

2022 Annual Groundwater Monitoring Report

REVIEWED*By Mike Buchanan at 10:52 am, May 17, 2023*

Review of the Plains All American Pipeline, LP Livingston Line - Bob McCasland 2022 Annual Groundwater Monitoring Report:
Content Satisfactory

1. Continue to gauge and sample MW-2, MW-3, MW-5, MW-6 quarterly for BTEX.
2. MW-7, MW-8, MW-10, MW-11 shall continue to be gauged and sampled annually. MW-9 gauged quarterly and sampled if enough volume is present.
3. PSH recovery shall continue monthly. for MW-4. Monthly PAH recovery shall continue for MW-5
4. 2023 Annual Groundwater Monitoring will be submitted to OCD no later than April 1, 2024

Plains All American Pipeline, LP Livingston Line – Bob McCasland

Lea County, New Mexico

Unit Letter "K", Section 3, Township 21 South, Range 37 East

Latitude 32.504135 North, Longitude 103.151345 West

Plains SRS #: 2001-11226

NMOCD Reference #: 1RP-0395

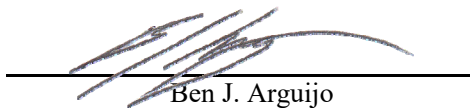
NMOCD Incident ID #: nAPP2109736613

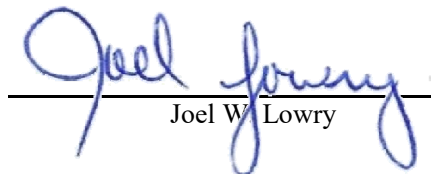
Prepared By:

Etech Environmental & Safety Solutions, Inc.

6309 Indiana Ave., Ste. D

Lubbock, TX 79413


Ben J. Arguijo


Joel W. Lowry



Midland • San Antonio • Lubbock • Hobbs • Lafayette

TABLE OF CONTENTS

1.0 INTRODUCTION & SITE DESCRIPTION.....	1
2.0 BACKGROUND INFORMATION.....	1
3.0 FIELD ACTIVITIES.....	2
3.1 Product Recovery.....	2
3.2 Groundwater Recovery.....	2
3.3 Groundwater Monitoring.....	2
4.0 LABORATORY RESULTS.....	3
5.0 SUMMARY.....	5
6.0 ANTICIPATED ACTIONS.....	6
7.0 LIMITATIONS.....	7
8.0 DISTRIBUTION.....	8

FIGURES

Figure 1 – Site Location Map

Figure 2A – Inferred Groundwater Gradient Map – 1Q2022

Figure 2B – Inferred Groundwater Gradient Map – 2Q2022

Figure 2C – Inferred Groundwater Gradient Map – 3Q2022

Figure 2D – Inferred Groundwater Gradient Map – 4Q2022

Figure 3A – Groundwater Concentration Map – 1Q2022

Figure 3B – Groundwater Concentration Map – 2Q2022

Figure 3C – Groundwater Concentration Map – 3Q2022

Figure 3D – Groundwater Concentration Map – 4Q2022

TABLES

Table 1 – Groundwater Elevation & PSH Thickness Summary

Table 2 – Groundwater BTEX Concentration Analytical Summary

Table 3 – MW-4 PSH/BTEX Impacted Groundwater Recovery Summary

Table 4 – MW-5 BTEX Impacted Groundwater Recovery Summary

Table 5 - Concentrations of PAH in Groundwater Summary

APPENDICES

Appendix A – Laboratory Analytical Reports

1.0 INTRODUCTION & SITE DESCRIPTION

Etech Environmental & Safety Solutions (Etech), on behalf of Plains All American Pipeline, LP (Plains), has prepared this *2022 Annual Groundwater Monitoring Report* for the Livingston Line to Bob McCasland Pipeline Release Site in accordance with the New Mexico Oil Conservation Division (NMOCD) letter of May 1998, requiring submittal of an Annual Monitoring Report by April 1st of each year.

The legal description of the Livingston Line to Bob McCasland Pipeline Release Site is Unit Letter "K" (NE/SW), Section 3, Township 21 South, Range 37 East, in Lea County, New Mexico. The property affected by the release is owned by Mr. Bob McCasland. The geographic coordinates of the Release Site are 32.504135° North latitude and 103.151345° West longitude. A "Site Location Map" is provided as Figure 1.

2.0 BACKGROUND INFORMATION

Based on information provided by the client, on July 13, 2001, an estimated release of four (4) barrels (bbls) of crude oil was reported to the New Mexico Oil Conservation District (NMOCD). The release covered an area of approximately 1,600 square feet (ft²) along a pipeline right-of-way and an adjacent caliche road. Initial excavation activities were conducted by a third-party environmental contractor in an effort to stockpile saturated soils and expose the release source to facilitate repair of the pipeline. The pipeline excavation activities continued into December 2001. A total of approximately 11,445 cubic yards (yd³) of hydrocarbon-impacted soil were excavated and stockpiled at the Site. Earthen berms were constructed around the stockpiles to prevent constituent runoff. Analytical results for soil samples collected from the excavation indicated benzene, toluene, ethylbenzene, and total xylenes (BTEX) concentrations were above NMOCD remedial threshold limits. A *Soil Characterization Report and Remediation Plan Report*, dated June 2006, was submitted to the NMOCD. This report detailed remediation activities conducted at the Site, in-place soil concentrations, and recommendations for in-situ hydrocarbon-impacted soil closure.

Investigation activities were conducted from August 16 through 22, 2001, which included the advancement of 17 exploratory soil borings. During this time, it was determined groundwater had been impacted at approximately 30 feet below ground surface (bgs). Based on these field observations, three (3) groundwater monitor wells (MW-1, MW-2, and MW-3) were installed proximate to the release area to evaluate the extent and magnitude of the Release. Groundwater samples collected from the groundwater monitor wells exhibited concentrations of BTEX constituents above applicable New Mexico Water Quality Control Commission (NMWQCC) Groundwater Standards. Subsequently, three (3) additional monitor wells (MW-4, MW-5, and MW-6) were installed at the Site. A measurable thickness of phase-separated hydrocarbons (PSH) was detected in monitor well MW-4 following installation.

To delineate the lateral extent of groundwater impact at the Site, three (3) additional monitor wells (MW-7, MW-8 and MW-9) were installed in June 2004. Two (2) additional monitor wells (MW-10 and MW-11) were installed in November 2004. During installation of these monitor wells, soil samples were collected and submitted to AnalySys, Inc., in Austin, Texas, for analysis of total

petroleum hydrocarbons (TPH) and BTEX constituents. BTEX constituents for all soil samples from the monitor wells were below NMOCD remedial threshold limits. TPH concentrations from soil samples collected from monitor wells MW-7, MW-10, and MW-11 were at or below appropriate laboratory analytical method detection limits (MDLs).

In February 2023, Etech, at the request of Plains, assumed project management and oversight responsibilities for groundwater remediation activities at the Livingston Line to Bob McCasland Pipeline Release project Site.

Currently, there are a total of 11 monitor wells (MW-1 through MW-11) on-site. Monitor wells MW-2, MW-3, MW-5, and MW-6 are gauged and sampled on a quarterly schedule. Monitor wells MW-7, MW-8, MW-10, and MW-11 are gauged and sampled on an annual basis. Monitor well MW-1 is not sampled as it has been gauged as “dry”. Monitor well MW-4 is currently not sampled due to the presence of PSH. Monitor well MW-9 has insufficient volume and recharge to sample.

3.0 FIELD ACTIVITIES

3.1 Product Recovery

A measurable thickness of PSH was detected in monitor well MW-4 following installation. Manual recovery of PSH and hydrocarbon-impacted groundwater from MW-4 commenced in 2018. Approximately 32 gallons of hydrocarbon-impacted groundwater and 3.64 gallons of PSH were recovered from MW-4 during the 2022 reporting period. A total of approximately 210 gallons (5.00 barrels) of PSH has been recovered since 2018. The average PSH thickness measured in monitor well MW-4 was 3.19 feet. Groundwater gauging and PSH recovery data for monitor well MW-4 is summarized in Table 3.

All recovered fluids were disposed of at an NMOCD-approved disposal facility.

3.2 Groundwater Recovery

Manual recovery of dissolved-phase hydrocarbon impacted groundwater from monitor well MW-5 commenced in May 2019. Approximately 27.5 gallons (0.65 bbls) of impacted groundwater was recovered from monitor well MW-5 during the 2022 reporting period. Approximately 162 gallons (3.85 bbls) of impacted groundwater has been recovered since 2019. Groundwater gauging and recovery data for monitor well MW-5 is summarized in Table 4.

All recovered fluids were disposed of at an NMOCD-approved disposal facility.

3.3 Groundwater Monitoring

The on-site monitor wells were gauged and sampled by a previous environmental contractor on March 15 (1Q2022), June 9 (2Q2022), and September 27 (3Q2022) of 2022. Due to a change in project management and oversight, no groundwater sampling was conducted during the fourth (4th) quarter of 2022. Etech assumed oversight responsibilities for the Site in February 2023 and conducted a groundwater monitoring event (4Q2022) on February 17, 2023 (the earliest available

opportunity) in order to assess the levels and extent of PSH and dissolved-phase constituents in the groundwater at the Site. The groundwater monitoring events consisted of measuring static water levels in the on-site monitor wells (MW-1 through MW-11), checking for the presence of PSH, and purging and sampling of each well exhibiting sufficient recharge. Purged water was placed into a polystyrene aboveground storage tank (AST) and disposed of at an NMOCD-approved disposal facility.

Groundwater samples were collected utilizing low-flow sampling equipment, including a bladder pump and multi-parameter meter. Prior to sample collection, readings on the multi-parameter meter were recorded for a minimum of four (4) cycles of five (5) minutes each. Each groundwater sample collected was placed in laboratory-supplied containers appropriate to the analysis requested and placed on ice in a cooler.

An annual monitoring event for polycyclic aromatic hydrocarbons (PAH) was conducted on March 15, 2022. Based on sampling criteria provided by the NMOCD, only monitor wells MW-2, MW-3, MW-5 and MW-6 were subject to annual PAH monitoring. PAH sampling requirements for the monitor wells had been met in years prior. However, all on-site monitor wells sampled during the 4th quarter of 2020 were inadvertently analyzed for PAH. The resulting analyses indicated that none of the monitor wells sampled during the 4th quarter of 2020 exceeded PAH Action Levels established by Section 20.6.2.3103 of the New Mexico Administrative Code (NMAC). In an effort to adhere to the requirement for two (2) consecutive years of PAH concentrations below action levels set forth by the NMOCD, monitor wells MW-2, MW-3, MW-5, and MW-6 were sampled during the first quarter of 2022 (1Q2022). A summary of PAH analyses is provided as Table 5.

Locations of the groundwater monitor wells and the inferred groundwater elevations, which were constructed from measurements collected during the 2022 quarterly sampling events, are depicted in Figures 2A through 2D. The maps indicate an average groundwater gradient of approximately 0.003 feet/foot to the east-southeast across the Site. Groundwater elevation and PSH thickness data is summarized in Table 1.

4.0 LABORATORY RESULTS

Groundwater samples collected from the on-site monitor wells during the quarterly and annual monitoring events were delivered to Eurofins Environment Testing South Central, LLC, in Midland, Texas, for determination of BTEX and/or PAH constituent concentrations by Environmental Protection Agency (EPA) Methods SW846-8021b and SW846 8270C, respectively. A summary of laboratory analytical results is presented in Table 2. A summary of PAH constituent concentrations is provided in Table 5. Groundwater concentration maps are provided as Figures 3A through 3D. Laboratory analytical reports are provided as Appendix A.

Laboratory analytical results were compared to NMOCD regulatory limits based on the New Mexico groundwater standards found in Section 20.6.2.3103 of the New Mexico Administrative Code (NMAC).

Monitor Well MW-1

Monitor well MW-1 gauged dry and was not able to be sampled during the reporting period.

Monitor Well MW-2

Laboratory analytical results indicated benzene, toluene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL and less than NMOCD regulatory standards in each of the submitted groundwater samples.

PAH constituent concentrations in the annual groundwater sample were less than the appropriate laboratory MDLs and less than NMWQCC Drinking Water Standards.

Monitor Well MW-3

Laboratory analytical results indicated benzene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL and less than NMOCD regulatory standards in each of the submitted groundwater samples. Toluene concentrations were also less than the NMOCD regulatory standard in each sample and ranged from less than the appropriate laboratory MDL in 2Q2022, 3Q2022, and 4Q2022 to 0.000401 mg/L in 1Q2022.

PAH constituent concentrations in the annual groundwater sample were less than the appropriate laboratory MDLs and less than NMWQCC Drinking Water Standards.

Monitor Well MW-4

Monitor well MW-4 was not sampled during the reporting period due to the presence of PSH.

Monitor Well MW-5

Laboratory analytical results indicated benzene concentrations ranged from less than the appropriate laboratory MDL in 1Q2022, 3Q2022, and 4Q2022 to 0.000596 mg/L in 2Q2022. Toluene concentrations ranged from less than the appropriate laboratory MDL in 2Q2022, 3Q2022, and 4Q2022 to 0.000459 mg/L in 1Q2022. Ethylbenzene concentrations ranged from less than the appropriate laboratory MDL in 2Q2022 and 3Q2022 to 0.000780 mg/L in 4Q2022. Total xylene concentrations ranged from less than the appropriate laboratory MDL in 1Q2022, 2Q2022, and 3Q2022 to 0.000804 mg/L in 4Q2022.

Benzene, toluene, ethylbenzene, and total xylene concentrations were less than NMOCD regulatory standards in each of the submitted groundwater samples.

PAH constituent concentrations in the annual groundwater sample were less than NMWQCC Drinking Water Standards.

Monitor Well MW-6

Laboratory analytical results indicated benzene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL and less than NMOCD regulatory standards in each of the submitted groundwater samples. Toluene concentrations were less than the NMOCD regulatory standard in each sample and ranged from less than the appropriate laboratory MDL in 2Q2022, 3Q2022, and 4Q2022 to 0.000403 mg/L in 1Q2022.

PAH constituent concentrations in the annual groundwater sample were less than the appropriate laboratory MDLs and less than NMWQCC Drinking Water Standards.

Monitor Well MW-7

Laboratory analytical results indicated benzene, toluene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL and less than NMOCD regulatory standards in each of the submitted annual groundwater samples.

Monitor Well MW-8

Laboratory analytical results indicated benzene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL and less than NMOCD regulatory standards. The toluene concentration of 0.000435 mg/L was also less than the NMOCD regulatory standard.

Monitor Well MW-9

Monitor well MW-9 exhibited insufficient well volume/recharge and was not able to be sampled during the reporting period.

Monitor Well MW-10

Laboratory analytical results indicated benzene, toluene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL and less than NMOCD regulatory standards in each of the submitted annual groundwater samples.

Monitor Well MW-11

Laboratory analytical results indicated benzene, toluene, ethylbenzene, and total xylene concentrations were less than the appropriate laboratory MDL and less than NMOCD regulatory standards in each of the submitted annual groundwater samples.

5.0 SUMMARY

This report presents the results of groundwater monitoring activities for the 2022 annual monitoring period. Currently, there are 11 groundwater monitor wells (MW-1 through MW-11) on-site. Monitor wells MW-2, MW-3, MW-5, and MW-6 were gauged and sampled during all four (4) quarters of the monitoring period. Monitor wells MW-7, MW-8, MW-10, and MW-11 are on

a annual sampling schedule and were sampled during 1Q2022. The results of these sampling events are summarized above. Monitor well MW-1 gauged dry and was not able to be sampled during the reporting period. Monitor well MW-4 was not sampled due to the presence of PSH. Monitor well MW-9 exhibited insufficient well volume/recharge throughout the reporting period and was not able to be sampled.

Groundwater gauging data collected during the monitoring period indicates an average groundwater gradient of approximately 0.003 feet/foot to the east-southeast across the Site.

During the reporting period, approximately 32.0 gallons of hydrocarbon-impacted groundwater and 3.64 gallons of PSH were recovered, by manual recovery, from monitor well MW-4. A total of approximately 210 gallons (5.00 barrels) of PSH has been recovered since recovery commenced in 2018. The average PSH thickness measured in monitor well MW-4 was 3.19 feet.

Approximately 27.5 gallons of dissolved-phase hydrocarbon-impacted groundwater was recovered from monitor well MW-5 during the 2022 reporting period. Approximately 162 gallons (3.85 bbls) of impacted groundwater has been recovered since recovery commenced in 2019.

Review of laboratory analytical results from groundwater samples collected during the reporting period indicated BTEX constituent concentrations were less than NMOCD regulatory standards in all submitted groundwater samples. PAH constituent concentrations were less than NMOCD regulatory standards in the annual samples collected from monitor wells MW-2, MW-3, MW-5, and MW-6 in 1Q2022.

6.0 ANTICIPATED ACTIONS

Monitor wells MW-2, MW-3, MW-5, and MW-6 will continue to be gauged and sampled quarterly for BTEX. Monitor wells MW-7, MW-8, MW-10, and MW-11 will continue to be gauged and sampled on an annual basis. Monitor well MW-9 will be gauged on a quarterly basis and sampled if the monitor well exhibits sufficient volume/recharge.

Monthly recovery of PSH will continue from monitor well MW-4.

Monthly recovery of dissolved-phase hydrocarbon-impacted groundwater will continue from monitor well MW-5 in an effort to control the down-gradient migration of the dissolved-phase plume.

PAH sampling requirements have been met for monitor wells MW-2, MW-3, MW-5, and MW-6. No additional PAH sampling will be conducted from the wells.

Results of the 2023 sampling and recovery events will be reported in the *2023 Annual Monitoring Report*, which will be submitted to the NMOCD by April 1, 2024.

7.0 LIMITATIONS

Etech Environmental & Safety Solutions, Inc., has prepared this *2022 Annual Groundwater Monitoring Report* to the best of its ability. No other warranty, expressed or implied, is made or intended. Etech has examined and relied upon documents reference in the report and on oral statements made by certain individuals. Etech has not conducted an independent examination of the facts contained in referenced materials and statements. Etech has presumed the genuineness of these documents and statements and that the information provided therein is true and accurate. Etech has prepared the report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Etech notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Plains All American Pipeline, LP. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Etech and/or Plains All American Pipeline, LP.

8.0 DISTRIBUTION

Plains All American Pipeline, LP
1106 Griffith Drive
Midland, Texas 79706

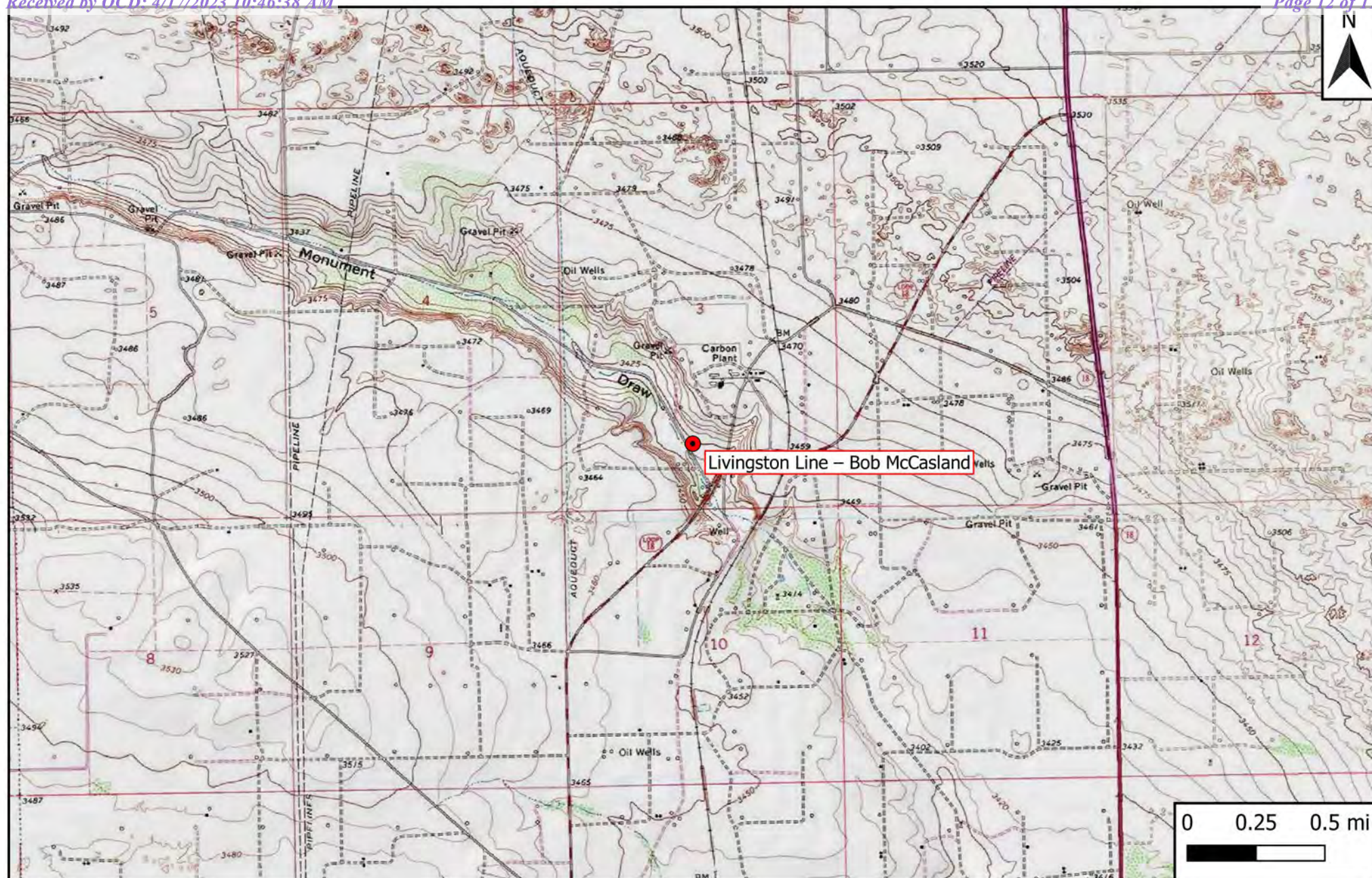
Nelson Velez
Environmental Specialist - Advanced
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410

Jeff Dann
Plains All American Pipeline, LP
333 Clay Street, Suite 1600
Houston, Texas 77002

(Electronic Submission)

Figure 1

Site Location Map



Legend

- Site Location

Figure 1

Site Location Map
 Plains All American Pipeline, LP
 Livingston Line – Bob McCasland
 GPS: 32.504135, -103.151345
 Lea County

eTECH
 Environmental & Safety Solutions, Inc.

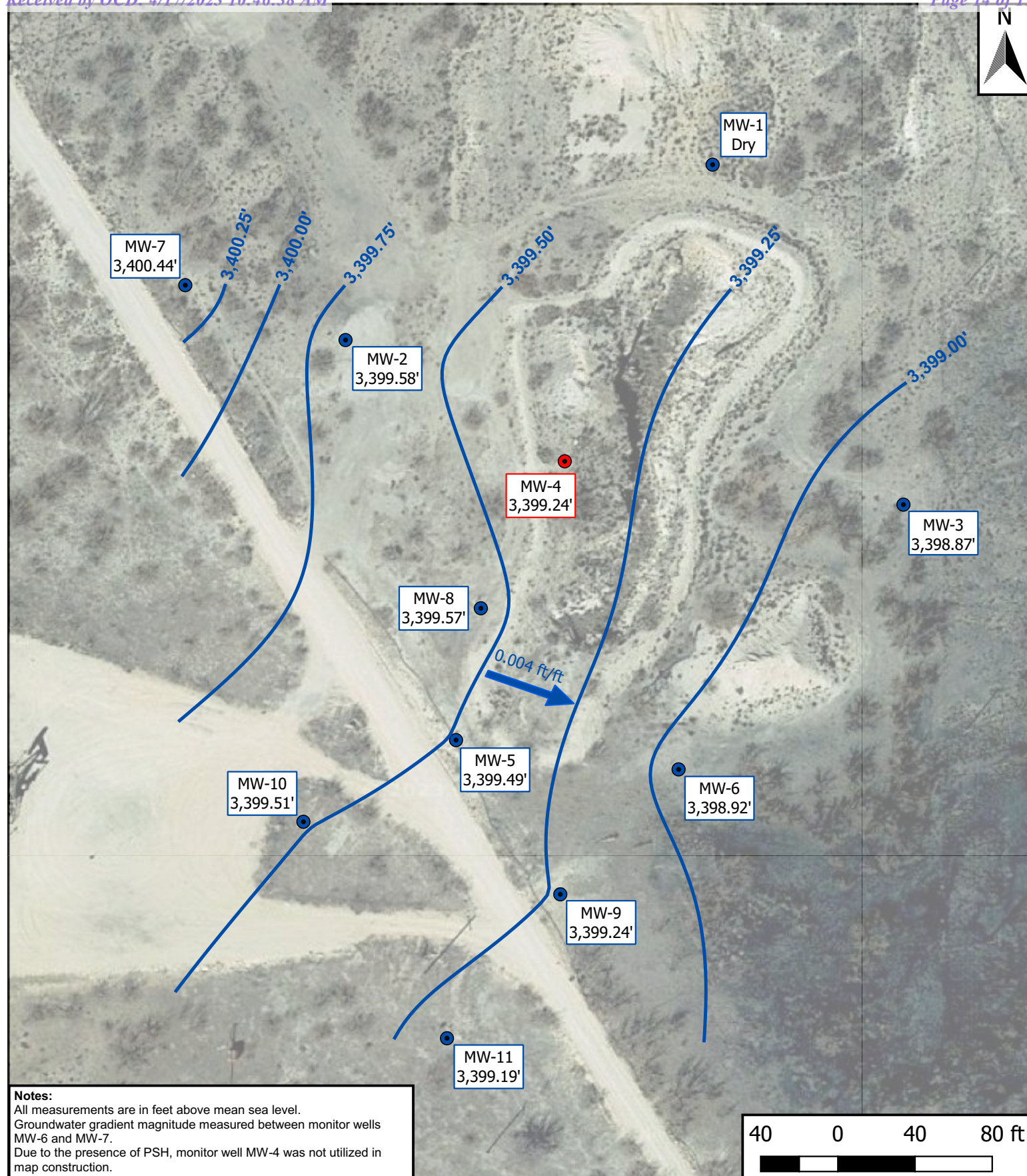
Drafted: bja

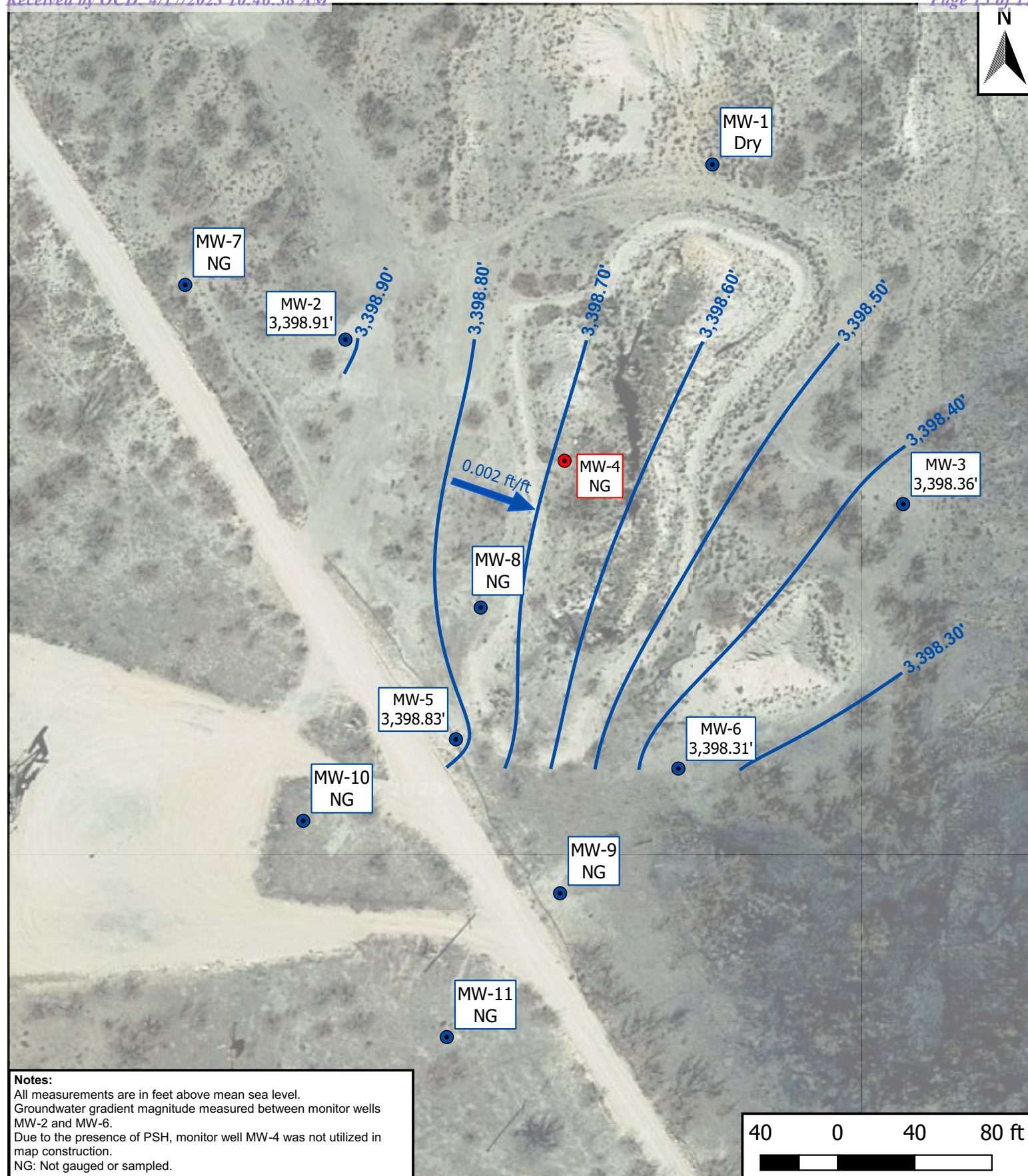
Checked: jwl

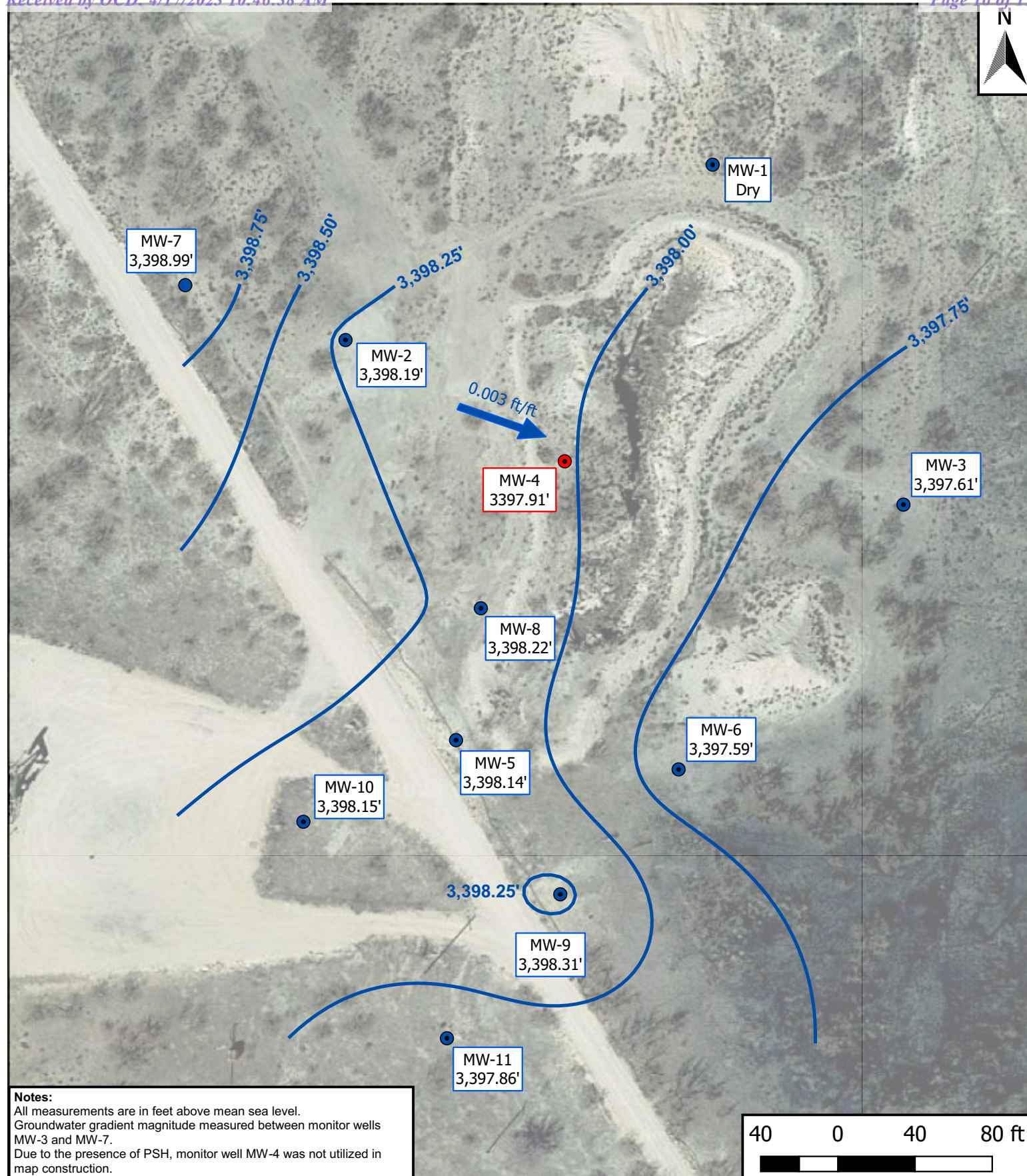
Date: 3/28/23

Figures 2A - 2D

Inferred Groundwater Gradient Maps



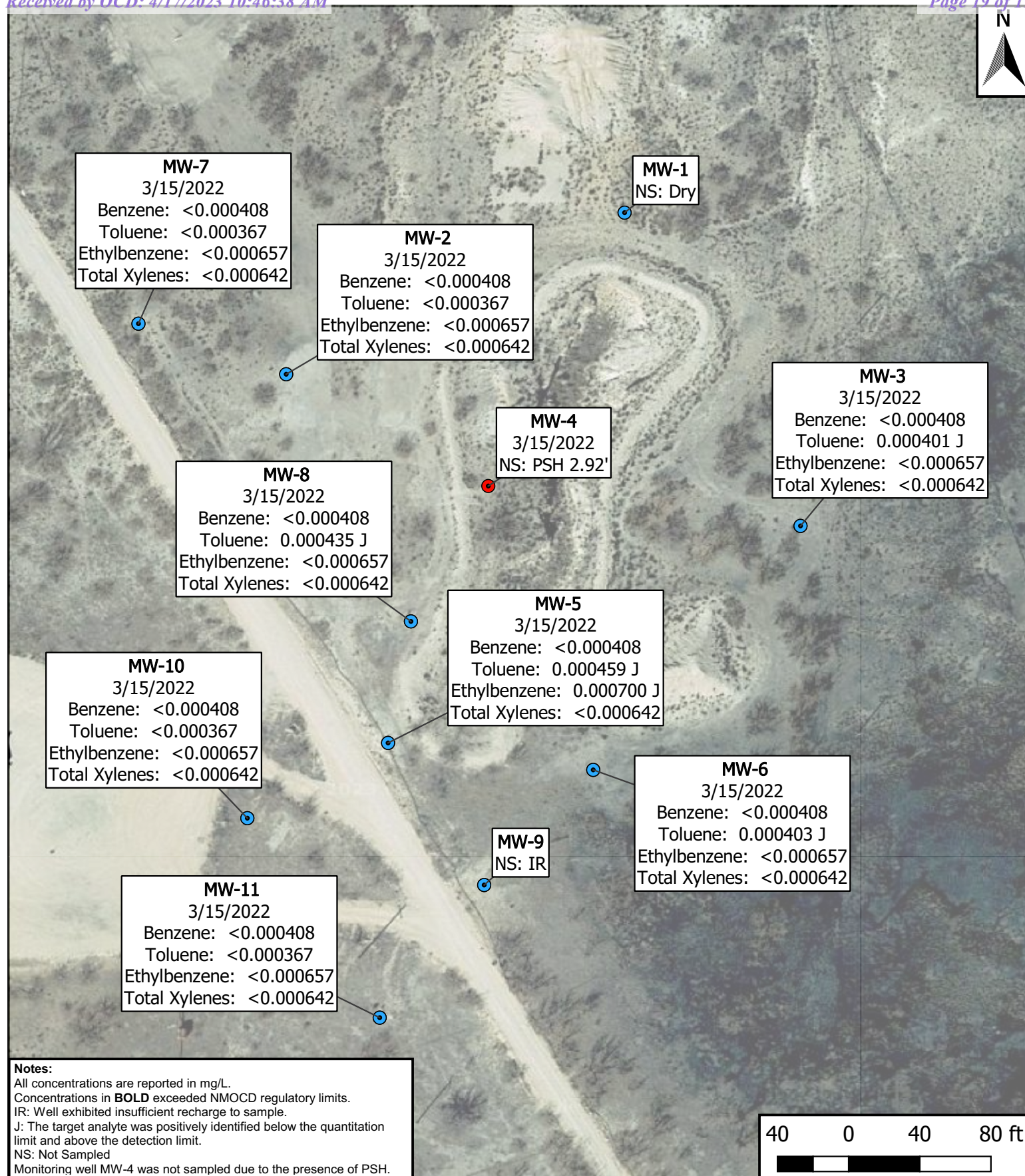






Figures 3A - 3D

Groundwater Concentration Maps



Legend

- Monitor Well (MW)
- Recovery Well

Figure 3A

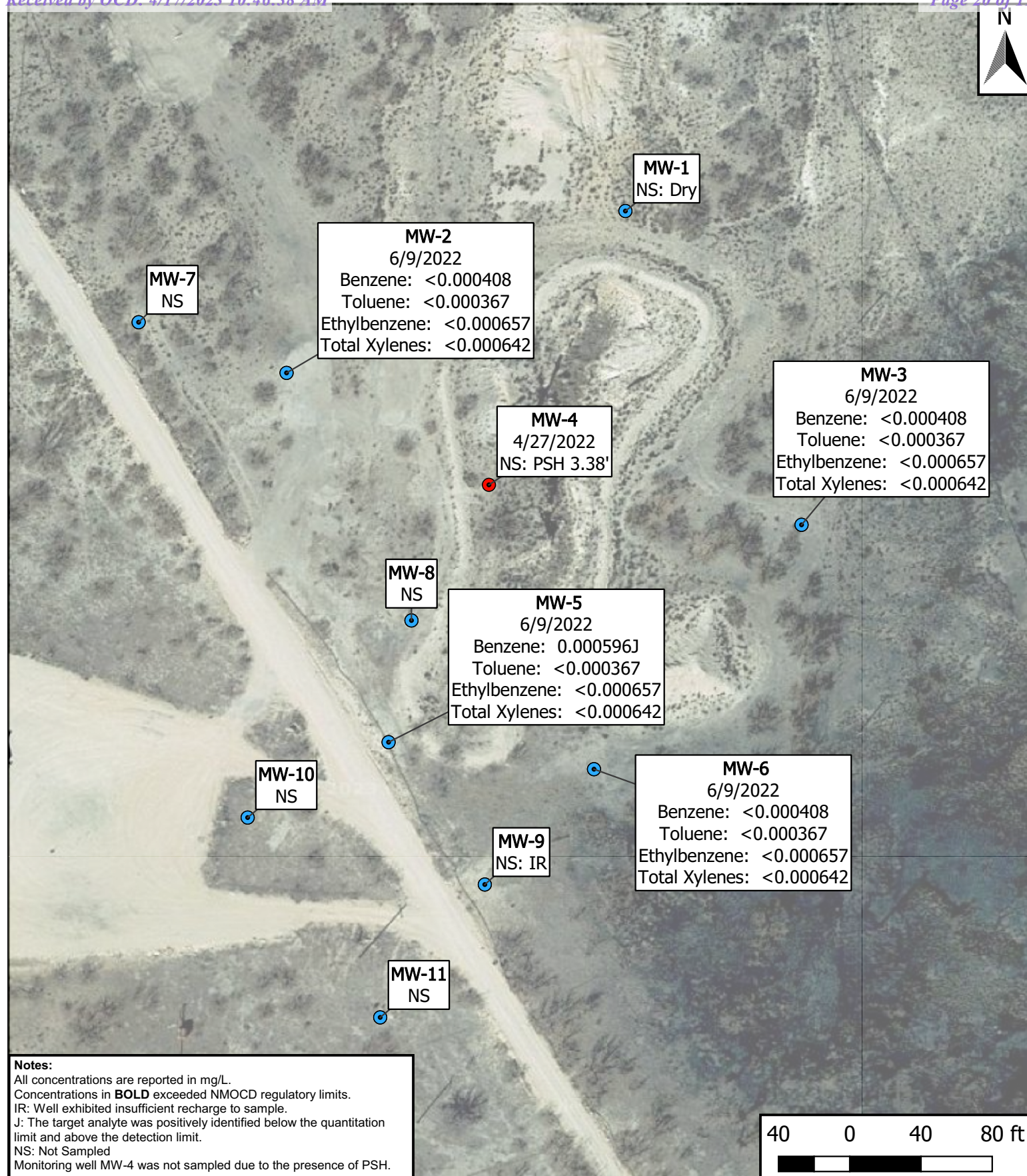
Groundwater Concentration Map – 1Q2022
Plains All American Pipeline, LP
Livingston Line – Bob McCasland
GPS: 32.504135, -103.151345
Lea County, New Mexico



Drafted: bja

Checked: jwl

Date: 4/13/23



Legend

- Monitor Well (MW)
- Recovery Well

Figure 3B

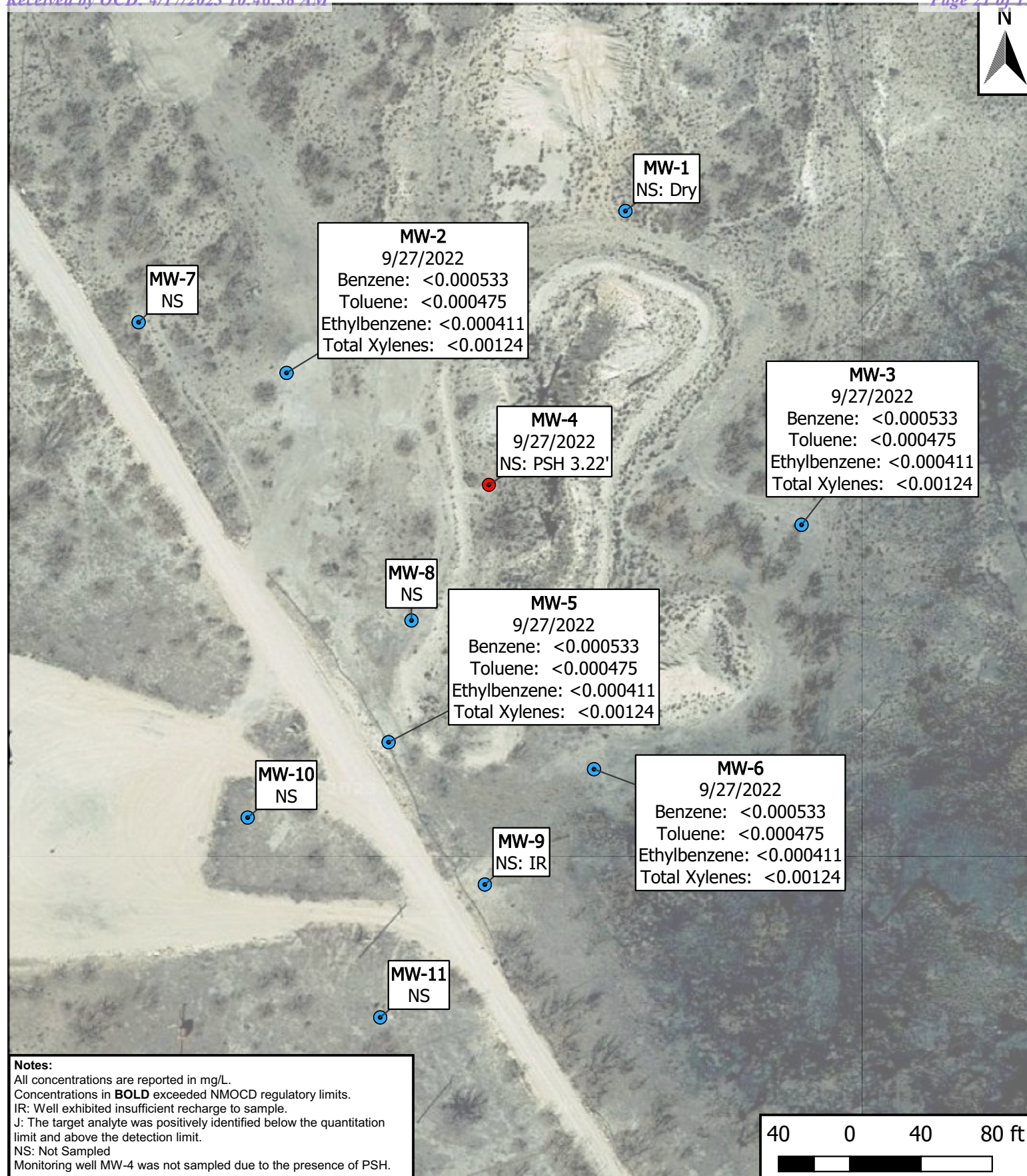
Groundwater Concentration Map – 2Q2022
 Plains All American Pipeline, LP
 Livingston Line – Bob McCasland
 GPS: 32.504135, -103.151345
 Lea County, New Mexico



Drafted: bja

Checked: jwl

Date: 4/13/23



Legend

- Monitor Well (MW)
- Recovery Well

Figure 3C

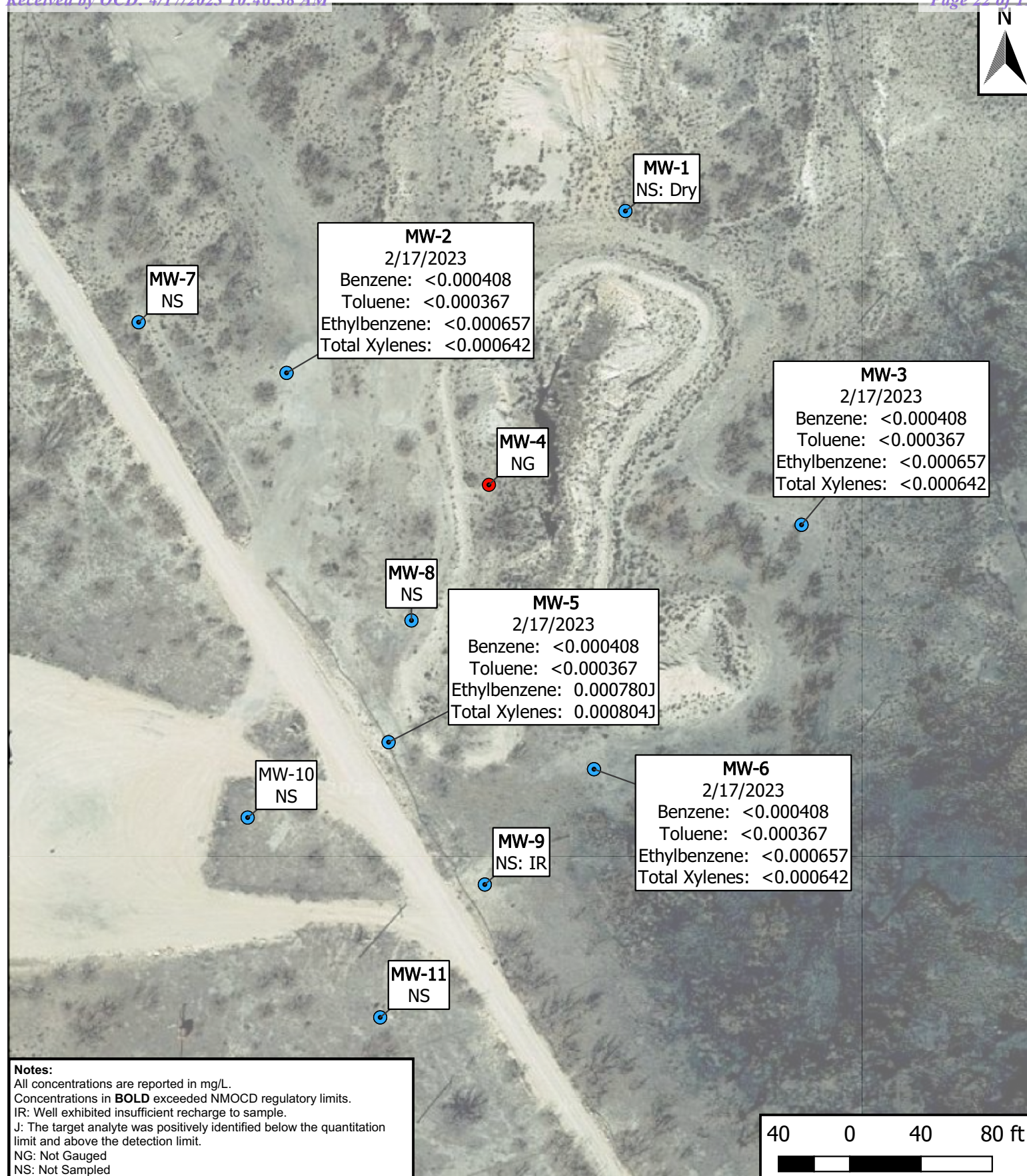
Groundwater Concentration Map – 3Q2022
 Plains All American Pipeline, LP
 Livingston Line – Bob McCasland
 GPS: 32.504135, -103.151345
 Lea County, New Mexico



Drafted: bja

Checked: jwl

Date: 4/13/23



Legend

- Monitor Well (MW)
- Recovery Well

Figure 3D

Groundwater Concentration Map – 4Q2022
Plains All American Pipeline, LP
Livingston Line – Bob McCasland
GPS: 32.504135, -103.151345
Lea County, New Mexico



Drafted: bja

Checked: jwl

Date: 4/13/23

Tables 1 - 5

Table 1
Groundwater Elevation & PSH¹ Thickness Summary

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
Plains SRS #: 2001-11226
Etech Project #: 17475
NMOCD² Incident #: nAPP2109736613

All measurements are in feet above mean sea level

Monitoring Well (Well Diameter ")	Date Gauged	Top of Casing (TOC) ³ Elevation*	Depth to PSH Below TOC (feet)	Depth to Water Below TOC (feet)	PSH Thickness (feet)	Corrected Groundwater Elevation**
MW-1 (2")	03/10/21	2,439.09	DRY			
	06/15/21					
	09/24/21					
	12/13/21					
	03/15/22					
	06/09/22					
	09/27/22					
	02/21/23					
MW-2 (2")	03/10/21	3,432.62	-	32.22	-	3,400.40
	06/15/21		-	32.84	-	3,399.78
	09/24/21		-	33.39	-	3,399.23
	12/13/21		-	33.14	-	3,399.48
	03/15/22		-	33.04	-	3,399.58
	06/09/22		-	33.71	-	3,398.91
	09/27/22		-	34.43	-	3,398.19
	02/21/23		-	33.61	-	3,399.01
MW-3 (2")	03/10/21	3,433.61	-	33.92	-	3,399.69
	06/15/21		-	34.40	-	3,399.21
	09/24/21		-	34.94	-	3,398.67
	12/13/21		-	34.83	-	3,398.78
	03/15/22		-	34.74	-	3,398.87
	06/09/22		-	35.25	-	3,398.36
	09/27/22		-	36.00	-	3,397.61
	02/21/23		-	35.47	-	3,398.14
MW-4 (2")	03/10/21	3,432.25	32.05	33.25	1.20	3,400.02
	06/15/21		32.45	34.56	2.11	3,399.48
	09/24/21		32.90	35.67	2.77	3,398.93
	12/13/21		32.58	34.58	2.00	3,399.37
	03/15/22		32.57	35.49	2.92	3,399.24
	4/27/2022		32.6	35.98	3.38	3399.143
	09/27/22		33.86	37.08	3.22	3397.907
	02/21/23		-	-	-	-
MW-5 (2")	03/10/21	3,429.63	-	29.32	-	3,400.31
	06/15/21		-	29.96	-	3,399.67
	09/24/21		-	30.45	-	3,399.18
	12/13/21		-	31.24	-	3,398.39
	03/15/22		-	30.14	-	3,399.49
	06/09/22		-	30.80	-	3,398.83
	09/27/22		-	31.49	-	3,398.14
	02/21/23		-	30.78	-	3,398.85
MW-6 (2")	03/10/21	3,429.30	-	29.53	-	3,399.77
	06/15/21		-	30.13	-	3,399.17
	09/24/21		-	30.68	-	3,398.62
	12/13/21		-	30.47	-	3,398.83
	03/15/22		-	30.38	-	3,398.92
	06/09/22		-	30.99	-	3,398.31
	09/27/22		-	31.71	-	3,397.59
	02/21/23		-	30.94	-	3,398.36

Notes:

1. PSH = Phase Separated Hydrocarbons

2. NMOCD = New Mexico Oil Conservation Division

3. TOC = Top of Casing

* Elevations based on the North American Vertical Datum of 1988.

** Corrected groundwater elevations were extrapolated using a PSH specific gravity of 0.85, if PSH was gauged in the monitoring well.

Table 1
Groundwater Elevation & PSH¹ Thickness Summary

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
Plains SRS #: 2001-11226
Etech Project #: 17475
NMOCD² Incident #: nAPP2109736613

All measurements are in feet above mean sea level

Monitoring Well (Well Diameter ")	Date Gauged	Top of Casing (TOC) ³ Elevation*	Depth to PSH Below TOC (feet)	Depth to Water Below TOC (feet)	PSH Thickness (feet)	Corrected Groundwater Elevation**
MW-7 (2")	03/10/21	3,431.37	-	30.12	-	3,401.25
	06/15/21		-	30.80	-	3,400.57
	09/24/21		-	31.33	-	3,400.04
	12/13/21		-	31.05	-	3,400.32
	03/15/22		-	30.93	-	3,400.44
	09/27/22		-	32.38	-	3,398.99
MW-8 (4")	03/10/21	3,431.07	-	30.64	-	3,400.43
	06/15/21		-	31.24	-	3,399.83
	09/24/21		-	31.80	-	3,399.27
	12/13/21		-	31.60	-	3,399.47
	03/15/22		-	31.50	-	3,399.57
	09/27/22		-	32.85	-	3,398.22
MW-9 (2")	03/10/21	3,429.79	-	29.72	-	3,400.07
	06/15/21		-	30.33	-	3,399.46
	09/24/21		-	30.88	-	3,398.91
	12/13/21		-	30.66	-	3,399.13
	03/15/22		-	30.55	-	3,399.24
	09/27/22		-	31.48	-	3,398.31
MW-10 (2")	03/10/21	3,429.49	-	29.18	-	3,400.31
	06/15/21		-	29.76	-	3,399.73
	09/24/21		-	30.30	-	3,399.19
	12/13/21		-	30.06	-	3,399.43
	03/15/22		-	29.98	-	3,399.51
	09/27/22		-	31.34	-	3,398.15
MW-11 (2")	03/10/21	3,428.32	-	28.32	-	3,400.00
	06/15/21		-	28.90	-	3,399.42
	09/24/21		-	29.44	-	3,398.88
	12/13/21		-	29.21	-	3,399.11
	03/15/22		-	29.13	-	3,399.19
	09/27/22		-	30.46	-	3,397.86

Notes:

1. PSH = Phase Separated Hydrocarbons

2. NMOCD = New Mexico Oil Conservation Division

3. TOC = Top of Casing

* Elevations based on the North American Vertical Datum of 1988.

** Corrected groundwater elevations were extrapolated using a PSH specific gravity of 0.85, if PSH was gauged in the monitoring well.

Table 2
Groundwater BTEX¹ Concentration Analytical Summary

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
Plains SRS #: 2001-11226
Etech Project #: 17475
NMOCD² Incident ID#: nAPP2109736613

All concentrations are in milligrams per liter (mg/L)

Monitoring Well		Date Sampled	EPA SW846-8021B					
			Benzene	Toluene	Ethylbenzene	M,P-Xylenes	O-Xylenes	Total Xylenes
NMOCD RRAL CRITERIA ³		0.01	0.75	0.75	TOTAL XYLENES 0.62			NE ⁴
MW-1	03/10/2021	Dry - Not Sampled						
	06/15/2021							
	09/24/2021							
	12/13/2021							
	03/15/2022							
	06/09/2022							
	09/27/2022							
	02/17/2023							
MW-2	03/10/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.0200	<0.00200	<0.00200
	06/15/2021	0.00189 J	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	0.00189 J
	09/24/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	0.00297
	12/13/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	03/15/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/09/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	09/27/2022	<0.000533	<0.000475	<0.000411	<0.00124	<0.000551	<0.00124	<0.00124
	02/17/2023	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
MW-3	03/10/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00200	<0.00200
	06/15/2021	<0.000408	<0.000367	<0.000657	<0.000629	0.00177 J	0.00177 J	0.00177 J
	09/24/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00200
	12/13/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	03/15/2022	<0.000408	0.000401 J	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/09/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	09/27/2022	<0.000533	<0.000475	<0.000411	<0.00124	<0.000551	<0.00124	<0.00124
	02/17/2023	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
MW-4	03/10/2021	Not Sampled Due to the presence of Phase Separated Hydrocarbons (PSH)						
	06/15/2021							
	09/24/2021							
	12/13/2021							
	03/15/2022							
	06/09/2022							
	09/27/2022							
	02/17/2023							
MW-5	06/15/2021	<0.000408	<0.000367	0.00253	0.000792 J	<0.000642	0.000792 J	0.00332 J
	DUP-1	0.000622 J	<0.000367	<0.000657	<0.000629	0.000988 J	0.000988 J	0.00161 J
	09/24/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	0.00258
	DUP-1	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	0.00224
	12/13/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	DUP-1	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	03/15/2022	<0.000408	0.000459 J	0.000700 J	<0.000629	<0.000642	<0.000642	0.00116 J
	DUP-1	<0.000408	0.000433 J	0.000673 J	<0.000629	<0.000642	<0.000642	0.00111 J
	06/09/2022	0.000596J	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	09/27/2022	<0.000533	<0.000475	<0.000411	<0.00124	<0.000551	<0.00124	<0.00124
	DUP-1	<0.000533	<0.000475	<0.000411	<0.00124	<0.000551	<0.00124	<0.00124
	02/17/2023	<0.000408	<0.000367	0.000780J	0.000804J	<0.000642	0.000804J	0.00158J
MW-6	03/10/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00200	<0.00200
	06/15/2021	<0.000408	0.000777 J B	<0.000657	<0.000629	<0.000642	<0.000642	0.000777 J B
	09/24/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00200
	12/13/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	03/15/2022	<0.000408	0.000403 J	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/09/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	09/27/2022	<0.000533	<0.000475	<0.000411	<0.00124	<0.000551	<0.00124	<0.00124
	02/17/2023	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657

Notes:

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NMOCD = New Mexico Oil Conservation Division

3. RRAL Criteria = Recommended Remediation Action Level Criteria

4. NE = Not Established

J: The target analyte was positively identified below the quantitation limit and above the detection limit

Bold text indicates a concentration exceeding the NMOCD RRAL Criteria

Table 2
Groundwater BTEX¹ Concentration Analytical Summary

Livingston Line - Bob McCasland Pipeline Leak
Lea County, New Mexico
Plains SRS #: 2001-11226
Etech Project #: 17475
NMOCD² Incident ID#: nAPP2109736613

All concentrations are in milligrams per liter (mg/L)

Monitoring Well	Date Sampled	EPA SW846-8021B						
		Benzene	Toluene	Ethylbenzene	M,P-Xylenes	O-Xylenes	Total Xylenes	Total BTEX
NMOCD RRAL CRITERIA ³		0.01	0.75	0.75	TOTAL XYLENES 0.62			NE ⁴
MW-7	03/10/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00200	<0.00200
	06/15/2021	Well Not Sampled						
	09/24/2021							
	12/13/2021							
	03/15/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/09/2022	Well Not Sampled						
	09/27/2022							
02/17/2023								
MW-8	03/10/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00200	<0.00200
	06/15/2021	Well Not Sampled						
	09/24/2021							
	12/13/2021							
	03/15/2022	<0.000408	0.000435 J	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/09/2022	Well Not Sampled						
	09/27/2022							
02/17/2023								
MW-9	03/10/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00200	<0.00200
	DUP-1	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00200	<0.00200
	06/15/2021	<0.000408	0.000515 J B	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	09/24/2021	Well Not Sampled						
	12/13/2021							
	03/15/2022	Insufficient Volume for Sample Collection						
	06/09/2022							
	09/27/2022							
02/17/2023								
MW-10	03/10/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00200	<0.00200
	06/15/2021	Well Not Sampled						
	09/24/2021							
	12/13/2021							
	03/15/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/09/2022	Well Not Sampled						
	09/27/2022							
02/17/2023								
MW-11	03/10/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00200	<0.00200
	06/15/2021	Well Not Sampled						
	09/24/2021							
	12/13/2021							
	03/15/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/09/2022	Well Not Sampled						
	09/27/2022							
02/17/2023								

Notes:

1. BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

2. NMOCD = New Mexico Oil Conservation Division

3. RRAL Criteria = Recommended Remediation Action Level Criteria

4. NE = Not Established

J: The target analyte was positively identified below the quantitation limit and above the detection limit

Bold text indicates a concentration exceeding the NMOCD RRAL Criteria

Table 3
MW-4 PSH¹/BTEX² Impacted Groundwater Recovery Summary

Livingston Line to Bob McCasland Pipeline Release

Lea County, New Mexico

Plains SRS #: 2001-11226

Etech Project #: 17475

NMOCD³ Incident ID#: nAPP2109736613

All elevations are measured in feet above mean sea level

Monitoring Well	Date	Depth to PSH ¹ Below Top of Casing	Depth to Water Below Top of Casing	PSH Thickness	Total Fluid Recovery (gallons)	PSH Recovered (gallons)
MW-4	01/20/2020	31.35	31.40	0.05	3.0	0.008
	01/31/2020	31.37	34.42	3.05	3.0	0.497
	02/14/2020	31.23	31.33	0.10	3.0	0.016
	02/19/2020	31.31	31.37	0.06	3.5	0.010
	02/27/2020	31.33	31.37	0.04	3.0	0.007
	03/05/2020	31.26	31.27	0.01	3.0	0.002
	03/17/2020	31.33	31.38	0.05	3.0	0.008
	05/26/2020	31.60	31.89	0.29	2.0	0.047
	06/29/2020	32.16	32.25	0.09	3.0	0.015
	07/28/2020	32.35	32.45	0.10	2.0	0.016
	08/18/2020	32.16	32.25	0.09	2.0	0.015
	10/14/2020	32.54	33.48	0.94	2.0	0.153
	11/12/2020	-	-	-	3.0	-
	12/29/2020	32.12	34.16	2.04	3.0	0.333
	01/21/2021	32.04	33.69	1.65	3.0	0.269
	02/26/2021	31.95	33.83	1.88	3.0	0.306
	03/29/2021	31.87	33.80	1.93	3.0	0.315
	04/26/2021	31.99	33.87	1.88	3.0	0.306
	05/21/2021	32.13	34.01	1.88	3.0	0.306
	06/29/2021	32.20	34.02	1.82	3.0	0.297
	07/29/2021	32.59	35.67	3.08	2.3	0.502
	08/26/2021	-	-	-	3.0	-
	10/25/2021	32.93	36.04	3.11	3.0	0.507
	11/30/2021	32.83	35.23	2.40	3.0	0.391
	12/20/2021	32.82	34.92	2.10	3.5	0.342
	01/25/2022	32.85	34.88	2.03	4.0	0.331
	02/23/2022	32.55	35.78	3.23	4.0	0.526
	03/29/2022	32.48	35.99	3.51	4.0	0.572
	04/27/2022	32.60	35.98	3.38	5.0	0.551
	08/31/2022	33.72	37.28	3.56	5.0	0.580
	10/19/2022	33.69	36.98	3.29	5.0	0.536
	11/22/2022	33.41	36.74	3.33	5.0	0.543
2022 Average PSH Thickness:				3.19	2022 Total Recovery	32.0
					32.0	3.640

Notes:

1. PSH: Phase Separated Hydrocarbons
 2. BTEX: Benzene, Toluene, Ethylbenzene, and Total Xylenes
 3. NMOCD: New Mexico Oil Conservation Division
- = Data not recorded

Table 4
MW-5 BTEX¹ Impacted Groundwater Recovery Summary

Livingston Line to Bob McCasland Pipeline Release
Lea County, New Mexico
Plains SRS #: 2001-11226
Etech Project #: 17476
NMOCD² Incident ID#: nAPP2109736613

All elevations are measured in feet above mean sea level

Monitoring Well	Date	Groundwater Recovered (gallons)
MW-5	01/09/2020	3.0
	01/20/2020	5.0
	01/31/2020	3.0
	02/14/2020	5.0
	02/19/2020	5.0
	02/27/2020	4.0
	03/05/2020	5.0
	03/17/2020	5.0
	05/26/2020	5.0
	06/29/2020	5.0
	07/28/2020	4.5
	08/18/2020	5.0
	10/14/2020	3.0
	11/12/2020	5.0
	12/29/2020	3.0
	01/21/2021	3.0
	02/26/2021	5.0
	03/29/2021	5.0
	04/26/2021	5.0
	05/21/2021	5.0
	06/29/2021	5.0
	07/29/2021	3.0
	08/26/2021	3.0
	10/25/2021	3.0
	11/30/2021	2.5
	12/20/2021	4.0
	01/25/2022	4.0
	02/23/2022	3.5
	03/29/2022	5.0
	4/27/2022	0.0
	8/31/2022	5.0
	10/19/2022	5.0
	11/22/2022	5.0
2022 Total GW³ Recovered		27.5

Notes:

1. BTEX: Benzene, Toluene, Ethylbenzene, and Total Xylenes
2. NMOCD: New Mexico Oil Conservation Division
3. GW: Groundwater
- = Data not recorded

Table 5
Concentrations of PAH¹ in Groundwater Summary

Livingston Line – Bob McCasland
Lea County, New Mexico
Plains SRS #: 2001-11226
Etech Project #: 17475
NMOCD² Incident ID#: nAPP2109736613

All concentrations are reported in milligrams per liter (mg/L)

Well ID	Date Sampled	EPA SW846-8270C, 3510																				
		N/A phthalene	Benzo(a)pyrene	AceN/Apithene	AceN/Apithylene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Dibenzofuran	Fluoranthene	Fluorene	Indeno(1,2,3-c,g)Pyrene	Phen/Anthrene	Pyrene				
NMWQCC Standard ⁴		0.03	0.0007							NE ⁵												
MW-1	9/13/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	N/A	<0.005	<0.005	<0.005	<0.005	<0.005				
	7/14/2004	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005				
	3/21/2005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005				
	2/16/2006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005				
	5/10/2007	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002				
MW-2	7/14/2004	0.0133	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	0.000061	<0.00005	0.000497	<0.00005				
	3/21/2005	0.00883	<0.00005	0.000054	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	0.000052	<0.00005	0.000325	<0.00005				
	2/16/2006	0.0128	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.000066	<0.00005	N/A	<0.00005	0.000103	<0.00005	0.000352	<0.00005				
	5/10/2007	0.00779	<0.0002	<0.0002	<0.0002	0.00175	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	0.000442	<0.0002	0.000229	<0.0004	<0.0002	<0.0002				
	2/28/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005				
	11/7/2012	0.00946	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002				
	9/5/2013	0.000902	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508				
	12/14/2020	<0.0000976	<0.0000573	<0.000100	<0.0000845	<0.0000869	<0.000135	<0.0000714	<0.000114	<0.000117	<0.000157	<0.0000763	N/A	<0.000158	<0.000101	<0.0000916	<0.0000854	<0.000131				
	3/15/2022	<0.0000965	<0.0000567	<0.0000993	<0.0000836	<0.0000894	<0.000133	<0.0000695	<0.000112	<0.000115	<0.000155	<0.0000755	<0.0000993	<0.000156	<0.000100	<0.0000906	<0.0000844	<0.000129				
MW-3	9/13/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	N/A	<0.005	<0.005	<0.005	<0.005	<0.005				
	7/14/2004									N/A												
	9/14/2004	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005				
	3/21/2005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005				
	2/16/2006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005				
	5/10/2007	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002				
	2/28/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	N/A	<0.005	<0.005	<0.005	<0.005	<0.005				
	9/5/2013	<0.000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562				
	10/5/2014																					
	10/15/2015									Not sampled due to sampling frequency reduction												
	12/14/2020	<0.000104	<0.0000613	<0.000107	<0.0000904	<0.0000930	<0.000144	<0.0000763	<0.000122	<0.000125	<0.000168	<0.0000816	N/A	<0.000169	<0.000108	<0.0000980	<0.0000913	<0.000140				
	3/15/2022	<0.0000974	<0.0000572	<0.000100	<0.0000844	<0.0000902	<0.000134	<0.0000701	<0.000113	<0.000116	<0.000156	<0.0000761	<0.000100	<0.000157	<0.000101	<0.0000915	<0.0000974	<0.000130				

Notes:

1. PAH: Polycyclic Aromatic Hydrocarbons
2. NMOCD: New Mexico Oil Conservation Division
3. NMWQCC: New Mexico Water Quality Control Commission
4. NE: Not Established

J: The target analyte was positively identified below the quantitation limit and above the detection limit

Bold text indicates a concentration exceeding NMWQCC Drinking Water Standards

Table 5
Concentrations of PAH¹ in Groundwater Summary

Livingston Line – Bob McCasland
Lea County, New Mexico
Plains SRS #: 2001-11226
Etech Project #: 17475
NMOCD² Incident ID#: nAPP2109736613

All concentrations are reported in milligrams per liter (mg/L)

Well ID	Date Sampled	EPA SW846-8270C, 3510																	
		N/A phthalene	Benzo(a) pyrene	AceN/Aphtene	AceN/Aphtylene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Dibenzofuran	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)Pyrene	Phen/Anthrene	Pyrene	
NMWQCC Standard ⁴		0.03	0.0007	NE ⁵															
MW-4	Not sampled due to the presence of Phase-Separated Hydrocarbons (PSH)																		
	2/16/2006	0.113	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00252	<0.00005	N/A	<0.00005	0.000855	<0.00005	0.00916	<0.00005	
	5/10/2007	0.0659	<0.0002	<0.0002	<0.0002	0.00596	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	0.00112	<0.0002	0.000737	<0.0004	<0.0002	<0.0002	
	2/28/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
	12/30/2011	0.0366	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
	11/7/2012	0.101	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00154	<0.0002	<0.0002	<0.0002	0.00494	<0.0002	
	9/5/2013	0.0643	<0.0000667	<0.0000667	0.000288	<0.0000667	<0.0000667	<0.0000667	<0.0000667	<0.0000667	<0.0000667	<0.0000667	0.00092	<0.0000667	0.000419	<0.0000667	0.00328	<0.0000667	
	10/5/2014	0.00869	<0.00000660	<0.00000407	<0.00000495	<0.00000236	<0.00000527	<0.00000998	<0.00000796	<0.00000583	<0.00000427	<0.00000580	0.000308	<0.00000633	0.00014	<0.00000750	0.000821	<0.00000691	
	10/15/2015	0.0104	<0.000391	<0.000958	<0.000967	<0.000729	<0.000367	<0.000459	<0.000350	<0.000573	<0.000382	<0.000406	N/A	<0.000500	<0.000988	<0.000367	0.000797	0.000459	
	11/14/2019	0.0107	<0.000108	<0.000108	0.000262	<0.000108	<0.000108	<0.000108	<0.000108	<0.000108	<0.000108	<0.000108	0.000831	<0.000108	0.000367	<0.000108	0.00148	<0.000108	
	12/14/2020	Not sampled due to the presence of PSH																	
MW-5	9/13/2001	0.049	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	N/A	<0.005	<0.005	<0.005	<0.005	<0.005	
	7/14/2004	N/A																	
	9/14/2004	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	
	3/21/2005	N/A																	
	2/16/2006	0.000415	<0.00005	0.000059	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	0.000147	<0.00005	0.000309	<0.00005	
	5/10/2007	0.00218	<0.0002	<0.0002	<0.0002	0.00075	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	0.00112	<0.0002	0.000496	<0.0004	<0.0002	<0.0002	
	2/28/2008	0.051	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
	12/30/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
	11/7/2012	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
	9/5/2013	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	0.000311	<0.0000562	<0.0000562	<0.0000562	<0.0000562	<0.0000562	
	11/14/2019	0.00670	<0.000111	0.000233	<0.000111	<0.000111	<0.000111	<0.000111	<0.000111	<0.000111	<0.000111	<0.000111	0.00135	<0.000111	<0.000111	<0.000111	0.000242	<0.000111	
12/14/2020	<0.000101	<0.0000595	<0.000104	<0.0000878	<0.0000904	<0.000140	<0.0000742	<0.000118	<0.000121	<0.000163	<0.0000793	N/A	<0.000164	<0.000105	<0.0000953	<0.0000887	<0.000136		
3/15/2022	<0.000194	<0.0000605	<0.000106	<0.0000892	<0.0000954	<0.000142	<0.0000605	<0.000120	<0.000123	<0.000165	<0.0000805	0.000524	<0.000166	<0.000107	<0.0000968	<0.0000901	<0.000138		

Notes:

1. PAH: Polycyclic Aromatic Hydrocarbons
2. NMOCD: New Mexico Oil Conservation Division
3. NMWQCC: New Mexico Water Quality Control Commission
4. NE: Not Established

J: The target analyte was positively identified below the quantitation limit and above the detection limit

Bold text indicates a concentration exceeding NMWQCC Drinking Water Standards

Table 5
Concentrations of PAH¹ in Groundwater Summary

Livingston Line – Bob McCasland
Lea County, New Mexico
Plains SRS #: 2001-11226
Etech Project #: 17475
NMOCD² Incident ID#: nAPP2109736613

All concentrations are reported in milligrams per liter (mg/L)

Well ID	Date Sampled	EPA SW846-8270C, 3510																
		N/Aphthalene	Benzo(a)pyrene	AceN/Aphtene	AceN/Aphtylene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Dibenzofuran	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)Pyrene	Phen/Anthrene	Pyrene
NMWQCC Standard ^d		0.03	0.0007	NE ⁵														
MW-6	7/14/2004	0.00122	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	0.000085	<0.00005
	3/21/2005	0.000089	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	2/16/2006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	5/10/2007	0.00095	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002
	2/28/2008	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	N/A	<0.005	<0.005	<0.005	<0.005	<0.005
	9/5/2013	<0.0000667	<0.0000667	<0.0000667	<0.0000667	<0.0000667	<0.0000667	<0.0000667	<0.0000667	<0.0000667	<0.0000667	<0.0000667	0.000305	<0.0000667	<0.0000667	<0.0000667	<0.0000667	<0.0000667
	12/14/2020	<0.0000977	<0.0000573	<0.000100	<0.0000846	<0.0000870	<0.000135	<0.0000714	<0.000114	<0.000117	<0.000157	<0.0000764	N/A	<0.000158	<0.000101	<0.0000917	<0.0000854	<0.000131
	3/15/2022	<0.0000962	<0.0000565	<0.0000989	<0.0000833	<0.0000890	<0.000133	<0.0000692	<0.000112	<0.000115	<0.000154	<0.0000752	<0.0000989	<0.000155	<0.0000999	<0.0000903	<0.0000841	<0.000129
MW-7	7/14/2004	0.000261	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	0.000293	<0.00005
	3/21/2005	0.000448	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	0.000222	<0.00005
	2/16/2006	0.000057	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	5/10/2007	0.000606	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002
	2/28/2008	0.017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	N/A	<0.005	<0.005	<0.005	<0.005	<0.005
	12/30/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	9/5/2013	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508
MW-8	7/14/2004	0.000261	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	0.000293	<0.00005
	3/21/2005	0.000448	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	0.000222	<0.00005
	2/16/2006	0.000057	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	5/10/2007	0.000606	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002
	2/28/2008	0.017	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	N/A	<0.005	<0.005	<0.005	<0.005	<0.005
	12/30/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	9/5/2013	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508

Notes:

1. PAH: Polycyclic Aromatic Hydrocarbons

2. NMOCD: New Mexico Oil Conservation Division

3. NMWQCC: New Mexico Water Quality Control Commission

4. NE: Not Established

J: The target analyte was positively identified below the quantitation limit and above the detection limit

Bold text indicates a concentration exceeding NMWQCC Drinking Water Standards

Table 5
Concentrations of PAH¹ in Groundwater Summary

Livingston Line – Bob McCasland
Lea County, New Mexico
Plains SRS #: 2001-11226
Etech Project #: 17475
NMOCD² Incident ID#: nAPP2109736613

All concentrations are reported in milligrams per liter (mg/L)

Well ID	Date Sampled	EPA SW846-8270C, 3510																
		N/A phthalene	Benzo(a)pyrene	AceN/Apithene	AceN/Aphthylene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Dibenzofuran	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)Pyrene	Phen/Anthrene	Pyrene
NMWQCC Standard ⁴		0.03	0.0007															
MW-9		NE ⁵																
	7/14/2004	0.00798	<0.00005	0.000089	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	0.000306	<0.00005	0.00008	<0.00005
	3/21/2005	0.00126	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	0.000076	<0.00005	0.000068	<0.00005
	2/16/2006	0.0107	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	0.000139	<0.00005	0.000125	<0.00005
	5/10/2007	0.00243	<0.0002	<0.0002	<0.0002	0.000222	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	0.00132	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002
	2/28/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	9/5/2013	0.00247	<0.0000588	<0.0000588	<0.0000588	<0.0000588	<0.0000588	<0.0000588	<0.0000588	<0.0000588	<0.0000588	<0.0000588	0.000354	<0.0000588	0.000262	<0.0000588	0.000287	<0.0000588
12/14/2020	<0.0000969	<0.0000569	<0.0000996	<0.0000839	<0.0000863	<0.000134	<0.0000708	<0.000113	<0.000116	<0.000156	<0.0000757	N/A	<0.000157	<0.000100	<0.0000910	<0.0000848	<0.000130	
MW-10	3/21/2005	0.00738	<0.00005	0.000083	0.000051	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	0.000292	<0.00005	0.000654	<0.00005
	2/16/2006																	
	5/22/2006	0.000174	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	0.00009	<0.00005	0.000202	<0.00005
	5/10/2007	0.000688	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	0.00108	<0.0002	0.000388	<0.0004	<0.0002	<0.0002
	2/28/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	9/5/2013	0.000548	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	0.000714	<0.0000508	0.0000839	<0.0000508	0.0000605	<0.0000508
MW-11	3/21/2005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	2/16/2006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	N/A	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	5/10/2007	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004	<0.0002	<0.0002
	2/28/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	N/A	<0.005	<0.005	<0.005	<0.005	<0.005
	9/5/2013	<0.0000524	<0.0000524	<0.0000524	<0.0000524	<0.0000524	<0.0000524	<0.0000524	<0.0000524	<0.0000524	<0.0000524	<0.0000524	<0.0000524	<0.0000524	<0.0000524	<0.0000524	<0.0000524	<0.0000524

Notes:

1. PAH: Polycyclic Aromatic Hydrocarbons

2. NMOCD: New Mexico Oil Conservation Division

3. NMWQCC: New Mexico Water Quality Control Commission

4. NE: Not Established

J: The target analyte was positively identified below the quantitation limit and above the detection limit

Bold text indicates a concentration exceeding NMWQCC Drinking Water Standards

Appendix A

Laboratory Analytical Reports



Environment Testing America

ANALYTICAL REPORT

Eurofins Lubbock
6701 Aberdeen Ave.
Suite 8
Lubbock, TX 79424
Tel: (806)794-1296

Laboratory Job ID: 820-3677-1

Laboratory Sample Delivery Group: AR227011

Client Project/Site: Livingston Line-Bob McCasland

For:

Terracon Consulting Eng & Scientists
5847 50th St
Lubbock, Texas 79424

Attn: Brett Dennis

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:
3/29/2022 3:45:07 PM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Laboratory Job ID: 820-3677-1
SDG: AR227011

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	11
QC Sample Results	12
QC Association Summary	17
Lab Chronicle	19
Certification Summary	21
Method Summary	22
Sample Summary	23
Chain of Custody	24
Receipt Checklists	26

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

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.
X	Surrogate recovery exceeds control limits

GC VOA

Qualifier	Qualifier Description
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

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: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Job ID: 820-3677-1

Laboratory: Eurofins Lubbock

Narrative

Job Narrative
820-3677-1

Receipt

The samples were received on 3/16/2022 11:56 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 4.1°C

Receipt Exceptions

The lab recieved 2 containers for PAH on sample MW-7 and no containers for PAH on DUP-1. On the COC PAH was selected on DUP-1 but not on MW-7. The client was contacted and the lab was instructed by Brett Dennis to not run PAH on either samples. MW-2 (820-3677-1), MW-3 (820-3677-2), MW-5 (820-3677-3), MW-6 (820-3677-4), MW-7 (820-3677-5), MW-8 (820-3677-6), MW-10 (820-3677-7), MW-11 (820-3677-8) and DUP-1 (820-3677-9)

GC/MS Semi VOA

Method 8270D_SIM: The surrogate recovery for the blank associated with preparation batch 860-45602 and analytical batch 860-45678 was outside the upper control limits.

Method 8270D_SIM: Surrogate recovery for the following samples were outside the upper control limit: MW-2 (820-3677-1) and MW-6 (820-3677-4). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method 8270D_SIM: Surrogate 2-Fluorobiphenyl recovery for the following sample was outside the upper control limit: MW-5 (820-3677-3). The reported analytes are not represented by surrogate 2-Fluorobiphenyl; therefore, re-extraction and/or re-analysis was not performed.

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

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: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Client Sample ID: MW-2

Lab Sample ID: 820-3677-1

Date Collected: 03/15/22 13:43

Matrix: Water

Date Received: 03/16/22 11:56

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0000993	U	0.000181	0.0000993	mg/L		03/18/22 19:48	03/21/22 11:52	1
Acenaphthylene	<0.0000836	U	0.000181	0.0000836	mg/L		03/18/22 19:48	03/21/22 11:52	1
Anthracene	<0.0000894	U	0.000181	0.0000894	mg/L		03/18/22 19:48	03/21/22 11:52	1
Benzo[a]anthracene	<0.000133	U	0.000181	0.000133	mg/L		03/18/22 19:48	03/21/22 11:52	1
Benzo[a]pyrene	<0.0000567	U	0.000181	0.0000567	mg/L		03/18/22 19:48	03/21/22 11:52	1
Benzo[b]fluoranthene	<0.0000695	U	0.000181	0.0000695	mg/L		03/18/22 19:48	03/21/22 11:52	1
Benzo[g,h,i]perylene	<0.000112	U	0.000181	0.000112	mg/L		03/18/22 19:48	03/21/22 11:52	1
Benzo[k]fluoranthene	<0.000115	U	0.000181	0.000115	mg/L		03/18/22 19:48	03/21/22 11:52	1
Chrysene	<0.000155	U	0.000181	0.000155	mg/L		03/18/22 19:48	03/21/22 11:52	1
Dibenz[a,h]anthracene	<0.0000755	U	0.000181	0.0000755	mg/L		03/18/22 19:48	03/21/22 11:52	1
Dibenzofuran	<0.0000993	U	0.000181	0.0000993	mg/L		03/18/22 19:48	03/21/22 11:52	1
Fluoranthene	<0.000156	U	0.000181	0.000156	mg/L		03/18/22 19:48	03/21/22 11:52	1
Fluorene	<0.000100	U	0.000181	0.000100	mg/L		03/18/22 19:48	03/21/22 11:52	1
Indeno[1,2,3-cd]pyrene	<0.0000906	U	0.000181	0.0000906	mg/L		03/18/22 19:48	03/21/22 11:52	1
Naphthalene	<0.0000965	U	0.00361	0.0000965	mg/L		03/18/22 19:48	03/21/22 11:52	1
Phenanthrene	<0.0000844	U	0.000181	0.0000844	mg/L		03/18/22 19:48	03/21/22 11:52	1
Pyrene	<0.000129	U	0.000181	0.000129	mg/L		03/18/22 19:48	03/21/22 11:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	149	X	54 - 146	03/18/22 19:48	03/21/22 11:52	1
Nitrobenzene-d5	139		46 - 151	03/18/22 19:48	03/21/22 11:52	1
p-Terphenyl-d14	96		51 - 139	03/18/22 19:48	03/21/22 11:52	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/24/22 10:07	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/24/22 10:07	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/24/22 10:07	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/24/22 10:07	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/24/22 10:07	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/24/22 10:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130		03/24/22 10:07	1
1,4-Difluorobenzene (Surr)	104		70 - 130		03/24/22 10:07	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			03/24/22 16:40	1

Client Sample ID: MW-3

Lab Sample ID: 820-3677-2

Date Collected: 03/15/22 14:38

Matrix: Water

Date Received: 03/16/22 11:56

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.000100	U	0.000182	0.000100	mg/L		03/18/22 19:48	03/21/22 12:11	1
Acenaphthylene	<0.0000844	U	0.000182	0.0000844	mg/L		03/18/22 19:48	03/21/22 12:11	1
Anthracene	<0.0000902	U	0.000182	0.0000902	mg/L		03/18/22 19:48	03/21/22 12:11	1
Benzo[a]anthracene	<0.000134	U	0.000182	0.000134	mg/L		03/18/22 19:48	03/21/22 12:11	1
Benzo[a]pyrene	<0.0000572	U	0.000182	0.0000572	mg/L		03/18/22 19:48	03/21/22 12:11	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Client Sample ID: MW-3

Lab Sample ID: 820-3677-2

Date Collected: 03/15/22 14:38

Matrix: Water

Date Received: 03/16/22 11:56

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	<0.0000701	U	0.000182	0.0000701	mg/L		03/18/22 19:48	03/21/22 12:11	1
Benzo[g,h,i]perylene	<0.000113	U	0.000182	0.000113	mg/L		03/18/22 19:48	03/21/22 12:11	1
Benzo[k]fluoranthene	<0.000116	U	0.000182	0.000116	mg/L		03/18/22 19:48	03/21/22 12:11	1
Chrysene	<0.000156	U	0.000182	0.000156	mg/L		03/18/22 19:48	03/21/22 12:11	1
Dibenz[a,h]anthracene	<0.0000761	U	0.000182	0.0000761	mg/L		03/18/22 19:48	03/21/22 12:11	1
Dibenzofuran	<0.000100	U	0.000182	0.000100	mg/L		03/18/22 19:48	03/21/22 12:11	1
Fluoranthene	<0.000157	U	0.000182	0.000157	mg/L		03/18/22 19:48	03/21/22 12:11	1
Fluorene	<0.000101	U	0.000182	0.000101	mg/L		03/18/22 19:48	03/21/22 12:11	1
Indeno[1,2,3-cd]pyrene	<0.0000915	U	0.000182	0.0000915	mg/L		03/18/22 19:48	03/21/22 12:11	1
Naphthalene	<0.0000974	U	0.00365	0.0000974	mg/L		03/18/22 19:48	03/21/22 12:11	1
Phenanthrene	<0.0000852	U	0.000182	0.0000852	mg/L		03/18/22 19:48	03/21/22 12:11	1
Pyrene	<0.000130	U	0.000182	0.000130	mg/L		03/18/22 19:48	03/21/22 12:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	138		54 - 146				03/18/22 19:48	03/21/22 12:11	1
Nitrobenzene-d5	128		46 - 151				03/18/22 19:48	03/21/22 12:11	1
p-Terphenyl-d14	92		51 - 139				03/18/22 19:48	03/21/22 12:11	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/24/22 10:28	1
Toluene	0.000401	J	0.00200	0.000367	mg/L			03/24/22 10:28	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/24/22 10:28	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/24/22 10:28	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/24/22 10:28	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/24/22 10:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130					03/24/22 10:28	1
1,4-Difluorobenzene (Surr)	103		70 - 130					03/24/22 10:28	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			03/24/22 16:40	1

Client Sample ID: MW-5

Lab Sample ID: 820-3677-3

Date Collected: 03/15/22 16:28

Matrix: Water

Date Received: 03/16/22 11:56

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.000106	U	0.000193	0.000106	mg/L		03/18/22 19:48	03/21/22 12:30	1
Acenaphthylene	<0.0000892	U	0.000193	0.0000892	mg/L		03/18/22 19:48	03/21/22 12:30	1
Anthracene	<0.0000954	U	0.000193	0.0000954	mg/L		03/18/22 19:48	03/21/22 12:30	1
Benzo[a]anthracene	<0.000142	U	0.000193	0.000142	mg/L		03/18/22 19:48	03/21/22 12:30	1
Benzo[a]pyrene	<0.0000605	U	0.000193	0.0000605	mg/L		03/18/22 19:48	03/21/22 12:30	1
Benzo[b]fluoranthene	<0.0000742	U	0.000193	0.0000742	mg/L		03/18/22 19:48	03/21/22 12:30	1
Benzo[g,h,i]perylene	<0.000120	U	0.000193	0.000120	mg/L		03/18/22 19:48	03/21/22 12:30	1
Benzo[k]fluoranthene	<0.000123	U	0.000193	0.000123	mg/L		03/18/22 19:48	03/21/22 12:30	1
Chrysene	<0.000165	U	0.000193	0.000165	mg/L		03/18/22 19:48	03/21/22 12:30	1
Dibenz[a,h]anthracene	<0.0000805	U	0.000193	0.0000805	mg/L		03/18/22 19:48	03/21/22 12:30	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Client Sample ID: MW-5

Lab Sample ID: 820-3677-3

Date Collected: 03/15/22 16:28

Matrix: Water

Date Received: 03/16/22 11:56

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.000524		0.000193	0.000106	mg/L		03/18/22 19:48	03/21/22 12:30	1
Fluoranthene	<0.000166	U	0.000193	0.000166	mg/L		03/18/22 19:48	03/21/22 12:30	1
Fluorene	<0.000107	U	0.000193	0.000107	mg/L		03/18/22 19:48	03/21/22 12:30	1
Indeno[1,2,3-cd]pyrene	<0.0000968	U	0.000193	0.0000968	mg/L		03/18/22 19:48	03/21/22 12:30	1
Naphthalene	0.000194	J	0.00386	0.000103	mg/L		03/18/22 19:48	03/21/22 12:30	1
Phenanthrene	<0.0000901	U	0.000193	0.0000901	mg/L		03/18/22 19:48	03/21/22 12:30	1
Pyrene	<0.000138	U	0.000193	0.000138	mg/L		03/18/22 19:48	03/21/22 12:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	148	X	54 - 146				03/18/22 19:48	03/21/22 12:30	1
Nitrobenzene-d5	134		46 - 151				03/18/22 19:48	03/21/22 12:30	1
p-Terphenyl-d14	125		51 - 139				03/18/22 19:48	03/21/22 12:30	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/24/22 10:48	1
Toluene	0.000459	J	0.00200	0.000367	mg/L			03/24/22 10:48	1
Ethylbenzene	0.000700	J	0.00200	0.000657	mg/L			03/24/22 10:48	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/24/22 10:48	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/24/22 10:48	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/24/22 10:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130					03/24/22 10:48	1
1,4-Difluorobenzene (Surr)	102		70 - 130					03/24/22 10:48	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00116	J	0.00400	0.000657	mg/L			03/24/22 16:40	1

Client Sample ID: MW-6

Lab Sample ID: 820-3677-4

Date Collected: 03/15/22 15:35

Matrix: Water

Date Received: 03/16/22 11:56

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0000989	U	0.000180	0.0000989	mg/L		03/18/22 19:48	03/21/22 12:50	1
Acenaphthylene	<0.0000833	U	0.000180	0.0000833	mg/L		03/18/22 19:48	03/21/22 12:50	1
Anthracene	<0.0000890	U	0.000180	0.0000890	mg/L		03/18/22 19:48	03/21/22 12:50	1
Benzo[a]anthracene	<0.000133	U	0.000180	0.000133	mg/L		03/18/22 19:48	03/21/22 12:50	1
Benzo[a]pyrene	<0.0000565	U	0.000180	0.0000565	mg/L		03/18/22 19:48	03/21/22 12:50	1
Benzo[b]fluoranthene	<0.0000692	U	0.000180	0.0000692	mg/L		03/18/22 19:48	03/21/22 12:50	1
Benzo[g,h,i]perylene	<0.000112	U	0.000180	0.000112	mg/L		03/18/22 19:48	03/21/22 12:50	1
Benzo[k]fluoranthene	<0.000115	U	0.000180	0.000115	mg/L		03/18/22 19:48	03/21/22 12:50	1
Chrysene	<0.000154	U	0.000180	0.000154	mg/L		03/18/22 19:48	03/21/22 12:50	1
Dibenz(a,h)anthracene	<0.0000752	U	0.000180	0.0000752	mg/L		03/18/22 19:48	03/21/22 12:50	1
Dibenzofuran	<0.0000989	U	0.000180	0.0000989	mg/L		03/18/22 19:48	03/21/22 12:50	1
Fluoranthene	<0.000155	U	0.000180	0.000155	mg/L		03/18/22 19:48	03/21/22 12:50	1
Fluorene	<0.0000999	U	0.000180	0.0000999	mg/L		03/18/22 19:48	03/21/22 12:50	1
Indeno[1,2,3-cd]pyrene	<0.0000903	U	0.000180	0.0000903	mg/L		03/18/22 19:48	03/21/22 12:50	1
Naphthalene	<0.0000962	U	0.00360	0.0000962	mg/L		03/18/22 19:48	03/21/22 12:50	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Client Sample ID: MW-6

Lab Sample ID: 820-3677-4

Date Collected: 03/15/22 15:35

Matrix: Water

Date Received: 03/16/22 11:56

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	<0.0000841	U	0.000180	0.0000841	mg/L		03/18/22 19:48	03/21/22 12:50	1
Pyrene	<0.000129	U	0.000180	0.000129	mg/L		03/18/22 19:48	03/21/22 12:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	154	X	54 - 146				03/18/22 19:48	03/21/22 12:50	1
Nitrobenzene-d5	140		46 - 151				03/18/22 19:48	03/21/22 12:50	1
p-Terphenyl-d14	102		51 - 139				03/18/22 19:48	03/21/22 12:50	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/24/22 11:09	1
Toluene	0.000403	J	0.00200	0.000367	mg/L			03/24/22 11:09	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/24/22 11:09	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/24/22 11:09	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/24/22 11:09	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/24/22 11:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130					03/24/22 11:09	1
1,4-Difluorobenzene (Surr)	100		70 - 130					03/24/22 11:09	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			03/24/22 16:40	1

Client Sample ID: MW-7

Lab Sample ID: 820-3677-5

Date Collected: 03/15/22 12:25

Matrix: Water

Date Received: 03/16/22 11:56

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/24/22 11:29	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/24/22 11:29	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/24/22 11:29	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/24/22 11:29	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/24/22 11:29	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/24/22 11:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130					03/24/22 11:29	1
1,4-Difluorobenzene (Surr)	102		70 - 130					03/24/22 11:29	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			03/24/22 16:40	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Client Sample ID: MW-8

Lab Sample ID: 820-3677-6

Date Collected: 03/15/22 12:57

Matrix: Water

Date Received: 03/16/22 11:56

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/24/22 11:49	1
Toluene	0.000435	J	0.00200	0.000367	mg/L			03/24/22 11:49	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/24/22 11:49	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/24/22 11:49	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/24/22 11:49	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/24/22 11:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130		03/24/22 11:49	1
1,4-Difluorobenzene (Surr)	102		70 - 130		03/24/22 11:49	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			03/24/22 16:40	1

Client Sample ID: MW-10

Lab Sample ID: 820-3677-7

Date Collected: 03/15/22 11:40

Matrix: Water

Date Received: 03/16/22 11:56

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/24/22 12:10	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/24/22 12:10	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/24/22 12:10	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/24/22 12:10	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/24/22 12:10	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/24/22 12:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130		03/24/22 12:10	1
1,4-Difluorobenzene (Surr)	103		70 - 130		03/24/22 12:10	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			03/24/22 16:40	1

Client Sample ID: MW-11

Lab Sample ID: 820-3677-8

Date Collected: 03/15/22 11:10

Matrix: Water

Date Received: 03/16/22 11:56

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/25/22 06:11	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/25/22 06:11	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/25/22 06:11	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 06:11	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 06:11	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 06:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130		03/25/22 06:11	1
1,4-Difluorobenzene (Surr)	109		70 - 130		03/25/22 06:11	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Client Sample ID: MW-11

Lab Sample ID: 820-3677-8

Date Collected: 03/15/22 11:10

Matrix: Water

Date Received: 03/16/22 11:56

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			03/24/22 16:40	1

Client Sample ID: DUP-1

Lab Sample ID: 820-3677-9

Date Collected: 03/15/22 00:00

Matrix: Water

Date Received: 03/16/22 11:56

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/25/22 06:32	1
Toluene	0.000433	J	0.00200	0.000367	mg/L			03/25/22 06:32	1
Ethylbenzene	0.000673	J	0.00200	0.000657	mg/L			03/25/22 06:32	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 06:32	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 06:32	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 06:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130		03/25/22 06:32	1
1,4-Difluorobenzene (Surr)	107		70 - 130		03/25/22 06:32	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00111	J	0.00400	0.000657	mg/L			03/24/22 16:40	1

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		FBP (54-146)	NBZ (46-151)	TPHD14 (51-139)
820-3677-1	MW-2	149 X	139	96
820-3677-2	MW-3	138	128	92
820-3677-3	MW-5	148 X	134	125
820-3677-4	MW-6	154 X	140	102
LCS 860-45602/2-A	Lab Control Sample	128	128	126
LCSD 860-45602/3-A	Lab Control Sample Dup	137	138	130
MB 860-45602/1-A	Method Blank	146	132	147 X
Surrogate Legend				
FBP = 2-Fluorobiphenyl				
NBZ = Nitrobenzene-d5				
TPHD14 = p-Terphenyl-d14				

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1 (70-130)	DFBZ1 (70-130)
820-3677-1	MW-2	112	104
820-3677-2	MW-3	106	103
820-3677-3	MW-5	105	102
820-3677-4	MW-6	108	100
820-3677-5	MW-7	106	102
820-3677-6	MW-8	109	102
820-3677-7	MW-10	108	103
820-3677-8	MW-11	113	109
820-3677-9	DUP-1	107	107
LCS 880-22187/34	Lab Control Sample	96	101
LCS 880-22265/34	Lab Control Sample	99	103
LCSD 880-22187/35	Lab Control Sample Dup	92	103
LCSD 880-22265/35	Lab Control Sample Dup	101	107
MB 880-21823/5-A	Method Blank	98	102
MB 880-21852/5-A	Method Blank	99	101
MB 880-22187/39	Method Blank	99	98
MB 880-22265/39	Method Blank	98	101
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 860-45602/1-A

Matrix: Water

Analysis Batch: 45678

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45602

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.000100	U	0.000182	0.000100	mg/L		03/18/22 19:48	03/21/22 11:13	1
Acenaphthylene	<0.0000844	U	0.000182	0.0000844	mg/L		03/18/22 19:48	03/21/22 11:13	1
Anthracene	<0.0000902	U	0.000182	0.0000902	mg/L		03/18/22 19:48	03/21/22 11:13	1
Benzo[a]anthracene	<0.000134	U	0.000182	0.000134	mg/L		03/18/22 19:48	03/21/22 11:13	1
Benzo[a]pyrene	<0.0000572	U	0.000182	0.0000572	mg/L		03/18/22 19:48	03/21/22 11:13	1
Benzo[b]fluoranthene	<0.0000701	U	0.000182	0.0000701	mg/L		03/18/22 19:48	03/21/22 11:13	1
Benzo[g,h,i]perylene	<0.000113	U	0.000182	0.000113	mg/L		03/18/22 19:48	03/21/22 11:13	1
Benzo[k]fluoranthene	<0.000116	U	0.000182	0.000116	mg/L		03/18/22 19:48	03/21/22 11:13	1
Chrysene	<0.000156	U	0.000182	0.000156	mg/L		03/18/22 19:48	03/21/22 11:13	1
Dibenz(a,h)anthracene	<0.0000761	U	0.000182	0.0000761	mg/L		03/18/22 19:48	03/21/22 11:13	1
Dibenzofuran	<0.000100	U	0.000182	0.000100	mg/L		03/18/22 19:48	03/21/22 11:13	1
Fluoranthene	<0.000157	U	0.000182	0.000157	mg/L		03/18/22 19:48	03/21/22 11:13	1
Fluorene	<0.000101	U	0.000182	0.000101	mg/L		03/18/22 19:48	03/21/22 11:13	1
Indeno[1,2,3-cd]pyrene	<0.0000915	U	0.000182	0.0000915	mg/L		03/18/22 19:48	03/21/22 11:13	1
Naphthalene	<0.0000974	U	0.00365	0.0000974	mg/L		03/18/22 19:48	03/21/22 11:13	1
Phenanthrene	<0.0000852	U	0.000182	0.0000852	mg/L		03/18/22 19:48	03/21/22 11:13	1
Pyrene	<0.000130	U	0.000182	0.000130	mg/L		03/18/22 19:48	03/21/22 11:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	146		54 - 146	03/18/22 19:48	03/21/22 11:13	1
Nitrobenzene-d5	132		46 - 151	03/18/22 19:48	03/21/22 11:13	1
p-Terphenyl-d14	147	X	51 - 139	03/18/22 19:48	03/21/22 11:13	1

Lab Sample ID: LCS 860-45602/2-A

Matrix: Water

Analysis Batch: 45678

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45602

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.0181	0.02201		mg/L		121	66 - 174
Acenaphthylene	0.0181	0.02182		mg/L		120	67 - 182
Anthracene	0.0181	0.02430		mg/L		134	55 - 191
Benzo[a]anthracene	0.0181	0.02211		mg/L		122	16 - 171
Benzo[a]pyrene	0.0181	0.02419		mg/L		133	10 - 165
Benzo[b]fluoranthene	0.0181	0.02551		mg/L		141	10 - 166
Benzo[g,h,i]perylene	0.0181	0.02273		mg/L		125	10 - 154
Benzo[k]fluoranthene	0.0181	0.02349		mg/L		129	10 - 178
Chrysene	0.0181	0.02178		mg/L		120	10 - 172
Dibenz(a,h)anthracene	0.0181	0.02433		mg/L		134	10 - 168
Dibenzofuran	0.0181	0.02248		mg/L		124	68 - 178
Fluoranthene	0.0181	0.02444		mg/L		135	52 - 185
Fluorene	0.0181	0.02273		mg/L		125	64 - 184
Indeno[1,2,3-cd]pyrene	0.0181	0.02677		mg/L		147	10 - 160
Naphthalene	0.0181	0.02094		mg/L		115	66 - 166
Phenanthrene	0.0181	0.02248		mg/L		124	66 - 184
Pyrene	0.0181	0.02268		mg/L		125	58 - 181

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	128		54 - 146

Eurofins Lubbock

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 860-45602/2-A

Matrix: Water

Analysis Batch: 45678

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45602

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Nitrobenzene-d5	128		46 - 151
p-Terphenyl-d14	126		51 - 139

Lab Sample ID: LCSD 860-45602/3-A

Matrix: Water

Analysis Batch: 45678

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45602

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	0.0182	0.02457		mg/L		135	66 - 174	11	40
Acenaphthylene	0.0182	0.02456		mg/L		135	67 - 182	12	40
Anthracene	0.0182	0.02695		mg/L		148	55 - 191	10	40
Benzo[a]anthracene	0.0182	0.02296		mg/L		126	16 - 171	4	50
Benzo[a]pyrene	0.0182	0.02409		mg/L		132	10 - 165	0	50
Benzo[b]fluoranthene	0.0182	0.02579		mg/L		141	10 - 166	1	50
Benzo[g,h,i]perylene	0.0182	0.02223		mg/L		122	10 - 154	2	50
Benzo[k]fluoranthene	0.0182	0.02318		mg/L		127	10 - 178	1	50
Chrysene	0.0182	0.02285		mg/L		125	10 - 172	5	50
Dibenz(a,h)anthracene	0.0182	0.02392		mg/L		131	10 - 168	2	50
Dibenzofuran	0.0182	0.02503		mg/L		137	68 - 178	11	40
Fluoranthene	0.0182	0.02665		mg/L		146	52 - 185	9	40
Fluorene	0.0182	0.02523		mg/L		138	64 - 184	10	40
Indeno[1,2,3-cd]pyrene	0.0182	0.02634		mg/L		144	10 - 160	2	50
Naphthalene	0.0182	0.02428		mg/L		133	66 - 166	15	40
Phenanthrene	0.0182	0.02483		mg/L		136	66 - 184	10	40
Pyrene	0.0182	0.02543		mg/L		139	58 - 181	11	40

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
2-Fluorobiphenyl	137		54 - 146
Nitrobenzene-d5	138		46 - 151
p-Terphenyl-d14	130		51 - 139

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-21823/5-A

Matrix: Water

Analysis Batch: 22265

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 21823

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L		03/24/22 07:30	03/24/22 17:25	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L		03/24/22 07:30	03/24/22 17:25	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L		03/24/22 07:30	03/24/22 17:25	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L		03/24/22 07:30	03/24/22 17:25	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L		03/24/22 07:30	03/24/22 17:25	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L		03/24/22 07:30	03/24/22 17:25	1

	MB	MB							
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
4-Bromofluorobenzene (Surr)	98		70 - 130	03/24/22 07:30	03/24/22 17:25	1			
1,4-Difluorobenzene (Surr)	102		70 - 130	03/24/22 07:30	03/24/22 17:25	1			

Eurofins Lubbock

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-21852/5-A

Matrix: Water

Analysis Batch: 22187

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 21852

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L		03/23/22 07:30	03/23/22 12:49	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L		03/23/22 07:30	03/23/22 12:49	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L		03/23/22 07:30	03/23/22 12:49	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L		03/23/22 07:30	03/23/22 12:49	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L		03/23/22 07:30	03/23/22 12:49	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L		03/23/22 07:30	03/23/22 12:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	03/23/22 07:30	03/23/22 12:49	1
1,4-Difluorobenzene (Surr)	101		70 - 130	03/23/22 07:30	03/23/22 12:49	1

Lab Sample ID: MB 880-22187/39

Matrix: Water

Analysis Batch: 22187

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/24/22 00:25	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/24/22 00:25	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/24/22 00:25	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/24/22 00:25	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/24/22 00:25	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/24/22 00:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		03/24/22 00:25	1
1,4-Difluorobenzene (Surr)	98		70 - 130		03/24/22 00:25	1

Lab Sample ID: LCS 880-22187/34

Matrix: Water

Analysis Batch: 22187

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08615		mg/L		86	70 - 130
Toluene	0.100	0.08619		mg/L		86	70 - 130
Ethylbenzene	0.100	0.08574		mg/L		86	70 - 130
m-Xylene & p-Xylene	0.200	0.1982		mg/L		99	70 - 130
o-Xylene	0.100	0.1001		mg/L		100	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: LCSD 880-22187/35

Matrix: Water

Analysis Batch: 22187

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.08363		mg/L		84	70 - 130	3	20

Eurofins Lubbock

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

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

Lab Sample ID: LCSD 880-22187/35

Matrix: Water

Analysis Batch: 22187

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
Toluene	0.100	0.08001		mg/L		80	70 - 130	7	20
Ethylbenzene	0.100	0.08117		mg/L		81	70 - 130	5	20
m-Xylene & p-Xylene	0.200	0.1853		mg/L		93	70 - 130	7	20
o-Xylene	0.100	0.09285		mg/L		93	70 - 130	8	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: MB 880-22265/39

Matrix: Water

Analysis Batch: 22265

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/25/22 05:02	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/25/22 05:02	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/25/22 05:02	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 05:02	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 05:02	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 05:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/25/22 05:02	1
1,4-Difluorobenzene (Surr)	101		70 - 130		03/25/22 05:02	1

Lab Sample ID: LCS 880-22265/34

Matrix: Water

Analysis Batch: 22265

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08847		mg/L		88	70 - 130
Toluene	0.100	0.08497		mg/L		85	70 - 130
Ethylbenzene	0.100	0.09013		mg/L		90	70 - 130
m-Xylene & p-Xylene	0.200	0.2092		mg/L		105	70 - 130
o-Xylene	0.100	0.1045		mg/L		105	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-22265/35

Matrix: Water

Analysis Batch: 22265

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.09222		mg/L		92	70 - 130	4	20
Toluene	0.100	0.08628		mg/L		86	70 - 130	2	20
Ethylbenzene	0.100	0.08990		mg/L		90	70 - 130	0	20

Eurofins Lubbock

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

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

Lab Sample ID: LCSD 880-22265/35					Client Sample ID: Lab Control Sample Dup				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 22265									
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
m-Xylene & p-Xylene	0.200	0.2081		mg/L		104	70 - 130	1	20
o-Xylene	0.100	0.1047		mg/L		105	70 - 130	0	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	101		70 - 130						
1,4-Difluorobenzene (Surr)	107		70 - 130						

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

GC/MS Semi VOA

Prep Batch: 45602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3677-1	MW-2	Total/NA	Water	3511	
820-3677-2	MW-3	Total/NA	Water	3511	
820-3677-3	MW-5	Total/NA	Water	3511	
820-3677-4	MW-6	Total/NA	Water	3511	
MB 860-45602/1-A	Method Blank	Total/NA	Water	3511	
LCS 860-45602/2-A	Lab Control Sample	Total/NA	Water	3511	
LCSD 860-45602/3-A	Lab Control Sample Dup	Total/NA	Water	3511	

Analysis Batch: 45678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3677-1	MW-2	Total/NA	Water	8270D SIM	45602
820-3677-2	MW-3	Total/NA	Water	8270D SIM	45602
820-3677-3	MW-5	Total/NA	Water	8270D SIM	45602
820-3677-4	MW-6	Total/NA	Water	8270D SIM	45602
MB 860-45602/1-A	Method Blank	Total/NA	Water	8270D SIM	45602
LCS 860-45602/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	45602
LCSD 860-45602/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	45602

GC VOA

Prep Batch: 21823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-21823/5-A	Method Blank	Total/NA	Water	5035	

Prep Batch: 21852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-21852/5-A	Method Blank	Total/NA	Water	5035	

Analysis Batch: 22187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3677-1	MW-2	Total/NA	Water	8021B	
820-3677-2	MW-3	Total/NA	Water	8021B	
820-3677-3	MW-5	Total/NA	Water	8021B	
820-3677-4	MW-6	Total/NA	Water	8021B	
820-3677-5	MW-7	Total/NA	Water	8021B	
820-3677-6	MW-8	Total/NA	Water	8021B	
820-3677-7	MW-10	Total/NA	Water	8021B	
MB 880-21852/5-A	Method Blank	Total/NA	Water	8021B	21852
MB 880-22187/39	Method Blank	Total/NA	Water	8021B	
LCS 880-22187/34	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-22187/35	Lab Control Sample Dup	Total/NA	Water	8021B	

Analysis Batch: 22265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3677-8	MW-11	Total/NA	Water	8021B	
820-3677-9	DUP-1	Total/NA	Water	8021B	
MB 880-21823/5-A	Method Blank	Total/NA	Water	8021B	21823
MB 880-22265/39	Method Blank	Total/NA	Water	8021B	
LCS 880-22265/34	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-22265/35	Lab Control Sample Dup	Total/NA	Water	8021B	

Eurofins Lubbock

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

GC VOA

Analysis Batch: 22305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3677-1	MW-2	Total/NA	Water	Total BTEX	
820-3677-2	MW-3	Total/NA	Water	Total BTEX	
820-3677-3	MW-5	Total/NA	Water	Total BTEX	
820-3677-4	MW-6	Total/NA	Water	Total BTEX	
820-3677-5	MW-7	Total/NA	Water	Total BTEX	
820-3677-6	MW-8	Total/NA	Water	Total BTEX	
820-3677-7	MW-10	Total/NA	Water	Total BTEX	
820-3677-8	MW-11	Total/NA	Water	Total BTEX	
820-3677-9	DUP-1	Total/NA	Water	Total BTEX	

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Client Sample ID: MW-2

Date Collected: 03/15/22 13:43

Date Received: 03/16/22 11:56

Lab Sample ID: 820-3677-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3511			55.4 mL	2 mL	45602	03/18/22 19:48	MR	XEN STF
Total/NA	Analysis	8270D SIM		1			45678	03/21/22 11:52	IS	XEN STF
Total/NA	Analysis	8021B		1	5 mL	5 mL	22187	03/24/22 10:07	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22305	03/24/22 16:40	AJ	XEN MID

Client Sample ID: MW-3

Date Collected: 03/15/22 14:38

Date Received: 03/16/22 11:56

Lab Sample ID: 820-3677-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3511			54.9 mL	2 mL	45602	03/18/22 19:48	MR	XEN STF
Total/NA	Analysis	8270D SIM		1			45678	03/21/22 12:11	IS	XEN STF
Total/NA	Analysis	8021B		1	5 mL	5 mL	22187	03/24/22 10:28	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22305	03/24/22 16:40	AJ	XEN MID

Client Sample ID: MW-5

Date Collected: 03/15/22 16:28

Date Received: 03/16/22 11:56

Lab Sample ID: 820-3677-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3511			51.9 mL	2 mL	45602	03/18/22 19:48	MR	XEN STF
Total/NA	Analysis	8270D SIM		1			45678	03/21/22 12:30	IS	XEN STF
Total/NA	Analysis	8021B		1	5 mL	5 mL	22187	03/24/22 10:48	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22305	03/24/22 16:40	AJ	XEN MID

Client Sample ID: MW-6

Date Collected: 03/15/22 15:35

Date Received: 03/16/22 11:56

Lab Sample ID: 820-3677-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3511			55.6 mL	2 mL	45602	03/18/22 19:48	MR	XEN STF
Total/NA	Analysis	8270D SIM		1			45678	03/21/22 12:50	IS	XEN STF
Total/NA	Analysis	8021B		1	5 mL	5 mL	22187	03/24/22 11:09	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22305	03/24/22 16:40	AJ	XEN MID

Client Sample ID: MW-7

Date Collected: 03/15/22 12:25

Date Received: 03/16/22 11:56

Lab Sample ID: 820-3677-5

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	22187	03/24/22 11:29	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22305	03/24/22 16:40	AJ	XEN MID

Eurofins Lubbock

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Client Sample ID: MW-8

Date Collected: 03/15/22 12:57

Date Received: 03/16/22 11:56

Lab Sample ID: 820-3677-6

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	22187	03/24/22 11:49	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22305	03/24/22 16:40	AJ	XEN MID

Client Sample ID: MW-10

Date Collected: 03/15/22 11:40

Date Received: 03/16/22 11:56

Lab Sample ID: 820-3677-7

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	22187	03/24/22 12:10	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			22305	03/24/22 16:40	AJ	XEN MID

Client Sample ID: MW-11

Date Collected: 03/15/22 11:10

Date Received: 03/16/22 11:56

Lab Sample ID: 820-3677-8

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	22265	03/25/22 06:11	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22305	03/24/22 16:40	AJ	XEN MID

Client Sample ID: DUP-1

Date Collected: 03/15/22 00:00

Date Received: 03/16/22 11:56

Lab Sample ID: 820-3677-9

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	22265	03/25/22 06:32	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22305	03/24/22 16:40	AJ	XEN MID

Laboratory References:

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

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

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Laboratory: Eurofins Houston

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215-21-44	06-30-22

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

Analysis Method	Prep Method	Matrix	Analyte
8270D SIM	3511	Water	Dibenzofuran

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22

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

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Water	Total BTEX

Method Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-3677-1
SDG: AR227011

Method	Method Description	Protocol	Laboratory
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	XEN STF
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
3511	Microextraction of Organic Compounds	SW846	XEN STF
5030B	Purge and Trap	SW846	XEN 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:

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

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

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland


Job ID: 820-3677-1
SDG: AR227011

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-3677-1	MW-2	Water	03/15/22 13:43	03/16/22 11:56
820-3677-2	MW-3	Water	03/15/22 14:38	03/16/22 11:56
820-3677-3	MW-5	Water	03/15/22 16:28	03/16/22 11:56
820-3677-4	MW-6	Water	03/15/22 15:35	03/16/22 11:56
820-3677-5	MW-7	Water	03/15/22 12:25	03/16/22 11:56
820-3677-6	MW-8	Water	03/15/22 12:57	03/16/22 11:56
820-3677-7	MW-10	Water	03/15/22 11:40	03/16/22 11:56
820-3677-8	MW-11	Water	03/15/22 11:10	03/16/22 11:56
820-3677-9	DUP-1	Water	03/15/22 00:00	03/16/22 11:56

Loc: 820
3677

3677

CHAIN OF CUSTODY RECORD

<h1 style="margin: 0;">Terracon</h1>										Laboratory: Xenco Address: 6701 Aberdeen Lubbock, Texas 79424		ANALYSIS REQUESTED BTEX (EPA Method 8021) PAHs (EPA Method 8270)				LAB USE ONLY DUE DATE:	
																TEMP OF COOLER WHEN RECEIVED (°C) 3.9/4.1C Page <u>1</u> of <u>1</u>	
Office Location: <u>Lubbock</u>				Phone: _____				Lab Sample ID									
Project Manager: <u>Brett Dennis</u>				Contact: _____													
Sampler's Name: <u>Aaron Adams</u>				SRS #: <u>2001-11226</u> Sampler's Signature: _____													
Project Number: <u>AR227011</u>				Project Name: <u>Livingston Line - Bob McCasland</u>				No. Type of Containers									
Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	40 ml VOA	60 ml VOA								
GW	3/15/2022	1343		X	MW-2			3	2			X	X				
GW	3/15/2022	1438		X	MW-3			3	2			X	X				
GW	3/15/2022	1628		X	MW-5			3	2			X	X				
GW	3/15/2022	1535		X	MW-6			3	2			X	X				
GW	3/15/2022	1225		X	MW-7			3				X					
GW	3/15/2022	1257		X	MW-8			3				X					
GW	3/15/2022	1140		X	MW-10			3				X					
GW	3/15/2022	1110		X	MW-11			3				X					
GW	3/15/2022			X	DUP-1			3	2			X	*	ATM 3/16/22			
 820-3677 Chain of Custody																	
TURNAROUND TIME <input checked="" type="checkbox"/> Normal <input type="checkbox"/> 48-Hour Rush <input type="checkbox"/> 24-Hour Rush TRRP Laboratory Review Checklist <input type="checkbox"/> Yes <input type="checkbox"/> No																	
Relinquished by (Signature)		Date: <u>3/14/21</u>		Time: <u>1:56</u>		Received by (Signature)		Date: <u>3/16/22</u>		Time: <u>11:50</u>		NOTES: Bill directly to Plains Pipeline e-mail results to: brett.dennis@terracon.com erin.loyd@terracon.com cjbryant@paalp.com maochoa@paalp.com					
Relinquished by (Signature)		Date:		Time:		Received by (Signature)		Date:		Time:							
Relinquished by (Signature)		Date:		Time:		Received by (Signature)		Date:		Time:							
Relinquished by (Signature)		Date:		Time:		Received by (Signature)		Date:		Time:							

Matrix: WW-Wastewater W - Water S - Soil L - Liquid A - Air Bag C - Charcoal tube SL - Sludge
 Container: VOA - 40 ml vial A/G - Amber Glass 1L 250 ml - Glass wide mouth P/O - Plastic or other _____

Lubbock Office ■ 5827 50th Street, Suite 1 ■ Lubbock, Texas 79424 ■ 806-300-0140

Responsive ■ Resourceful ■ Reliable

Eurofins Lubbock
6701 Aberdeen Ave. Suite 8
Lubbock, TX 79424
Phone: 806-794-1296

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-3677-1

SDG Number: AR227011

Login Number: 3677

List Number: 1

Creator: Ruggles, Ashley

List Source: Eurofins Lubbock

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	

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-3677-1

SDG Number: AR227011

Login Number: 3677

List Number: 3

Creator: Milone, Jeancarlo

List Source: Eurofins Houston

List Creation: 03/17/22 01:06 PM

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

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-3677-1

SDG Number: AR227011

Login Number: 3677

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 03/17/22 10:31 AM

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	



Environment Testing America

ANALYTICAL REPORT

Eurofins Lubbock
6701 Aberdeen Ave.
Suite 8
Lubbock, TX 79424
Tel: (806)794-1296

Laboratory Job ID: 820-4570-1

Laboratory Sample Delivery Group: AR227011

Client Project/Site: Livingston Line-Bob McCasland

For:

Terracon Consulting Eng & Scientists
5847 50th St
Lubbock, Texas 79424

Attn: Brett Dennis

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:

6/15/2022 10:57:31 AM

Jessica Kramer, Project Manager
(432)704-5440

Jessica.Kramer@et.eurofinsus.com

LINKS

Review your project
results through



Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Laboratory Job ID: 820-4570-1
SDG: AR227011

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	10
Lab Chronicle	11
Certification Summary	12
Method Summary	13
Sample Summary	14
Chain of Custody	15
Receipt Checklists	16

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

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-4570-1
SDG: AR227011

Qualifiers

GC VOA

Qualifier	Qualifier Description
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
U	Analyte was not detected at or above the SDL.

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: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-4570-1
SDG: AR227011

Job ID: 820-4570-1

Laboratory: Eurofins Lubbock

Narrative	
	Job Narrative 820-4570-1

Receipt

The samples were received on 6/10/2022 10:45 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 5.6°C

GC VOA

Method 8021B: The following sample was received outside of holding time: (880-15492-A-9).

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

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

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-4570-1
SDG: AR227011

Client Sample ID: MW-2

Lab Sample ID: 820-4570-1

Date Collected: 06/09/22 14:50

Matrix: Water

Date Received: 06/10/22 10:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			06/14/22 21:24	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			06/14/22 21:24	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			06/14/22 21:24	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			06/14/22 21:24	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/14/22 21:24	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			06/14/22 21:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130		06/14/22 21:24	1
1,4-Difluorobenzene (Surr)	98		70 - 130		06/14/22 21:24	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			06/15/22 10:29	1

Client Sample ID: MW-3

Lab Sample ID: 820-4570-2

Date Collected: 06/09/22 13:50

Matrix: Water

Date Received: 06/10/22 10:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			06/14/22 21:51	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			06/14/22 21:51	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			06/14/22 21:51	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			06/14/22 21:51	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/14/22 21:51	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			06/14/22 21:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130		06/14/22 21:51	1
1,4-Difluorobenzene (Surr)	102		70 - 130		06/14/22 21:51	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			06/15/22 10:29	1

Client Sample ID: MW-5

Lab Sample ID: 820-4570-3

Date Collected: 06/09/22 15:25

Matrix: Water

Date Received: 06/10/22 10:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.000596	J	0.00200	0.000408	mg/L			06/14/22 22:18	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			06/14/22 22:18	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			06/14/22 22:18	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			06/14/22 22:18	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/14/22 22:18	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			06/14/22 22:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130		06/14/22 22:18	1
1,4-Difluorobenzene (Surr)	93		70 - 130		06/14/22 22:18	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-4570-1
SDG: AR227011

Client Sample ID: MW-5

Lab Sample ID: 820-4570-3

Date Collected: 06/09/22 15:25

Matrix: Water

Date Received: 06/10/22 10:45

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			06/15/22 10:29	1

Client Sample ID: MW-6

Lab Sample ID: 820-4570-4

Date Collected: 06/09/22 13:03

Matrix: Water

Date Received: 06/10/22 10:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			06/14/22 22:45	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			06/14/22 22:45	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			06/14/22 22:45	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			06/14/22 22:45	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/14/22 22:45	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			06/14/22 22:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130		06/14/22 22:45	1
1,4-Difluorobenzene (Surr)	100		70 - 130		06/14/22 22:45	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			06/15/22 10:29	1

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-4570-1
SDG: AR227011

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)
820-4570-1	MW-2	96	98
820-4570-2	MW-3	89	102
820-4570-3	MW-5	100	93
820-4570-4	MW-6	104	100
880-15492-A-9 MS	Matrix Spike	100	99
880-15492-A-9 MSD	Matrix Spike Duplicate	99	101
LCS 880-27467/3	Lab Control Sample	106	94
LCSD 880-27467/4	Lab Control Sample Dup	97	104
MB 880-27467/8	Method Blank	75	93

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-4570-1
SDG: AR227011

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-27467/8

Matrix: Water

Analysis Batch: 27467

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			06/14/22 11:26	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			06/14/22 11:26	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			06/14/22 11:26	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			06/14/22 11:26	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/14/22 11:26	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			06/14/22 11:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		70 - 130		06/14/22 11:26	1
1,4-Difluorobenzene (Surr)	93		70 - 130		06/14/22 11:26	1

Lab Sample ID: LCS 880-27467/3

Matrix: Water

Analysis Batch: 27467

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08521		mg/L		85	70 - 130
Toluene	0.100	0.08562		mg/L		86	70 - 130
Ethylbenzene	0.100	0.09219		mg/L		92	70 - 130
m-Xylene & p-Xylene	0.200	0.1844		mg/L		92	70 - 130
o-Xylene	0.100	0.09287		mg/L		93	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: LCSD 880-27467/4

Matrix: Water

Analysis Batch: 27467

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1028		mg/L		103	70 - 130	19	20
Toluene	0.100	0.09708		mg/L		97	70 - 130	13	20
Ethylbenzene	0.100	0.09449		mg/L		94	70 - 130	2	20
m-Xylene & p-Xylene	0.200	0.1569		mg/L		78	70 - 130	16	20
o-Xylene	0.100	0.08329		mg/L		83	70 - 130	11	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

Lab Sample ID: 880-15492-A-9 MS

Matrix: Water

Analysis Batch: 27467

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.000408	U	0.100	0.07123		mg/L		71	70 - 130
Toluene	<0.000367	U	0.100	0.07022		mg/L		70	70 - 130

Eurofins Lubbock

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-4570-1
SDG: AR227011

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

Lab Sample ID: 880-15492-A-9 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 27467

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.000657	U	0.100	0.07696		mg/L		77	70 - 130
m-Xylene & p-Xylene	<0.000629	U	0.200	0.1518		mg/L		76	70 - 130
o-Xylene	<0.000642	U	0.100	0.07932		mg/L		79	70 - 130

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

Lab Sample ID: 880-15492-A-9 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 27467

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000408	U	0.100	0.07748		mg/L		77	70 - 130	8	25
Toluene	<0.000367	U	0.100	0.07734		mg/L		77	70 - 130	10	25
Ethylbenzene	<0.000657	U	0.100	0.08519		mg/L		85	70 - 130	10	25
m-Xylene & p-Xylene	<0.000629	U	0.200	0.1698		mg/L		85	70 - 130	11	25
o-Xylene	<0.000642	U	0.100	0.08510		mg/L		85	70 - 130	7	25

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-4570-1
SDG: AR227011

GC VOA

Analysis Batch: 27467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4570-1	MW-2	Total/NA	Water	8021B	
820-4570-2	MW-3	Total/NA	Water	8021B	
820-4570-3	MW-5	Total/NA	Water	8021B	
820-4570-4	MW-6	Total/NA	Water	8021B	
MB 880-27467/8	Method Blank	Total/NA	Water	8021B	
LCS 880-27467/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-27467/4	Lab Control Sample Dup	Total/NA	Water	8021B	
880-15492-A-9 MS	Matrix Spike	Total/NA	Water	8021B	
880-15492-A-9 MSD	Matrix Spike Duplicate	Total/NA	Water	8021B	

Analysis Batch: 27605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4570-1	MW-2	Total/NA	Water	Total BTEX	
820-4570-2	MW-3	Total/NA	Water	Total BTEX	
820-4570-3	MW-5	Total/NA	Water	Total BTEX	
820-4570-4	MW-6	Total/NA	Water	Total BTEX	

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-4570-1
SDG: AR227011

Client Sample ID: MW-2

Date Collected: 06/09/22 14:50

Date Received: 06/10/22 10:45

Lab Sample ID: 820-4570-1

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			27467	06/14/22 21:24	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27605	06/15/22 10:29	SM	XEN MID

Client Sample ID: MW-3

Date Collected: 06/09/22 13:50

Date Received: 06/10/22 10:45

Lab Sample ID: 820-4570-2

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			27467	06/14/22 21:51	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27605	06/15/22 10:29	SM	XEN MID

Client Sample ID: MW-5

Date Collected: 06/09/22 15:25

Date Received: 06/10/22 10:45

Lab Sample ID: 820-4570-3

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			27467	06/14/22 22:18	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27605	06/15/22 10:29	SM	XEN MID

Client Sample ID: MW-6

Date Collected: 06/09/22 13:03

Date Received: 06/10/22 10:45

Lab Sample ID: 820-4570-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1			27467	06/14/22 22:45	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27605	06/15/22 10:29	SM	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-4570-1
SDG: AR227011

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22

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

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Water	Total BTEX

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

Method Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-4570-1
SDG: AR227011

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

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

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line-Bob McCasland

Job ID: 820-4570-1
SDG: AR227011

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-4570-1	MW-2	Water	06/09/22 14:50	06/10/22 10:45
820-4570-2	MW-3	Water	06/09/22 13:50	06/10/22 10:45
820-4570-3	MW-5	Water	06/09/22 15:25	06/10/22 10:45
820-4570-4	MW-6	Water	06/09/22 13:03	06/10/22 10:45

1

2

3

4

5

6

7

8

9

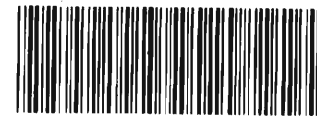
10

11

12

13

14

Loc: 820
4570

820-4570 Chain of Custody

CHAIN OF CUSTODY

Terracon					Laboratory: Xenco Address: 6701 Aberdeen Lubbock, Texas 79424		ANALYSIS REQUESTED BTEX (EPA Method 8021)										DUE DATE: TEMP OF COOLER WHEN RECEIVED (°C) 5.4/5.6°C	
Office Location: <u>Lubbock</u>					Phone: _____		Page <u>1</u> of <u>1</u>										Lab Sample ID	
Project Manager: <u>Brett Dennis</u>					Contact: _____													
Sampler's Name: <u>Aaron Adams</u>					SRS #: <u>2001-11226</u> Sampler's Signature:													
Project Number: <u>AR227011</u>					Project Name: <u>Livingston Line - Bob McCasland</u>					No. Type of Containers								
Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	40 ml VOA										
GW	6/9/2022	1450		X	MW-2			3					X					
GW	6/9/2022	1350		X	MW-3			3					X					
GW	6/9/2022	1525		X	MW-5			3					X					
GW	6/9/2022	1303		X	MW-6			3					X					
TURNAROUND TIME <input checked="" type="checkbox"/> Normal <input type="checkbox"/> 48-Hour Rush <input type="checkbox"/> 24-Hour Rush TRRP Laboratory Review Checklist <input type="checkbox"/> Yes <input type="checkbox"/> No																		
Relinquished by (Signature):		Date: <u>6/10/22</u>	Time: <u>10:45</u>	Received by (Signature):		Date: <u>6/10/22</u>	Time: <u>10:45</u>	NOTES: Bill directly to Plains Pipeline e-mail results to: brett.dennis@terracon.com erin.loyd@terracon.com cjbryant@paalp.com maochoa@paalp.com khudgens@paalp.com										
Relinquished by (Signature):		Date:	Time:	Received by (Signature):		Date:	Time:											
Relinquished by (Signature):		Date:	Time:	Received by (Signature):		Date:	Time:											
Relinquished by (Signature):		Date:	Time:	Received by (Signature):		Date:	Time:											

Matrix: WW - Wastewater W - Water S - Soil L - Liquid A - Air Bag C - Charcoal tube SL - Sludge
 Container: VOA - 40 ml vial A/G - Amber Glass 1L 250 ml = Glass wide mouth P/O - Plastic or other _____

Lubbock Office ■ 5847 50th Street ■ Lubbock, Texas 79424 ■ 806-300-0140

Responsive ■ Resourceful ■ Reliable

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-4570-1

SDG Number: AR227011

Login Number: 4570

List Number: 1

Creator: Ruggles, Ashley

List Source: Eurofins Lubbock

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	

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-4570-1

SDG Number: AR227011

Login Number: 4570

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 06/13/22 09:41 AM

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	



Environment Testing America

ANALYTICAL REPORT

Eurofins Lubbock
6701 Aberdeen Ave.
Suite 8
Lubbock, TX 79424
Tel: (806)794-1296

Laboratory Job ID: 820-5965-1

Laboratory Sample Delivery Group: AR227011

Client Project/Site: Livingston Line

For:

Terracon Consulting Eng & Scientists
5847 50th St
Lubbock, Texas 79424

Attn: Aaron Adams

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:

10/5/2022 1:51:22 PM

Jessica Kramer, Project Manager

(432)704-5440

Jessica.Kramer@et.eurofinsus.com

LINKS

Review your project
results through



Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line

Laboratory Job ID: 820-5965-1
SDG: AR227011

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

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments. QC data that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result. Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Coliform MCLs

· Based on the EPA primary drinking water standard MCL for total coliforms, a water supply is considered bacteriologically "SAFE" if no coliform bacteria are detected. To be considered "SAFE" your report should indicate "<1 cfu/100mL" or "NEG" for the coliform test. If you report indicates a positive result "POS" or a value greater than or equal to one, then your supply is "UNSAFE FOR DRINKING" contact your local health department.

Warranties, Terms, and Conditions

· Analyses for Field Parameters are performed by Eurofins Philadelphia field staff. Locations and certifications are identified on the Chain of Custody as follows:

ERF = field staff performs tests under NJ State certification #02015

VL = field staff performs tests under NJ State certification #06005

WG = field staff performs tests under NJ State certification #PA001

H = field staff performs tests under NJ NELAP certification #PA093, PA NELAP certification # 46-

05499

· Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.

· The report shall not be reproduced, except in full, without the written consent of the laboratory

· All samples are collected as "grab" samples unless otherwise identified.

· Reported results related only to the samples as tested. Eurofins Philadelphia is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· Eurofins Philadelphia is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance.

· Eurofins' online data portal "TotalAccess" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.

· The following personnel or their deputies have approved the results of the tests performed by Eurofins Philadelphia : Nicki Smith (Environmental Chemistry) and Jacqueline Gartner (Water Microbiology).



Jessica Kramer
Project Manager
10/5/2022 1:51:22 PM

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line

Laboratory Job ID: 820-5965-1
SDG: AR227011

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	9
QC Sample Results	10
QC Association Summary	12
Lab Chronicle	13
Certification Summary	14
Method Summary	15
Sample Summary	16
Chain of Custody	17
Receipt Checklists	18

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

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line

Job ID: 820-5965-1
SDG: AR227011

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Analyte was not detected at or above the SDL.

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: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line

Job ID: 820-5965-1
SDG: AR227011

Job ID: 820-5965-1

Laboratory: Eurofins Lubbock

Narrative	
	Job Narrative 820-5965-1

Receipt

The samples were received on 9/29/2022 9:51 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 2.7°C

GC/MS VOA

Method 8260C: The following sample(s) was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The sample was analyzed within the 7-day holding time specified for unpreserved samples: MW-3 (820-5965-2). Note: pH 5.

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

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

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line

Job ID: 820-5965-1
SDG: AR227011

Client Sample ID: MW-6

Lab Sample ID: 820-5965-1

Date Collected: 09/27/22 12:40

Matrix: Water

Date Received: 09/29/22 09:51

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000533	U	0.00100	0.000533	mg/L			10/03/22 14:43	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			10/03/22 14:43	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			10/03/22 14:43	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			10/03/22 14:43	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			10/03/22 14:43	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			10/03/22 14:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 144		10/03/22 14:43	1
4-Bromofluorobenzene (Surr)	88		74 - 124		10/03/22 14:43	1
Dibromofluoromethane (Surr)	99		75 - 131		10/03/22 14:43	1
Toluene-d8 (Surr)	90		80 - 117		10/03/22 14:43	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00124	U	0.0100	0.00124	mg/L			10/05/22 11:29	1

Client Sample ID: MW-3

Lab Sample ID: 820-5965-2

Date Collected: 09/27/22 13:35

Matrix: Water

Date Received: 09/29/22 09:51

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000533	U	0.00100	0.000533	mg/L			10/03/22 15:06	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			10/03/22 15:06	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			10/03/22 15:06	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			10/03/22 15:06	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			10/03/22 15:06	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			10/03/22 15:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		63 - 144		10/03/22 15:06	1
4-Bromofluorobenzene (Surr)	89		74 - 124		10/03/22 15:06	1
Dibromofluoromethane (Surr)	100		75 - 131		10/03/22 15:06	1
Toluene-d8 (Surr)	90		80 - 117		10/03/22 15:06	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00124	U	0.0100	0.00124	mg/L			10/05/22 11:29	1

Client Sample ID: MW-2

Lab Sample ID: 820-5965-3

Date Collected: 09/27/22 14:20

Matrix: Water

Date Received: 09/29/22 09:51

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000533	U	0.00100	0.000533	mg/L			09/30/22 21:05	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			09/30/22 21:05	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			09/30/22 21:05	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 21:05	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			09/30/22 21:05	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line

Job ID: 820-5965-1
SDG: AR227011

Client Sample ID: MW-2

Lab Sample ID: 820-5965-3

Date Collected: 09/27/22 14:20

Matrix: Water

Date Received: 09/29/22 09:51

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 21:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 144					09/30/22 21:05	1
4-Bromofluorobenzene (Surr)	90		74 - 124					09/30/22 21:05	1
Dibromofluoromethane (Surr)	102		75 - 131					09/30/22 21:05	1
Toluene-d8 (Surr)	90		80 - 117					09/30/22 21:05	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00124	U	0.0100	0.00124	mg/L			10/05/22 11:29	1

Client Sample ID: MW-5

Lab Sample ID: 820-5965-4

Date Collected: 09/27/22 15:05

Matrix: Water

Date Received: 09/29/22 09:51

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000533	U	0.00100	0.000533	mg/L			09/30/22 21:27	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			09/30/22 21:27	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			09/30/22 21:27	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 21:27	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			09/30/22 21:27	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 21:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 144					09/30/22 21:27	1
4-Bromofluorobenzene (Surr)	89		74 - 124					09/30/22 21:27	1
Dibromofluoromethane (Surr)	102		75 - 131					09/30/22 21:27	1
Toluene-d8 (Surr)	91		80 - 117					09/30/22 21:27	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00124	U	0.0100	0.00124	mg/L			10/05/22 11:29	1

Client Sample ID: DUP-1

Lab Sample ID: 820-5965-5

Date Collected: 09/27/22 00:00

Matrix: Water

Date Received: 09/29/22 09:51

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000533	U	0.00100	0.000533	mg/L			10/03/22 15:29	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			10/03/22 15:29	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			10/03/22 15:29	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			10/03/22 15:29	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			10/03/22 15:29	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			10/03/22 15:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		63 - 144					10/03/22 15:29	1
4-Bromofluorobenzene (Surr)	89		74 - 124					10/03/22 15:29	1
Dibromofluoromethane (Surr)	100		75 - 131					10/03/22 15:29	1

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line

Job ID: 820-5965-1
SDG: AR227011

Client Sample ID: DUP-1
Date Collected: 09/27/22 00:00
Date Received: 09/29/22 09:51

Lab Sample ID: 820-5965-5
Matrix: Water

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	90		80 - 117		10/03/22 15:29	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00124	U	0.0100	0.00124	mg/L			10/05/22 11:29	1

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line

Job ID: 820-5965-1
SDG: AR227011

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCA	BFB	DBFM	TOL
		(63-144)	(74-124)	(75-131)	(80-117)
820-5965-1	MW-6	100	88	99	90
820-5965-2	MW-3	97	89	100	90
820-5965-3	MW-2	100	90	102	90
820-5965-4	MW-5	99	89	102	91
820-5965-5	DUP-1	97	89	100	90
LCS 860-71294/3	Lab Control Sample	92	97	99	90
LCS 860-71527/3	Lab Control Sample	93	96	99	89
LCSD 860-71294/4	Lab Control Sample Dup	91	97	98	91
LCSD 860-71527/4	Lab Control Sample Dup	93	94	98	88
MB 860-71294/7	Method Blank	96	90	99	90
MB 860-71527/7	Method Blank	95	88	97	91
Surrogate Legend					
DCA = 1,2-Dichloroethane-d4 (Surr)					
BFB = 4-Bromofluorobenzene (Surr)					
DBFM = Dibromofluoromethane (Surr)					
TOL = Toluene-d8 (Surr)					

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line

Job ID: 820-5965-1
SDG: AR227011

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

Lab Sample ID: MB 860-71294/7

Matrix: Water

Analysis Batch: 71294

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000533	U	0.00100	0.000533	mg/L			09/30/22 13:30	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			09/30/22 13:30	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			09/30/22 13:30	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 13:30	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			09/30/22 13:30	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 13:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		63 - 144		09/30/22 13:30	1
4-Bromofluorobenzene (Surr)	90		74 - 124		09/30/22 13:30	1
Dibromofluoromethane (Surr)	99		75 - 131		09/30/22 13:30	1
Toluene-d8 (Surr)	90		80 - 117		09/30/22 13:30	1

Lab Sample ID: LCS 860-71294/3

Matrix: Water

Analysis Batch: 71294

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.0500	0.05468		mg/L		109	75 - 125
Toluene	0.0500	0.04979		mg/L		100	70 - 130
Ethylbenzene	0.0500	0.05343		mg/L		107	75 - 125
m,p-Xylenes	0.0500	0.05559		mg/L		111	75 - 125
o-Xylene	0.0500	0.05783		mg/L		116	75 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		63 - 144
4-Bromofluorobenzene (Surr)	97		74 - 124
Dibromofluoromethane (Surr)	99		75 - 131
Toluene-d8 (Surr)	90		80 - 117

Lab Sample ID: LCSD 860-71294/4

Matrix: Water

Analysis Batch: 71294

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.0500	0.04538		mg/L		91	75 - 125	19	25
Toluene	0.0500	0.04218		mg/L		84	70 - 130	17	25
Ethylbenzene	0.0500	0.04552		mg/L		91	75 - 125	16	25
m,p-Xylenes	0.0500	0.04757		mg/L		95	75 - 125	16	25
o-Xylene	0.0500	0.04937		mg/L		99	75 - 125	16	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		63 - 144
4-Bromofluorobenzene (Surr)	97		74 - 124
Dibromofluoromethane (Surr)	98		75 - 131
Toluene-d8 (Surr)	91		80 - 117

Eurofins Lubbock

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line

Job ID: 820-5965-1
SDG: AR227011

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

Lab Sample ID: MB 860-71527/7

Matrix: Water

Analysis Batch: 71527

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000533	U	0.00100	0.000533	mg/L			10/03/22 12:27	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			10/03/22 12:27	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			10/03/22 12:27	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			10/03/22 12:27	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			10/03/22 12:27	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			10/03/22 12:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		63 - 144		10/03/22 12:27	1
4-Bromofluorobenzene (Surr)	88		74 - 124		10/03/22 12:27	1
Dibromofluoromethane (Surr)	97		75 - 131		10/03/22 12:27	1
Toluene-d8 (Surr)	91		80 - 117		10/03/22 12:27	1

Lab Sample ID: LCS 860-71527/3

Matrix: Water

Analysis Batch: 71527

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.0500	0.04980		mg/L		100	75 - 125
Toluene	0.0500	0.04664		mg/L		93	70 - 130
Ethylbenzene	0.0500	0.05187		mg/L		104	75 - 125
m,p-Xylenes	0.0500	0.05464		mg/L		109	75 - 125
o-Xylene	0.0500	0.05697		mg/L		114	75 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		63 - 144
4-Bromofluorobenzene (Surr)	96		74 - 124
Dibromofluoromethane (Surr)	99		75 - 131
Toluene-d8 (Surr)	89		80 - 117

Lab Sample ID: LCSD 860-71527/4

Matrix: Water

Analysis Batch: 71527

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.0500	0.04526		mg/L		91	75 - 125	10	25
Toluene	0.0500	0.04230		mg/L		85	70 - 130	10	25
Ethylbenzene	0.0500	0.04717		mg/L		94	75 - 125	9	25
m,p-Xylenes	0.0500	0.04988		mg/L		100	75 - 125	9	25
o-Xylene	0.0500	0.05200		mg/L		104	75 - 125	9	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		63 - 144
4-Bromofluorobenzene (Surr)	94		74 - 124
Dibromofluoromethane (Surr)	98		75 - 131
Toluene-d8 (Surr)	88		80 - 117

Eurofins Lubbock

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line

Job ID: 820-5965-1
SDG: AR227011

GC/MS VOA

Analysis Batch: 71294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-5965-3	MW-2	Total/NA	Water	8260C	
820-5965-4	MW-5	Total/NA	Water	8260C	
MB 860-71294/7	Method Blank	Total/NA	Water	8260C	
LCS 860-71294/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 860-71294/4	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 71527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-5965-1	MW-6	Total/NA	Water	8260C	
820-5965-2	MW-3	Total/NA	Water	8260C	
820-5965-5	DUP-1	Total/NA	Water	8260C	
MB 860-71527/7	Method Blank	Total/NA	Water	8260C	
LCS 860-71527/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 860-71527/4	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 71973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-5965-1	MW-6	Total/NA	Water	Total BTEX	
820-5965-2	MW-3	Total/NA	Water	Total BTEX	
820-5965-3	MW-2	Total/NA	Water	Total BTEX	
820-5965-4	MW-5	Total/NA	Water	Total BTEX	
820-5965-5	DUP-1	Total/NA	Water	Total BTEX	

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line

Job ID: 820-5965-1
SDG: AR227011

Client Sample ID: MW-6

Date Collected: 09/27/22 12:40

Date Received: 09/29/22 09:51

Lab Sample ID: 820-5965-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	71527	10/03/22 14:43	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			71973	10/05/22 11:29	JBS	EET HOU

Client Sample ID: MW-3

Date Collected: 09/27/22 13:35

Date Received: 09/29/22 09:51

Lab Sample ID: 820-5965-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	71527	10/03/22 15:06	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			71973	10/05/22 11:29	JBS	EET HOU

Client Sample ID: MW-2

Date Collected: 09/27/22 14:20

Date Received: 09/29/22 09:51

Lab Sample ID: 820-5965-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	71294	09/30/22 21:05	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			71973	10/05/22 11:29	JBS	EET HOU

Client Sample ID: MW-5

Date Collected: 09/27/22 15:05

Date Received: 09/29/22 09:51

Lab Sample ID: 820-5965-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	71294	09/30/22 21:27	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			71973	10/05/22 11:29	JBS	EET HOU

Client Sample ID: DUP-1

Date Collected: 09/27/22 00:00

Date Received: 09/29/22 09:51

Lab Sample ID: 820-5965-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	71527	10/03/22 15:29	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			71973	10/05/22 11:29	JBS	EET HOU

Laboratory References:

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

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line

Job ID: 820-5965-1
SDG: AR227011

Laboratory: Eurofins Houston

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215-22-47	06-30-23

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

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Water	Total BTEX

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

Method Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line

Job ID: 820-5965-1
SDG: AR227011

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	EET HOU
Total BTEX	Total BTEX Calculation	TAL SOP	EET HOU
5030C	Purge and Trap	SW846	EET HOU

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

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Line

Job ID: 820-5965-1
SDG: AR227011

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-5965-1	MW-6	Water	09/27/22 12:40	09/29/22 09:51
820-5965-2	MW-3	Water	09/27/22 13:35	09/29/22 09:51
820-5965-3	MW-2	Water	09/27/22 14:20	09/29/22 09:51
820-5965-4	MW-5	Water	09/27/22 15:05	09/29/22 09:51
820-5965-5	DUP-1	Water	09/27/22 00:00	09/29/22 09:51

Loc: 820
5965



820-5965 Chain of Custody

CHAIN OF CUSTODY RECORD

<h1 style="margin:0;">Terracon</h1>				Laboratory: Eurofins Address: 6701 Aberdeen Lubbock, Texas 79424				ANALYSIS REQUESTED				LAB USE ONLY DUE DATE:			
				Office Location: <u>Lubbock</u>				Phone: _____ Contact: _____ SRS #: _____ Sampler's Signature: <i>Austin Worley</i>				TEMP. OF COOLER WHEN RECEIVED (°C) <u>78/72</u> Page <u>1</u> of <u>1</u>			
Project Manager: <u>Erin Loyd</u> Sampler's Name: <u>Austin Worley</u>				Project Number: <u>AR227011</u>				Project Name: <u>Livingston Line</u>				No. Type of Containers			
Matrix: <u>W</u>				Date: <u>9/27/2022</u>				Time: <u>12:40</u>				Comp: <u>X</u>			
Grab: <u>X</u>				Identifying Marks of Sample(s): <u>MW-6</u>				Start Depth: _____				End Depth: _____			
40 ml VOA: <u>X</u>				BTEX (EPA Method 8260B): <u>X</u>				Lab Sample ID: _____				_____			
<u>W</u>				<u>9/27/2022</u>				<u>13:35</u>				<u>X</u>			
<u>W</u>				<u>9/27/2022</u>				<u>14:20</u>				<u>X</u>			
<u>W</u>				<u>9/27/2022</u>				<u>15:05</u>				<u>X</u>			
<u>W</u>				<u>9/27/2022</u>				<u>DUP-1</u>				<u>X</u>			
TURNAROUND TIME: <input checked="" type="checkbox"/> Normal <input type="checkbox"/> 48-Hour Rush <input type="checkbox"/> 24-Hour Rush															
TRRP Laboratory Review Checklist: <input type="checkbox"/> Yes <input type="checkbox"/> No															
Relinquished by (Signature): <i>Austin Worley</i>				Date: <u>9-29-22</u>				Time: <u>9:51</u>				Received by (Signature): <i>Austin Worley</i>			
Relinquished by (Signature): _____				Date: _____				Time: _____				Received by (Signature): _____			
Relinquished by (Signature): _____				Date: _____				Time: _____				Received by (Signature): _____			
Relinquished by (Signature): _____				Date: _____				Time: _____				Received by (Signature): _____			
Bill To: Plains e-mail results to: aaron.adams@terracon.com austin.worley@terracon.com															
Matrix: <u>WW-Wastewater</u> <u>W-Water</u> <u>S-Soil</u> <u>L-Liquid</u> <u>A-Air Bag</u> <u>C-Charcoal tube</u> <u>SL-Sludge</u> Container: <u>VOA-40 ml vial</u> <u>A/G-Amber Glass 1L</u> <u>250 ml + Glass wide mouth</u> <u>P/D-Plastic or other</u>															

Lubbock Office ■ 5847 50th Street ■ Lubbock, Texas 79424 ■ 806-300-0140
 Responsive ■ Resourceful ■ Reliable

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-5965-1

SDG Number: AR227011

Login Number: 5965

List Number: 1

Creator: Ruggles, Ashley

List Source: Eurofins Lubbock

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").	N/A	

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-5965-1

SDG Number: AR227011

Login Number: 5965

List Number: 2

Creator: Bolch, Taylor

List Source: Eurofins Houston

List Creation: 09/30/22 01:12 PM

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



Environment Testing

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

ANALYTICAL REPORT

PREPARED FOR

Attn: Joel Lowry
Etech Environmental & Safety Solutions
PO BOX 62228
Midland, Texas 79711
Generated 3/6/2023 2:02:58 PM

JOB DESCRIPTION

Livingston Line
SDG NUMBER Lea County NM

JOB NUMBER

880-25364-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

Eurofins Midland**Job Notes**

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

Authorization

Generated
3/6/2023 2:02:58 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Etech Environmental & Safety Solutions
Project/Site: Livingston Line

Laboratory Job ID: 880-25364-1
SDG: Lea County NM

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	8
QC Sample Results	9
QC Association Summary	13
Lab Chronicle	14
Certification Summary	15
Method Summary	16
Sample Summary	17
Chain of Custody	18
Receipt Checklists	20

1

2

3

4

5

6

7

8

9

10

11

12

13

14

Definitions/Glossary

Client: Etech Environmental & Safety Solutions
Project/Site: Livingston Line

Job ID: 880-25364-1
SDG: Lea County NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
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.
α	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: Etech Environmental & Safety Solutions
Project/Site: Livingston Line

Job ID: 880-25364-1
SDG: Lea County NM

Job ID: 880-25364-1

Laboratory: Eurofins Midland

Narrative	
	Job Narrative 880-25364-1

Receipt

The samples were received on 3/1/2023 4:37 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 0.7°C

GC VOA

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

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

Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Livingston Line

Job ID: 880-25364-1
SDG: Lea County NM

Client Sample ID: MW-2

Lab Sample ID: 880-25364-1

Date Collected: 02/17/23 10:00

Matrix: Water

Date Received: 03/01/23 16:37

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/03/23 09:45	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/03/23 09:45	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/03/23 09:45	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/03/23 09:45	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/03/23 09:45	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/03/23 09:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130		03/03/23 09:45	1
1,4-Difluorobenzene (Surr)	110		70 - 130		03/03/23 09:45	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			03/03/23 13:22	1

Client Sample ID: MW-3

Lab Sample ID: 880-25364-2

Date Collected: 02/17/23 12:00

Matrix: Water

Date Received: 03/01/23 16:37

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/03/23 10:05	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/03/23 10:05	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/03/23 10:05	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/03/23 10:05	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/03/23 10:05	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/03/23 10:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130		03/03/23 10:05	1
1,4-Difluorobenzene (Surr)	111		70 - 130		03/03/23 10:05	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			03/03/23 13:22	1

Client Sample ID: MW-15

Lab Sample ID: 880-25364-3

Date Collected: 02/17/23 14:00

Matrix: Water

Date Received: 03/01/23 16:37

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U F1 *1 *-	0.00200	0.000408	mg/L			03/03/23 11:25	1
Toluene	<0.000367	U F1 *1 *-	0.00200	0.000367	mg/L			03/03/23 11:25	1
Ethylbenzene	0.000780	J F1 *1 *-	0.00200	0.000657	mg/L			03/03/23 11:25	1
m-Xylene & p-Xylene	0.000804	J F1 *+ *1 *-	0.00400	0.000629	mg/L			03/03/23 11:25	1
o-Xylene	<0.000642	U F1 *+ *1 *-	0.00200	0.000642	mg/L			03/03/23 11:25	1
Xylenes, Total	0.000804	J *+ *1 *- F1	0.00400	0.000642	mg/L			03/03/23 11:25	1

Eurofins Midland

Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Livingston Line

Job ID: 880-25364-1
SDG: Lea County NM

Client Sample ID: MW-15

Lab Sample ID: 880-25364-3

Date Collected: 02/17/23 14:00

Matrix: Water

Date Received: 03/01/23 16:37

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130		03/03/23 11:25	1
1,4-Difluorobenzene (Surr)	75		70 - 130		03/03/23 11:25	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00158	J	0.00400	0.000657	mg/L			03/06/23 14:35	1

Client Sample ID: MW-6

Lab Sample ID: 880-25364-4

Date Collected: 02/17/23 13:00

Matrix: Water

Date Received: 03/01/23 16:37

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U *- *1	0.00200	0.000408	mg/L			03/03/23 11:46	1
Toluene	<0.000367	U *- *1	0.00200	0.000367	mg/L			03/03/23 11:46	1
Ethylbenzene	<0.000657	U *- *1	0.00200	0.000657	mg/L			03/03/23 11:46	1
m-Xylene & p-Xylene	<0.000629	U *- ** *1	0.00400	0.000629	mg/L			03/03/23 11:46	1
o-Xylene	<0.000642	U *- ** *1	0.00200	0.000642	mg/L			03/03/23 11:46	1
Xylenes, Total	<0.000642	U *- ** *1	0.00400	0.000642	mg/L			03/03/23 11:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130		03/03/23 11:46	1
1,4-Difluorobenzene (Surr)	67	S1-	70 - 130		03/03/23 11:46	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			03/06/23 14:35	1

Surrogate Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Livingston Line

Job ID: 880-25364-1
SDG: Lea County NM

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)
880-25364-1	MW-2	115	110
880-25364-2	MW-3	112	111
880-25364-3	MW-15	116	75
880-25364-3 MS	MW-15	124	101
880-25364-3 MSD	MW-15	123	93
880-25364-4	MW-6	104	67 S1-
880-25365-B-1 MS	Matrix Spike	114	112
880-25365-B-1 MSD	Matrix Spike Duplicate	112	109
LCS 880-47605/34	Lab Control Sample	115	110
LCS 880-47689/3	Lab Control Sample	117	102
LCSD 880-47605/35	Lab Control Sample Dup	114	109
LCSD 880-47689/4	Lab Control Sample Dup	122	101
MB 880-47338/5-A	Method Blank	104	104
MB 880-47605/39	Method Blank	104	103
MB 880-47689/8	Method Blank	77	83
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Livingston Line

Job ID: 880-25364-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-47338/5-A

Matrix: Water

Analysis Batch: 47605

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47338

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L		02/27/23 14:58	03/02/23 13:30	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L		02/27/23 14:58	03/02/23 13:30	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L		02/27/23 14:58	03/02/23 13:30	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L		02/27/23 14:58	03/02/23 13:30	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L		02/27/23 14:58	03/02/23 13:30	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L		02/27/23 14:58	03/02/23 13:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	02/27/23 14:58	03/02/23 13:30	1
1,4-Difluorobenzene (Surr)	104		70 - 130	02/27/23 14:58	03/02/23 13:30	1

Lab Sample ID: MB 880-47605/39

Matrix: Water

Analysis Batch: 47605

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/03/23 01:38	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/03/23 01:38	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/03/23 01:38	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/03/23 01:38	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/03/23 01:38	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/03/23 01:38	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130		03/03/23 01:38	1
1,4-Difluorobenzene (Surr)	103		70 - 130		03/03/23 01:38	1

Lab Sample ID: LCS 880-47605/34

Matrix: Water

Analysis Batch: 47605

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1019		mg/L		102	70 - 130
Toluene	0.100	0.1004		mg/L		100	70 - 130
Ethylbenzene	0.100	0.1051		mg/L		105	70 - 130
m-Xylene & p-Xylene	0.200	0.2243		mg/L		112	70 - 130
o-Xylene	0.100	0.1109		mg/L		111	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	115		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: LCSD 880-47605/35

Matrix: Water

Analysis Batch: 47605

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1093		mg/L		109	70 - 130	7	20

Eurofins Midland

QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Livingston Line

Job ID: 880-25364-1
SDG: Lea County NM

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

Lab Sample ID: LCSD 880-47605/35

Matrix: Water

Analysis Batch: 47605

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
Toluene	0.100	0.1095		mg/L		109	70 - 130	9	20
Ethylbenzene	0.100	0.1130		mg/L		113	70 - 130	7	20
m-Xylene & p-Xylene	0.200	0.2412		mg/L		121	70 - 130	7	20
o-Xylene	0.100	0.1191		mg/L		119	70 - 130	7	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	114		70 - 130						
1,4-Difluorobenzene (Surr)	109		70 - 130						

Lab Sample ID: 880-25365-B-1 MS

Matrix: Water

Analysis Batch: 47605

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000408	U	0.100	0.1060		mg/L		106	70 - 130		
Toluene	<0.000367	U	0.100	0.1019		mg/L		102	70 - 130		
Ethylbenzene	<0.000657	U	0.100	0.1065		mg/L		107	70 - 130		
m-Xylene & p-Xylene	0.000712	J	0.200	0.2248		mg/L		112	70 - 130		
o-Xylene	<0.000642	U	0.100	0.1126		mg/L		113	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
4-Bromofluorobenzene (Surr)	114		70 - 130								
1,4-Difluorobenzene (Surr)	112		70 - 130								

Lab Sample ID: 880-25365-B-1 MSD

Matrix: Water

Analysis Batch: 47605

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000408	U	0.100	0.1123		mg/L		112	70 - 130	6	25
Toluene	<0.000367	U	0.100	0.1082		mg/L		108	70 - 130	6	25
Ethylbenzene	<0.000657	U	0.100	0.1106		mg/L		111	70 - 130	4	25
m-Xylene & p-Xylene	0.000712	J	0.200	0.2332		mg/L		116	70 - 130	4	25
o-Xylene	<0.000642	U	0.100	0.1150		mg/L		115	70 - 130	2	25
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	112		70 - 130								
1,4-Difluorobenzene (Surr)	109		70 - 130								

Lab Sample ID: MB 880-47689/8

Matrix: Water

Analysis Batch: 47689

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/03/23 11:04	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/03/23 11:04	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/03/23 11:04	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/03/23 11:04	1

Eurofins Midland

QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Livingston Line

Job ID: 880-25364-1
SDG: Lea County NM

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

Lab Sample ID: MB 880-47689/8

Matrix: Water

Analysis Batch: 47689

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/03/23 11:04	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/03/23 11:04	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		70 - 130					03/03/23 11:04	1
1,4-Difluorobenzene (Surr)	83		70 - 130					03/03/23 11:04	1

Lab Sample ID: LCS 880-47689/3

Matrix: Water

Analysis Batch: 47689

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.06223	*-	mg/L		62	70 - 130
Toluene	0.100	0.05890	*-	mg/L		59	70 - 130
Ethylbenzene	0.100	0.06072	*-	mg/L		61	70 - 130
m-Xylene & p-Xylene	0.200	0.1284	*-	mg/L		64	70 - 130
o-Xylene	0.100	0.06487	*-	mg/L		65	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	117		70 - 130				
1,4-Difluorobenzene (Surr)	102		70 - 130				

Lab Sample ID: LCSD 880-47689/4

Matrix: Water

Analysis Batch: 47689

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1106	*1	mg/L		110	70 - 130	56	20
Toluene	0.101	0.1116	*1	mg/L		111	70 - 130	62	20
Ethylbenzene	0.100	0.1248	*1	mg/L		124	70 - 130	69	20
m-Xylene & p-Xylene	0.201	0.2659	*+ *1	mg/L		132	70 - 130	70	20
o-Xylene	0.101	0.1360	*+ *1	mg/L		135	70 - 130	71	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	122		70 - 130						
1,4-Difluorobenzene (Surr)	101		70 - 130						

Lab Sample ID: 880-25364-3 MS

Matrix: Water

Analysis Batch: 47689

Client Sample ID: MW-15

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.000408	U F1 *1 *-	0.100	0.1531	F1	mg/L		152	70 - 130
Toluene	<0.000367	U F1 *1 *-	0.101	0.1519	F1	mg/L		151	70 - 130
Ethylbenzene	0.000780	J F1 *1 *-	0.100	0.1737	F1	mg/L		172	70 - 130
m-Xylene & p-Xylene	0.000804	J F1 *+ *1	0.201	0.3753	F1	mg/L		186	70 - 130

Eurofins Midland

QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Livingston Line

Job ID: 880-25364-1
SDG: Lea County NM

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

Lab Sample ID: 880-25364-3 MS

Matrix: Water

Analysis Batch: 47689

Client Sample ID: MW-15

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
o-Xylene	<0.000642	U F1 *+ *1 *-	0.101	0.1832	F1	mg/L		182	70 - 130
Surrogate	MS %Recovery	MS Qualifier	MS Limits						
4-Bromofluorobenzene (Surr)	124		70 - 130						
1,4-Difluorobenzene (Surr)	101		70 - 130						

Lab Sample ID: 880-25364-3 MSD

Matrix: Water

Analysis Batch: 47689

Client Sample ID: MW-15

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.000408	U F1 *1 *-	0.100	0.1825	F1	mg/L		182	70 - 130	18	25
Toluene	<0.000367	U F1 *1 *-	0.101	0.1681	F1	mg/L		167	70 - 130	10	25
Ethylbenzene	0.000780	J F1 *1 *-	0.100	0.1836	F1	mg/L		182	70 - 130	6	25
m-Xylene & p-Xylene	0.000804	J F1 *+ *1 *-	0.201	0.3906	F1	mg/L		194	70 - 130	4	25
o-Xylene	<0.000642	U F1 *+ *1 *-	0.101	0.1921	F1	mg/L		191	70 - 130	5	25
Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits								
4-Bromofluorobenzene (Surr)	123		70 - 130								
1,4-Difluorobenzene (Surr)	93		70 - 130								

QC Association Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Livingston Line

Job ID: 880-25364-1
SDG: Lea County NM

GC VOA

Prep Batch: 47338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-47338/5-A	Method Blank	Total/NA	Water	5035	

Analysis Batch: 47605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25364-1	MW-2	Total/NA	Water	8021B	
880-25364-2	MW-3	Total/NA	Water	8021B	
MB 880-47338/5-A	Method Blank	Total/NA	Water	8021B	47338
MB 880-47605/39	Method Blank	Total/NA	Water	8021B	
LCS 880-47605/34	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-47605/35	Lab Control Sample Dup	Total/NA	Water	8021B	
880-25365-B-1 MS	Matrix Spike	Total/NA	Water	8021B	
880-25365-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8021B	

Analysis Batch: 47689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25364-3	MW-15	Total/NA	Water	8021B	
880-25364-4	MW-6	Total/NA	Water	8021B	
MB 880-47689/8	Method Blank	Total/NA	Water	8021B	
LCS 880-47689/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-47689/4	Lab Control Sample Dup	Total/NA	Water	8021B	
880-25364-3 MS	MW-15	Total/NA	Water	8021B	
880-25364-3 MSD	MW-15	Total/NA	Water	8021B	

Analysis Batch: 47751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25364-1	MW-2	Total/NA	Water	Total BTEX	
880-25364-2	MW-3	Total/NA	Water	Total BTEX	
880-25364-3	MW-15	Total/NA	Water	Total BTEX	
880-25364-4	MW-6	Total/NA	Water	Total BTEX	

Lab Chronicle

Client: Etech Environmental & Safety Solutions
Project/Site: Livingston Line

Job ID: 880-25364-1
SDG: Lea County NM

Client Sample ID: MW-2

Lab Sample ID: 880-25364-1

Date Collected: 02/17/23 10:00

Matrix: Water

Date Received: 03/01/23 16:37

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	47605	03/03/23 09:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47751	03/03/23 13:22	SM	EET MID

Client Sample ID: MW-3

Lab Sample ID: 880-25364-2

Date Collected: 02/17/23 12:00

Matrix: Water

Date Received: 03/01/23 16:37

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	47605	03/03/23 10:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47751	03/03/23 13:22	SM	EET MID

Client Sample ID: MW-15

Lab Sample ID: 880-25364-3

Date Collected: 02/17/23 14:00

Matrix: Water

Date Received: 03/01/23 16:37

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	47689	03/03/23 11:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47751	03/06/23 14:35	SM	EET MID

Client Sample ID: MW-6

Lab Sample ID: 880-25364-4

Date Collected: 02/17/23 13:00

Matrix: Water

Date Received: 03/01/23 16:37

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	47689	03/03/23 11:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47751	03/06/23 14:35	SM	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Livingston Line

Job ID: 880-25364-1
SDG: Lea County NM

Laboratory: Eurofins Midland

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

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

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

Analysis Method	Prep Method	Matrix	Analyte
Total BTEX		Water	Total BTEX

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

Method Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Livingston Line

Job ID: 880-25364-1
SDG: Lea County NM

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

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

Sample Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Livingston Line

Job ID: 880-25364-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-25364-1	MW-2	Water	02/17/23 10:00	03/01/23 16:37
880-25364-2	MW-3	Water	02/17/23 12:00	03/01/23 16:37
880-25364-3	MW-15	Water	02/17/23 14:00	03/01/23 16:37
880-25364-4	MW-6	Water	02/17/23 13:00	03/01/23 16:37

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



Environment Testing
Xenco

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: 25364

www.xenco.com Page 1 of 1

Project Manager:	Joel Lowry	Bill to: (if different)	Plains All American Pipeline
Company Name:	eTech Environmental	Company Name:	C/O Connie Bryant
Address:		Address:	1106 Griffith Drive
City, State ZIP:		City, State ZIP:	Midland, TX 79708
Phone:	575-396-2378	Email:	pm@etechenv.com

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRF <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRF <input type="checkbox"/> Level I <input type="checkbox"/>	
Deliverables EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other:	


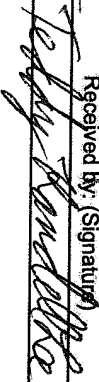

Project Name:	Livingston Line	Turn Around	ANALYSIS REQUEST																Preservative Codes			
Project Number:	17475	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code																	None NO	DI Water H ₂ O	
Project Location:	Lea County, NM	Due Date:	Parameters BTEX																	Cool Cool	MeOH Me	
Sampler's Name:	Zach Corder	TAT starts the day received by the lab, if received by 4:30pm																		HCL HC	HNO ₃ HN	
PO #:	2001-11226																			H ₂ SO ₄ H ₂	NaOH Na	
SAMPLE RECEIPT	Temp Blank: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																			H ₃ PO ₄ HP	
Samples Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID:																			NaHSO ₄ NABIS	
Cooler Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Correction Factor:																		Na ₂ S ₂ O ₃ NaSO ₃		
Sample Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Temperature Reading:																		Zn Acetate+NaOH Zn		
Total Containers:	12	Corrected Temperature:																		NaOH+Ascorbic Acid SAPC		
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont															Sample Comments	
MW 2	W	2-17-23	10:00	—	—	3	X															
MW 3	W	1	12:00	—	—	3	X															
MW 5	W	1	2:00	—	—	3	X															
MW 6	W	1	1:00	—	—	3	X															



880-25364 Chain of Custody

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		3/1/23 16:37			3/2/23 12:29

Revised Date: 08/25/2020 Rev 2020.2

Loc: 880
25364

Login Sample Receipt Checklist

Client: Etech Environmental & Safety Solutions

Job Number: 880-25364-1

SDG Number: Lea County NM

Login Number: 25364

List Number: 1

Creator: Kramer, Jessica

List Source: Eurofins Midland

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

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

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

CONDITIONS

Action 208274

CONDITIONS

Operator: PLAINS MARKETING L.P. 333 Clay Street Suite 1900 Houston, TX 77002	OGRID:
	34053
	Action Number: 208274
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	1. Continue to gauge and sample MW-2, MW-3, MW-5, MW-6 quarterly for BTEX. 2. MW-7, MW-8, MW-10, MW-11 shall continue to be gauged and sampled annually. MW-9 gauged quarterly and sampled if enough volume is present. 3. PSH recovery shall continue monthly. for MW-4. Monthly PAH recovery shall continue for MW-5 4. 2023 Annual Groundwater Monitoring Report will be submitted to OCD no later than April 1, 2024	5/17/2023