		
o-Xylene			100	106.7		ug/L		107	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 880-73077/35 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 73077

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			100	90.27		ug/L		90	70 - 130	12	20

QC Sample Results

Client: Larson & Associates, Inc. Job ID: 880-38793-1
Project/Site: Epperson SDG: 3233

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

Lab Sample ID: LCSD 880-73077/35 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 73077

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			100	110.5		ug/L		110	70 - 130	3	20
Ethylbenzene			100	104.7		ug/L		105	70 - 130	4	20
m,p-Xylenes			200	214.1		ug/L		107	70 - 130	2	20
o-Xylene			100	109.7		ug/L		110	70 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 880-38793-1 MS **Client Sample ID: TMW-3**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 73077

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<2.00	U	100	81.00		ug/L		81	70 - 130
Toluene	<2.00	U	100	109.9		ug/L		110	70 - 130
Ethylbenzene	<2.00	U	100	114.3		ug/L		114	70 - 130
m,p-Xylenes	<4.00	U	200	245.5		ug/L		122	70 - 130
o-Xylene	<2.00	U	100	125.7		ug/L		126	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 880-38793-1 MSD **Client Sample ID: TMW-3**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 73077

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<2.00	U	100	91.20		ug/L		91	70 - 130	12	25
Toluene	<2.00	U	100	104.6		ug/L		105	70 - 130	5	25
Ethylbenzene	<2.00	U	100	97.06		ug/L		97	70 - 130	16	25
m,p-Xylenes	<4.00	U	200	198.5		ug/L		99	70 - 130	21	25
o-Xylene	<2.00	U	100	101.8		ug/L		102	70 - 130	21	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-72526/3 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 72526

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.500	U	0.500		mg/L			02/07/24 07:58	1

QC Sample Results

Client: Larson & Associates, Inc. Job ID: 880-38793-1
Project/Site: Epperson SDG: 3233

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-72526/4 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 72526

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			25.0	25.26		mg/L		101	90 - 110		

Lab Sample ID: LCSD 880-72526/5 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 72526

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			25.0	25.14		mg/L		101	90 - 110	0	20

Lab Sample ID: 880-38793-1 MS **Client Sample ID: TMW-3**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 72526

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	297	F1	250	599.5	F1	mg/L		121	90 - 110		

Lab Sample ID: 880-38793-1 MSD **Client Sample ID: TMW-3**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 72526

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	297	F1	250	598.3	F1	mg/L		121	90 - 110	0	20

QC Association Summary

Client: Larson & Associates, Inc. Job ID: 880-38793-1
Project/Site: Epperson SDG: 3233

GC VOA

Prep Batch: 72955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-72955/5-A	Method Blank	Total/NA	Water	5035	

Analysis Batch: 73077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38793-1	TMW-3	Total/NA	Water	8021B	
880-38793-2	TMW-2	Total/NA	Water	8021B	
880-38793-3	TMW-4	Total/NA	Water	8021B	
880-38793-4	Dup-1	Total/NA	Water	8021B	
MB 880-72955/5-A	Method Blank	Total/NA	Water	8021B	72955
MB 880-73077/39	Method Blank	Total/NA	Water	8021B	
LCS 880-73077/34	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-73077/35	Lab Control Sample Dup	Total/NA	Water	8021B	
880-38793-1 MS	TMW-3	Total/NA	Water	8021B	
880-38793-1 MSD	TMW-3	Total/NA	Water	8021B	

Analysis Batch: 73156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38793-1	TMW-3	Total/NA	Water	Total BTEX	
880-38793-2	TMW-2	Total/NA	Water	Total BTEX	
880-38793-3	TMW-4	Total/NA	Water	Total BTEX	
880-38793-4	Dup-1	Total/NA	Water	Total BTEX	

HPLC/IC

Analysis Batch: 72526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-38793-1	TMW-3	Total/NA	Water	300.0	
880-38793-2	TMW-2	Total/NA	Water	300.0	
880-38793-3	TMW-4	Total/NA	Water	300.0	
880-38793-4	Dup-1	Total/NA	Water	300.0	
MB 880-72526/3	Method Blank	Total/NA	Water	300.0	
LCS 880-72526/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 880-72526/5	Lab Control Sample Dup	Total/NA	Water	300.0	
880-38793-1 MS	TMW-3	Total/NA	Water	300.0	
880-38793-1 MSD	TMW-3	Total/NA	Water	300.0	

Lab Chronicle

Client: Larson & Associates, Inc. Job ID: 880-38793-1
Project/Site: Epperson SDG: 3233

Client Sample ID: TMW-3 Lab Sample ID: 880-38793-1

Date Collected: 02/01/24 09:35 **Matrix: Water**
Date Received: 02/01/24 16:27

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	73077	02/14/24 06:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73156	02/14/24 06:10	SM	EET MID
Total/NA	Analysis	300.0		10			72526	02/07/24 08:18	CH	EET MID

Client Sample ID: TMW-2 Lab Sample ID: 880-38793-2

Date Collected: 02/01/24 10:23 **Matrix: Water**
Date Received: 02/01/24 16:27

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	73077	02/14/24 06:30	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73156	02/14/24 06:30	SM	EET MID
Total/NA	Analysis	300.0		5			72526	02/07/24 08:38	CH	EET MID

Client Sample ID: TMW-4 Lab Sample ID: 880-38793-3

Date Collected: 02/01/24 11:07 **Matrix: Water**
Date Received: 02/01/24 16:27

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	73077	02/14/24 06:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73156	02/14/24 06:51	SM	EET MID
Total/NA	Analysis	300.0		5			72526	02/07/24 08:45	CH	EET MID

Client Sample ID: Dup-1 Lab Sample ID: 880-38793-4

Date Collected: 02/01/24 00:00 **Matrix: Water**
Date Received: 02/01/24 16:27

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	73077	02/14/24 07:11	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			73156	02/14/24 07:11	SM	EET MID
Total/NA	Analysis	300.0		5			72526	02/07/24 08:52	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Job ID: 880-38793-1
Project/Site: Epperson
SDG: 3233

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	T104704400-23-26	06-30-24

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: Epperson

Job ID: 880-38793-1
SDG: 3233

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
5030B	Purge and Trap	SW846	EET MID

Protocol References:

EPA = US Environmental Protection Agency

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: Epperson

Job ID: 880-38793-1
SDG: 3233

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-38793-1	TMW-3	Water	02/01/24 09:35	02/01/24 16:27
880-38793-2	TMW-2	Water	02/01/24 10:23	02/01/24 16:27
880-38793-3	TMW-4	Water	02/01/24 11:07	02/01/24 16:27
880-38793-4	Dup-1	Water	02/01/24 00:00	02/01/24 16:27

3879

880-38793 Chain of Custody

No. 3233

CHAIN OF CUSTODY

2/14/2024

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

DATE 2/1/2024 | 1 OF 1

PO# | LAB WORK ORDER#

PROJECT LOCATION OR NAME Edgerson

LAI PROJECT # 23-0115-02 | COLLECTOR DSG

Data Reported to

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State MNT/NM

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

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 ☐	FIELD NOTES
TMW-3		2/1/24	0935	W	4	X			X		X																	X		
TMW-2		2/1/24	1023	W	4	X			X		X																	X		
TMW-4		2/1/24	1107	W	4	X			X		X																	X		
Dup 1		2/1/24	—	W	4	X			X		X																	X		

TOTAL 4

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)
Dasheen	2/1/24 1627	
Jazmine Wheeler	2-1-24 16:27	

LABORATORY Xenco

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

LABORATORY USE ONLY:
RECEIVING TEMP 1.6 THERM# 18
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #
☐ HAND DELIVERED

Login Sample Receipt Checklist

Client: Larson & Associates, Inc.

Job Number: 880-38793-1
SDG Number: 3233

Login Number: 38793
List Number: 1
Creator: Wheeler, Jazmine

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

Generated 11/18/2024 1:03:47 PM

JOB DESCRIPTION

Epperson
23-0115-02

JOB NUMBER

880-50965-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

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

Holly Taylor

Generated
11/18/2024 1:03:47 PM

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

Client: Larson & Associates, Inc.
Project/Site: Epperson

Laboratory Job ID: 880-50965-1
SDG: 23-0115-02

Table of Contents

Definitions/Glossary

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-50965-1
SDG: 23-0115-02

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.

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: 880-50965-1
Project: Epperson

Job ID: 880-50965-1 Eurofins Midland

Job Narrative
880-50965-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 11/12/2024 11:10 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
Method 8021B: The following sample was diluted due to the nature of the sample matrix: TMW-1 (880-50965-4). 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.

HPLC/IC
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: Epperson

Job ID: 880-50965-1
SDG: 23-0115-02

Client Sample ID: TMW-3
Date Collected: 11/11/24 10:10
Date Received: 11/12/24 11:10

Lab Sample ID: 880-50965-1
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<2.00	U	2.00		ug/L			11/13/24 12:43	1
Toluene	<2.00	U	2.00		ug/L			11/13/24 12:43	1
Ethylbenzene	<2.00	U	2.00		ug/L			11/13/24 12:43	1
m,p-Xylenes	<4.00	U	4.00		ug/L			11/13/24 12:43	1
o-Xylene	<2.00	U	2.00		ug/L			11/13/24 12:43	1
Xylenes, Total	<4.00	U	4.00		ug/L			11/13/24 12:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*11/13/24 12:43*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*		*11/13/24 12:43*	*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			11/13/24 12:43	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**325**		5.00		mg/L			11/17/24 17:45	10

Client Sample ID: TMW-2
Date Collected: 11/11/24 10:35
Date Received: 11/12/24 11:10

Lab Sample ID: 880-50965-2
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<2.00	U	2.00		ug/L			11/13/24 13:04	1
Toluene	<2.00	U	2.00		ug/L			11/13/24 13:04	1
Ethylbenzene	<2.00	U	2.00		ug/L			11/13/24 13:04	1
m,p-Xylenes	<4.00	U	4.00		ug/L			11/13/24 13:04	1
o-Xylene	<2.00	U	2.00		ug/L			11/13/24 13:04	1
Xylenes, Total	<4.00	U	4.00		ug/L			11/13/24 13:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*		*11/13/24 13:04*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*		*11/13/24 13:04*	*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			11/13/24 13:04	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**49.9**		2.50		mg/L			11/17/24 19:23	5

Client Sample ID: TMW-4
Date Collected: 11/11/24 11:07
Date Received: 11/12/24 11:10

Lab Sample ID: 880-50965-3
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<2.00	U	2.00		ug/L			11/13/24 13:25	1
Toluene	<2.00	U	2.00		ug/L			11/13/24 13:25	1

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-50965-1
SDG: 23-0115-02

Client Sample ID: TMW-4

Date Collected: 11/11/24 11:07
Date Received: 11/12/24 11:10

Lab Sample ID: 880-50965-3
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<2.00	U	2.00		ug/L			11/13/24 13:25	1
m,p-Xylenes	<4.00	U	4.00		ug/L			11/13/24 13:25	1
o-Xylene	<2.00	U	2.00		ug/L			11/13/24 13:25	1
Xylenes, Total	<4.00	U	4.00		ug/L			11/13/24 13:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*11/13/24 13:25*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*		*11/13/24 13:25*	*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			11/13/24 13:25	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**51.3**		2.50		mg/L			11/17/24 20:21	5

Client Sample ID: TMW-1

Date Collected: 11/11/24 11:45
Date Received: 11/12/24 11:10

Lab Sample ID: 880-50965-4
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<40.0	U	40.0		ug/L			11/13/24 14:05	20
Toluene	<40.0	U	40.0		ug/L			11/13/24 14:05	20
Ethylbenzene	**655**		40.0		ug/L			11/13/24 14:05	20
m,p-Xylenes	**680**		80.0		ug/L			11/13/24 14:05	20
o-Xylene	**82.1**		40.0		ug/L			11/13/24 14:05	20
Xylenes, Total	**762**		80.0		ug/L			11/13/24 14:05	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*11/13/24 14:05*	*20*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*		*11/13/24 14:05*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**1.42**		0.0800		mg/L			11/13/24 14:05	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**73.5**		2.50		mg/L			11/17/24 20:54	5

Client Sample ID: Dup-1

Date Collected: 11/11/24 00:00
Date Received: 11/12/24 11:10

Lab Sample ID: 880-50965-5
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<2.00	U	2.00		ug/L			11/13/24 13:45	1
Toluene	<2.00	U	2.00		ug/L			11/13/24 13:45	1
Ethylbenzene	<2.00	U	2.00		ug/L			11/13/24 13:45	1
m,p-Xylenes	<4.00	U	4.00		ug/L			11/13/24 13:45	1

Client Sample Results

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-50965-1
SDG: 23-0115-02

Client Sample ID: Dup-1

Date Collected: 11/11/24 00:00
Date Received: 11/12/24 11:10

Lab Sample ID: 880-50965-5

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<2.00	U	2.00		ug/L			11/13/24 13:45	1
Xylenes, Total	<4.00	U	4.00		ug/L			11/13/24 13:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*11/13/24 13:45*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*		*11/13/24 13:45*	*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			11/13/24 13:45	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**54.2**		2.50		mg/L			11/17/24 21:26	5

Surrogate Summary

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-50965-1
SDG: 23-0115-02

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)										
880-50965-1	TMW-3	101	100										
880-50965-1 MS	TMW-3	99	100										
880-50965-1 MSD	TMW-3	103	100										
880-50965-2	TMW-2	92	99										
880-50965-3	TMW-4	95	100										
880-50965-4	TMW-1	97	100										
880-50965-5	Dup-1	95	100										
LCS 880-95586/3	Lab Control Sample	102	101										
LCSD 880-95586/4	Lab Control Sample Dup	104	100										
MB 880-95586/8	Method Blank	92	95										

Surrogate Legend

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

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-50965-1
SDG: 23-0115-02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-95586/8
Matrix: Water
Analysis Batch: 95586

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<2.00	U	2.00		ug/L			11/13/24 12:22	1
Toluene	<2.00	U	2.00		ug/L			11/13/24 12:22	1
Ethylbenzene	<2.00	U	2.00		ug/L			11/13/24 12:22	1
m,p-Xylenes	<4.00	U	4.00		ug/L			11/13/24 12:22	1
o-Xylene	<2.00	U	2.00		ug/L			11/13/24 12:22	1
Xylenes, Total	<4.00	U	4.00		ug/L			11/13/24 12:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*		*11/13/24 12:22*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*		*11/13/24 12:22*	*1*

Lab Sample ID: LCS 880-95586/3
Matrix: Water
Analysis Batch: 95586

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			100	106.1		ug/L		106	70 - 130		
Toluene			100	103.7		ug/L		104	70 - 130		
Ethylbenzene			100	109.2		ug/L		109	70 - 130		
m,p-Xylenes			200	209.7		ug/L		105	70 - 130		
o-Xylene			100	117.5		ug/L		117	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-95586/4
Matrix: Water
Analysis Batch: 95586

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			100	109.3		ug/L		109	70 - 130	3	20
Toluene			100	108.3		ug/L		108	70 - 130	4	20
Ethylbenzene			100	113.8		ug/L		114	70 - 130	4	20
m,p-Xylenes			200	220.2		ug/L		110	70 - 130	5	20
o-Xylene			100	124.9		ug/L		125	70 - 130	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-50965-1 MS
Matrix: Water
Analysis Batch: 95586

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<2.00	U	100	112.5		ug/L		112	70 - 130		
Toluene	<2.00	U	100	110.0		ug/L		110	70 - 130		

Eurofins Midland

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-50965-1
SDG: 23-0115-02

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

Lab Sample ID: 880-50965-1 MS
Matrix: Water
Analysis Batch: 95586

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<2.00	U	100	116.3		ug/L		116	70 - 130
m,p-Xylenes	<4.00	U	200	225.1		ug/L		113	70 - 130
o-Xylene	<2.00	U	100	126.1		ug/L		126	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-50965-1 MSD
Matrix: Water
Analysis Batch: 95586

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<2.00	U	100	111.7		ug/L		112	70 - 130	1	25
Toluene	<2.00	U	100	109.5		ug/L		110	70 - 130	0	25
Ethylbenzene	<2.00	U	100	115.1		ug/L		115	70 - 130	1	25
m,p-Xylenes	<4.00	U	200	223.7		ug/L		112	70 - 130	1	25
o-Xylene	<2.00	U	100	126.3		ug/L		126	70 - 130	0	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-95888/3
Matrix: Water
Analysis Batch: 95888

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			11/17/24 17:06	1

Lab Sample ID: LCS 880-95888/4
Matrix: Water
Analysis Batch: 95888

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	24.91		mg/L		100	90 - 110

Lab Sample ID: LCSD 880-95888/5
Matrix: Water
Analysis Batch: 95888

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	25.16		mg/L		101	90 - 110	1	20

QC Sample Results

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-50965-1
SDG: 23-0115-02

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-50965-1 MS
Matrix: Water
Analysis Batch: 95888

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	325		250	571.3		mg/L		99	90 - 110		

Lab Sample ID: 880-50965-1 MSD
Matrix: Water
Analysis Batch: 95888

Client Sample ID: TMW-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	325		250	580.9		mg/L		102	90 - 110	2	20

QC Association Summary

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-50965-1
SDG: 23-0115-02

GC VOA

Analysis Batch: 95586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-50965-1	TMW-3	Total/NA	Water	8021B	
880-50965-2	TMW-2	Total/NA	Water	8021B	
880-50965-3	TMW-4	Total/NA	Water	8021B	
880-50965-4	TMW-1	Total/NA	Water	8021B	
880-50965-5	Dup-1	Total/NA	Water	8021B	
MB 880-95586/8	Method Blank	Total/NA	Water	8021B	
LCS 880-95586/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-95586/4	Lab Control Sample Dup	Total/NA	Water	8021B	
880-50965-1 MS	TMW-3	Total/NA	Water	8021B	
880-50965-1 MSD	TMW-3	Total/NA	Water	8021B	

Analysis Batch: 95717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-50965-1	TMW-3	Total/NA	Water	Total BTEX	
880-50965-2	TMW-2	Total/NA	Water	Total BTEX	
880-50965-3	TMW-4	Total/NA	Water	Total BTEX	
880-50965-4	TMW-1	Total/NA	Water	Total BTEX	
880-50965-5	Dup-1	Total/NA	Water	Total BTEX	

HPLC/IC

Analysis Batch: 95888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-50965-1	TMW-3	Total/NA	Water	300.0	
880-50965-2	TMW-2	Total/NA	Water	300.0	
880-50965-3	TMW-4	Total/NA	Water	300.0	
880-50965-4	TMW-1	Total/NA	Water	300.0	
880-50965-5	Dup-1	Total/NA	Water	300.0	
MB 880-95888/3	Method Blank	Total/NA	Water	300.0	
LCS 880-95888/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 880-95888/5	Lab Control Sample Dup	Total/NA	Water	300.0	
880-50965-1 MS	TMW-3	Total/NA	Water	300.0	
880-50965-1 MSD	TMW-3	Total/NA	Water	300.0	

Lab Chronicle

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-50965-1
SDG: 23-0115-02

Client Sample ID: TMW-3
Date Collected: 11/11/24 10:10
Date Received: 11/12/24 11:10

Lab Sample ID: 880-50965-1
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	95586	11/13/24 12:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			95717	11/13/24 12:43	SM	EET MID
Total/NA	Analysis	300.0		10	10 mL	10 mL	95888	11/17/24 17:45	CH	EET MID

Client Sample ID: TMW-2
Date Collected: 11/11/24 10:35
Date Received: 11/12/24 11:10

Lab Sample ID: 880-50965-2
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	95586	11/13/24 13:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			95717	11/13/24 13:04	SM	EET MID
Total/NA	Analysis	300.0		5	10 mL	10 mL	95888	11/17/24 19:23	CH	EET MID

Client Sample ID: TMW-4
Date Collected: 11/11/24 11:07
Date Received: 11/12/24 11:10

Lab Sample ID: 880-50965-3
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	95586	11/13/24 13:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			95717	11/13/24 13:25	SM	EET MID
Total/NA	Analysis	300.0		5	10 mL	10 mL	95888	11/17/24 20:21	CH	EET MID

Client Sample ID: TMW-1
Date Collected: 11/11/24 11:45
Date Received: 11/12/24 11:10

Lab Sample ID: 880-50965-4
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		20	5 mL	5 mL	95586	11/13/24 14:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			95717	11/13/24 14:05	SM	EET MID
Total/NA	Analysis	300.0		5	10 mL	10 mL	95888	11/17/24 20:54	CH	EET MID

Client Sample ID: Dup-1
Date Collected: 11/11/24 00:00
Date Received: 11/12/24 11:10

Lab Sample ID: 880-50965-5
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	95586	11/13/24 13:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			95717	11/13/24 13:45	SM	EET MID
Total/NA	Analysis	300.0		5	10 mL	10 mL	95888	11/17/24 21:26	CH	EET MID

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

Accreditation/Certification Summary

Client: Larson & Associates, Inc.
Project/Site: Epperson

Job ID: 880-50965-1
SDG: 23-0115-02

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	06-30-25

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: Epperson

Job ID: 880-50965-1
SDG: 23-0115-02

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
5030B	Purge and Trap	SW846	EET MID

Protocol References:

EPA = US Environmental Protection Agency

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: Epperson

Job ID: 880-50965-1
SDG: 23-0115-02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-50965-1	TMW-3	Water	11/11/24 10:10	11/12/24 11:10
880-50965-2	TMW-2	Water	11/11/24 10:35	11/12/24 11:10
880-50965-3	TMW-4	Water	11/11/24 11:07	11/12/24 11:10
880-50965-4	TMW-1	Water	11/11/24 11:45	11/12/24 11:10
880-50965-5	Dup-1	Water	11/11/24 00:00	11/12/24 11:10

No. 2373

CHAIN-OF-CUSTODY

880-50965 Chain of Custody

Larson & Associates, Inc.
Environmental Consultants
...e. 202
Midland, TX 79701
432-687-0901

DATE: 11/12/2024 PAGE 1 OF 1

PO#: _____ LAB WORK ORDER#: _____

PROJECT LOCATION OR NAME: Epperson

LAI PROJECT #: 23-0115-02 COLLECTOR: DSG/IR

Data Reported to: Daniel St Germain / Mark Larson

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST/NM

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

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 ☐	pH ☐	CYANIDE ☐	EXPLOSIVES ☐	HEXAVALENT CHROMIUM ☐	CHLORIDE ☒	PECHLORATE ☐	ANIONS ☐	ALKALINITY ☐	FIELD NOTES
Tmw-3		11/11	10:10	W	4				X		X																															X				
Tmw-2		"	10:35	"	"				"		"																															"				
Tmw-4		"	11:07	"	"				"		"																															"				
Tmw-1		"	11:45	"	"				"		"																															"				
Dup-1		"	—	"	"				"		"																															"				

TOTAL 5

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Daniel St Germain	11/12 1110	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)

LABORATORY: Eurofins

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: 880-50965-1
SDG Number: 23-0115-02

Login Number: 50965
List Number: 1
Creator: Vasquez, Julisa

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	

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

Operator: TARGA MIDSTREAM SERVICES LLC 811 Louisiana Street Houston, TX 77002	OGRID: 24650
	Action Number: 445712
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
jburdine	Review of 2024 Monitoring Report for Epperson 16-inch pipeline release. Report approved. 1. Continue groundwater monitoring of wells TMW-1 through TMW-4 on a semi-annual (twice yearly) for two (2) years and laboratory analysis for BTEX and chloride by EPA SW-846 Method 8021B and Method 300, respectively per approved abatement plan. 2. Continue to include gauging LNAPL and groundwater depth during monitoring. 3. Upon reaching the abatement standards and requirements set forth in 19.15.30.9 NMAC, a stand-alone abatement completion report will be submitted per OCD permitting. 4. Any proposed changes to long-term monitoring and site maintenance requirements for the site will be sent in as a stand-alone report through OCD permitting. 5. Submit 2025 Annual report no later than July 1, 2026.	7/1/2025