2022 Annual Groundwater Monitoring Report

REVIEWED
By Mike Buchanan at 9:40 am, May 16, 2023

Review of 2022 Annual Groundwater Monitoring Report:
Content Satisfactory
1. Continue to gauge and sample Monitor wells MW-2, MW-5, MW-11, and MW-12 on a quarterly schedule.
2. Continue to sample MW-6, MW-9, MW-13, MW-14 and MW-15 on a semi-annual basis.
3. Continue to sample MW-7, MW-8, MW-10 annually.
4. Monthly recovery for PSH and dissolved phase impacted hydrocarbon groundwater to continue for monitor wells MW-4 and TMW-1R.
5. Submit the 2023 Annual Monitoring Report no later than April 1, 2024.

Plains All American Pipeline, LP
Livingston Ridge to Hugh – P. Sims
Lea County, New Mexico
Unit Letter "I", Section 3, Township 21 South, Range 37 East
Latitude 32.503649 North, Longitude 103.148924 West
Plains SRS #: 2001-11005
NMOCD Reference #: 1RP-0398
NMOCD Incident ID #: nAPP2109740065

Prepared By:

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ETECH Environmental & Safety Solutions, Inc.

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APPENDICES

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 Ridge to Hugh – P. Sims 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 Livingston Ridge to Hugh – P. Sims Site is Unit Letter "I" (NE/SE), Section 3, Township 21 South, Range 37 East, in Lea County, New Mexico. The property affected by the Release is owned by Mr. Hugh P. Sims. The geographic coordinates of the Release Site are 32.503649º North latitude and 103.148924º West longitude. A "Site Location Map" is provided as Figure 1.

2.0 BACKGROUND INFORMATION

Based on information provided by the client, on June 22, 2001, the Release of an estimated six (6) barrels (bbls) of crude oil was reported to the New Mexico Oil Conservation District (NMOCD). Initial excavation activities were conducted by Environmental Plus, Inc. (EPI), in an effort to stockpile saturated soils and expose the release origin to facilitate repair of the pipeline. The pipeline excavation activities continued into July 2001. A total of approximately 148 cubic yards (yd^3) of hydrocarbon-impacted soil were excavated at the Site and transported to EPI's land-farm south of Eunice, New Mexico. A temporary groundwater monitor well (TMW-1) was installed in the bottom of the excavation. Phase-separated hydrocarbons (PSH) were observed within the shallow groundwater bearing unit at the time of installation. Based on the review of provided documentation, the NMOCD and landowner were immediately notified of the Release. EPI installed three (3) groundwater monitor wells at the Site to evaluate the magnitude and extent of the Release and determine the groundwater gradient.

In August 2002, Environmental Technology Group, Inc. (ETGI), assumed management of remedial activities and installed 12 additional groundwater monitor wells (MW-2 through MW-14) at the Site. The wells were installed to complete the delineation activities initiated by EPI. At the time of ETGI's investigation, the groundwater monitor wells had adequately delineated the hydrocarbon dissolved-phase plume and PSH plume at the Site. In 2004, Plains requested EPI manage the remediation and sampling activities.

On February 1, 2007, Terracon assumed project management responsibilities and oversight of groundwater activities associated with the Release.

In July 2007, Terracon oversaw the installation of a polyvinyl chloride (PVC) liner on the floor of the excavation and backfilling the excavation with remediated soils from the previous land treatment area at the Site in accordance with the NMOCD-approved work plan. Details of these activities can be found in Plains' *Soil Closure Compliance Report*, dated August 17, 2007.

On October 1, 2018, monitor wells TMW-1 and MW-3 were plugged and abandoned. A replacement monitor well for MW1 (TMW-1R) was installed to evaluate the status of the

groundwater at the Site. The monitor well was advanced to a total depth of approximately 45 feet (ft.) below ground surface (bgs). Monitor well TMW-1R is located approximately 65 ft. to the west (cross-gradient) of monitor well MW-1.

On November 2, 2018, West Company, a licensed, Professional Land Surveyor, surveyed monitor well TMW-1R.

In February 2023, Etech, at the request of Plains, assumed project management and oversight responsibilities for groundwater remediation activities at the Livingston Ridge to Hugh – P. Sims Release Site.

Currently, there are a total of 15 monitor wells on-site: MW-1, MW-2, MW-4 through MW-15, and TMW-1R. Monitor wells MW-2, MW-5, MW-11, and MW-12 are gauged and sampled on a quarterly schedule. Monitor wells MW-6, MW-9, MW-13, MW-14, and MW-15 are sampled on a semi-annual basis. Monitor wells MW-7, MW-8, and MW-10 are on an annual sampling schedule. Monitor wells MW-1, MW-4, and TMW-1R are currently not sampled due to the presence of PSH.

3.0 FIELD ACTIVITIES

3.1 Groundwater Remediation Activities

A measurable thickness of PSH was detected in monitor well TMW-1 following installation. On October 1, 2018, TMW-1 was plugged and abandoned, and replacement monitor well (TMW-1R) was drilled and completed. Manual recovery of PSH and dissolved-phase hydrocarbon-impacted groundwater from TMW-1R commenced in May of 2019. Approximately 1,300 gallons (30.95 bbls) of dissolved-phase hydrocarbon-impacted groundwater and 3.36 gallons (0.08 bbls) of PSH were recovered from TMW-1R during the 2022 reporting period. A total of approximately 9,790 gallons (233 barrels) of dissolved-phase hydrocarbon-impacted groundwater and 17.0 gallons (0.40 bbls) of PSH have been recovered from the well since 2019. Groundwater gauging and PSH recovery data for monitor well TMW-1R is summarized in Table 3.

Quarterly Aggressive Fluid Recovery (AFR) events were performed on monitor well TMW-1R in 1Q2022, 2Q2022, and 3Q2022. During the AFR events, a hose is lowered into a well's fluid column and subsequently connected to a vacuum truck to recover impacted groundwater. Approximately 3,510 gallons (83.4 bbls) of dissolved-phase hydrocarbon-impacted groundwater was recovered from TMW-1R during the reporting period. Approximately 13,758 gallons (327 bbls) of dissolved-phase hydrocarbon-impacted groundwater has been recovered by AFR since 2,019. A summary of AFR events is provided as Table 7.

Manual recovery of PSH and dissolved-phase hydrocarbon-impacted groundwater from monitor well MW-4 commenced in May 2019. Approximately 35 gallons (0.83 bbls) of dissolved-phase hydrocarbon-impacted groundwater and 0.86 gallons (0.02 bbls) of PSH were recovered from MW-4 during the 2022 reporting period. A total of approximately 271 gallons (6.45 bbls) of dissolved-phase hydrocarbon-impacted groundwater has been recovered from the well since 2018. Groundwater gauging and PSH recovery data for monitor well MW-4 is summarized in Table 4.

Monthly manual recovery of dissolved-phase hydrocarbon-impacted groundwater was also conducted on monitor wells MW-5 and MW-12 in an effort to control the down- and cross-gradient migration of the dissolved-phase plume. Estimated volumes of 15.5 gallons (0.37 bbls) and 30 gallons (0.71 bbls) of dissolved-phase hydrocarbon-impacted groundwater were recovered from monitor wells MW-5 and MW-12, respectively, during the reporting period. Summaries of groundwater recovery data are provided in Tables 5 and 6.

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

3.2 Groundwater Monitoring

The on-site monitor wells were gauged and sampled by a previous environmental contractor on March 16 (1Q2022), June 15 (2Q2022), and September 28 (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 21, 2023 (the earliest available opportunity) 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, MW-2, MW-4 through MW-15, and TMW-1R), 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 17, 2022. Based on sampling criteria provided by the NMOCD, only monitor wells MW-5 and MW-12 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 order to adhere to the requirement for two (2) consecutive years of PAH concentrations below action levels set forth by the NMOCD, monitor wells MW-5 and MW-12 were sampled during the first quarter of 2022 (1Q2022). A summary of PAH analyses is provided as Table 8.

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. With the exception of the gradient map from the 4Q2022 monitoring event, the maps indicate a general groundwater gradient of approximately 0.002 feet/foot to the east-southeast as measured between monitor wells MW-5 and MW-7. 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 6. 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).

QUARTERLY MONITORING

Monitor Well MW-1

Laboratory analytical results for the groundwater sample collected during 1Q2022 indicated the benzene, toluene, and total xylene concentrations were less than the appropriate laboratory MDL and less than NMOCD regulatory standards. The ethylbenzene concentration of 0.0033 mg/L was also than the NMOCD regulatory standard. Monitor well MW-1 was not sampled during the remainder of the reporting period due to the presence of PSH.

Monitor Well MW-2

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 1Q2022, 3Q2022, and 4Q2022 to 0.000703 mg/L in 2Q2022.

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 were less than the appropriate laboratory MDL in each of the submitted groundwater samples. Toluene concentrations ranged from less than the appropriate laboratory MDL in 2Q2022, 3Q2022, and 4Q2022 to 0.000434 mg/L in 1Q2022. Ethylbenzene concentrations ranged from less than the appropriate laboratory MDL in 2Q2022 and 4Q2022 to 0.000882 mg/L in 1Q2022. Total xylene concentrations ranged from less than the appropriate laboratory MDL in 1Q2022, 2Q2022, and 3Q2022 to 0.000687 mg/L in 4Q2022.

PAH constituent concentrations in the annual groundwater sample were less than New Mexico Water Quality Control Commission (NMWQCC) Drinking Water Standards.

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

Monitor Well MW-11

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 1Q2022, 3Q2022, and 4Q2022 to 0.00043 mg/L in 2Q2022.

Monitor Well MW-12

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 1Q2022, 3Q2022, and 4Q2022 to 0.00416 mg/L in 2Q2022.

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

Monitor well TMW-1R

Monitor well TMW-1R was not sampled during the reporting period due to the presence of PSH.

SEMI-ANNUAL MONITORING

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 3Q2022 to 0.000382 mg/L in 1Q2022.

MW-9, MW-13, MW-14, and MW-15

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 semi-annual groundwater samples.

ANNUAL MONITORING

Monitor Wells MW-7, MW-8, and 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.

5.0 SUMMARY

This report presents the results of groundwater monitoring activities for the 2022 annual monitoring period. Currently, there are 15 groundwater monitor wells (MW-1, MW-2, MW-4 through MW-15, and TMW-1R) on-site. Monitor wells MW-2, MW-5, MW-11, and MW-12 are gauged and sampled on a quarterly schedule. Monitor wells MW-6, MW-9, MW-13, MW-14, and MW-15 are sampled on a semi-annual basis. Monitor wells MW-7, MW-8, and MW-10 are on a annual sampling schedule. Monitor wells MW-1, MW-4, and TMW-1R are currently not sampled due to the presence of PSH.

Groundwater gauging data collected during the monitoring period indicates a general gradient of approximately 0.002 feet/foot to the south-southeast as measured between monitor wells MW-5 and MW-7.

Approximately 1,300 gallons (30.95 bbls) of dissolved-phase hydrocarbon-impacted groundwater and 3.36 gallons (0.08 bbls) of PSH were recovered from monitor well TMW-1R during the reporting period. A total of approximately 9,790 gallons (233 barrels) of dissolved-phase hydrocarbon-impacted groundwater and 17.0 gallons (0.40 bbls) of PSH have been recovered from the well since 2019.

Approximately 3,510 gallons (83.4 bbls) of dissolved-phase hydrocarbon-impacted groundwater was recovered via AFR from TMW-1R during the reporting period. Approximately 13,758 gallons (327 bbls) of dissolved-phase hydrocarbon-impacted groundwater has been recovered by AFR since 2019.

Approximately 35 gallons (0.83 bbls) of dissolved-phase hydrocarbon-impacted groundwater and 0.86 gallons (0.02 bbls) of PSH were recovered from MW-4 during the 2022 reporting period. A total of approximately 271 gallons (6.45 bbls) of dissolved-phase hydrocarbon-impacted groundwater has been recovered since 2018.

Approximately 15.5 gallons (0.37 bbls) and 30 gallons (0.71 bbls) of dissolved-phase hydrocarbon-impacted groundwater were recovered from monitor wells MW-5 and MW-12, respectively, during the reporting period.

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-5 and MW-12 in 1Q2022.

6.0 ANTICIPATED ACTIONS

Monitor wells MW-2, MW-5, MW-11, and MW-12 will continue to be gauged and sampled on a quarterly schedule. Monitor wells MW-6, MW-9, MW-13, MW-14, and MW-15 will be sampled on a semi-annual basis. Monitor wells MW-7, MW-8, and MW-10 will be sampled annually.

Monthly recovery of PSH and dissolved-phase hydrocarbon-impacted groundwater will continue from monitor wells MW-4 and TMW-1R. Monthly recovery will be conducted from monitor well MW-1 in an effort to control the down-gradient migration of the dissolved-phase plume.

PAH sampling requirements have been met for monitor wells MW-5 and MW-12. 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 referenced 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

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Jeff Dann
Plains All American Pipeline, LP
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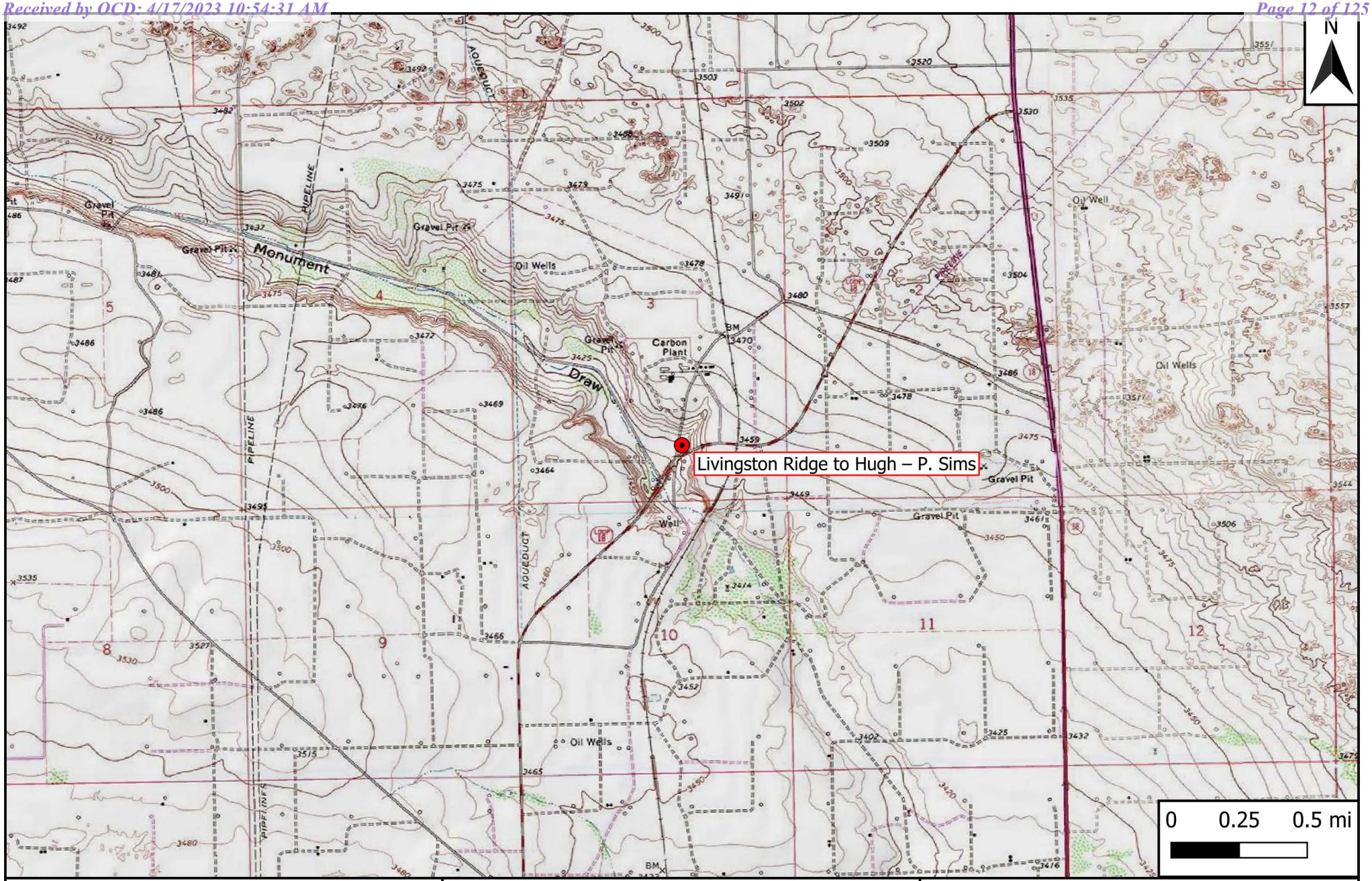
(Electronic Submission)

Figure 1
Site Location Map



Legend

- Site Location

Figure 1

Site Location Map

Plains All American Pipeline, LP

Livingston Ridge to Hugh – P. Sims

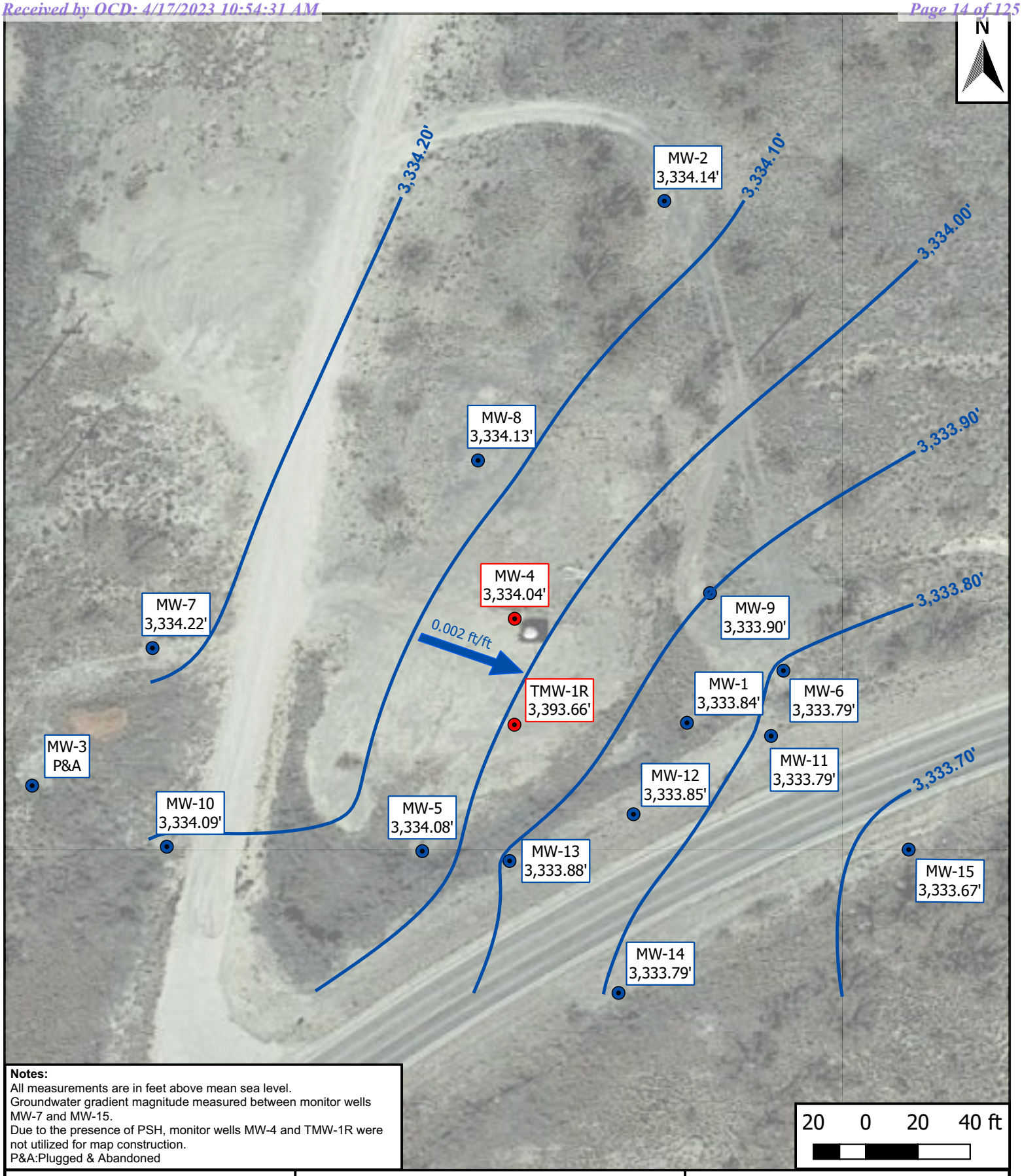
GPS: 32.503649, -103.148924

Lea County

eTECH Environmental & Safety Solutions, Inc.

Drafted: bja Checked: jwl Date: 3/28/23

Figures 2A - 2D
Inferred Groundwater Gradient Maps



Notes:
All measurements are in feet above mean sea level.
Groundwater gradient magnitude measured between monitor wells MW-7 and MW-15.
Due to the presence of PSH, monitor wells MW-4 and TMW-1R were not utilized for map construction.
P&A:Plugged & Abandoned

Legend
- Monitor Well (MW)
- Recovery Well
- Groundwater Gradient/Magnitude
- Groundwater Elevation Contour (ft)

Figure 2A
Inferred Groundwater Gradient Map – 1Q2022
Plains All American Pipeline, LP
Livingston Ridge to Hugh – P. Sims
GPS: 32.503649, -103.148924
Lea County, New Mexico

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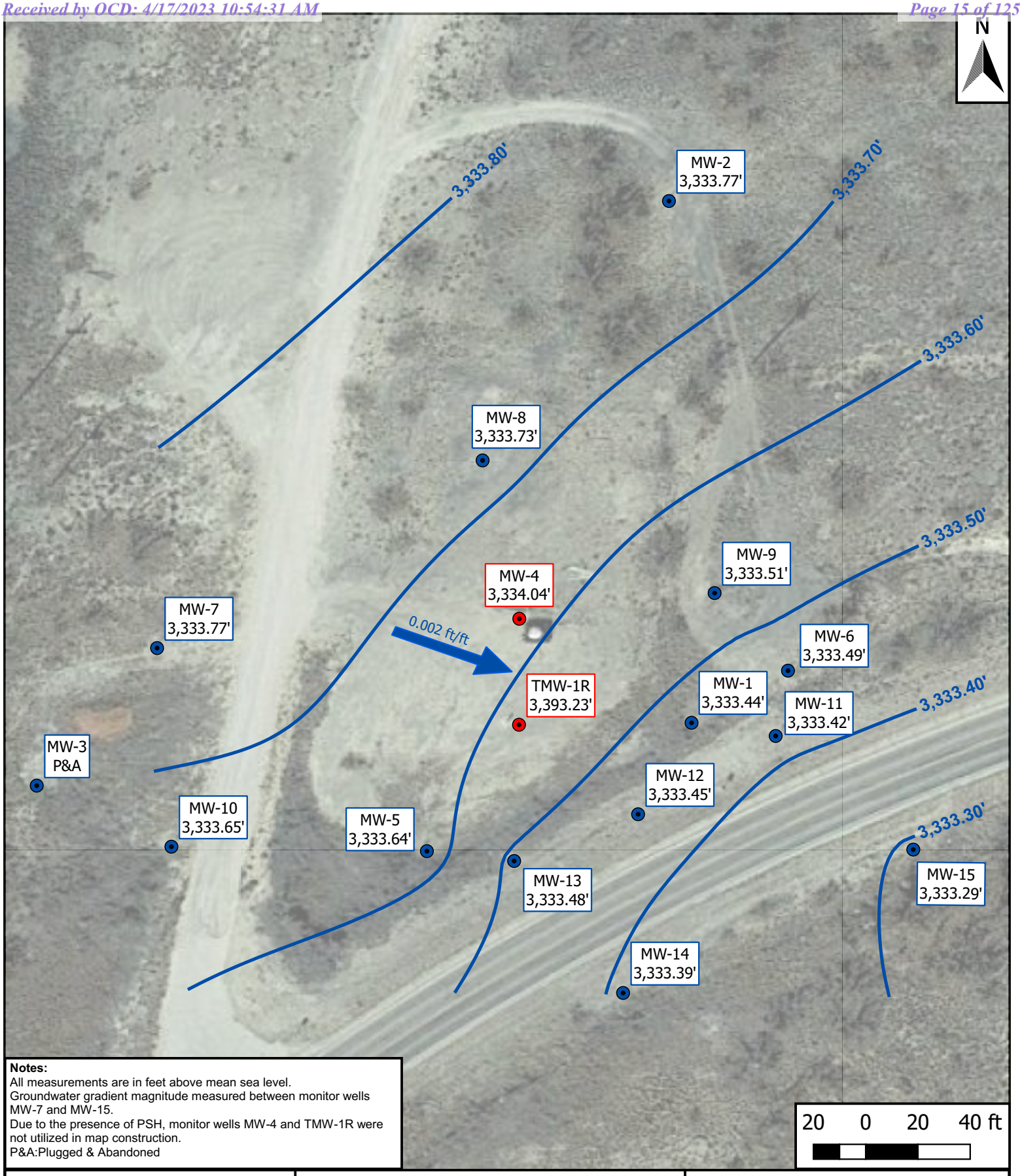
Drafted: bja Checked: jwl Date: 4/13/23



Notes:
All measurements are in feet above mean sea level.
Groundwater gradient magnitude measured between monitor wells MW-7 and MW-15.
Due to the presence of PSH, monitor wells MW-4 and TMW-1R were not utilized in map construction.
P&A:Plugged & Abandoned

Legend
- Monitor Well (MW)
- Recovery Well
- Groundwater Gradient/Magnitude
- Groundwater Elevation Contour (ft)

Figure 2B
Inferred Groundwater Gradient Map – 2Q2022
Plains All American Pipeline, LP
Livingston Ridge to Hugh – P. Sims
GPS: 32.503649, -103.148924
Lea County, New Mexico

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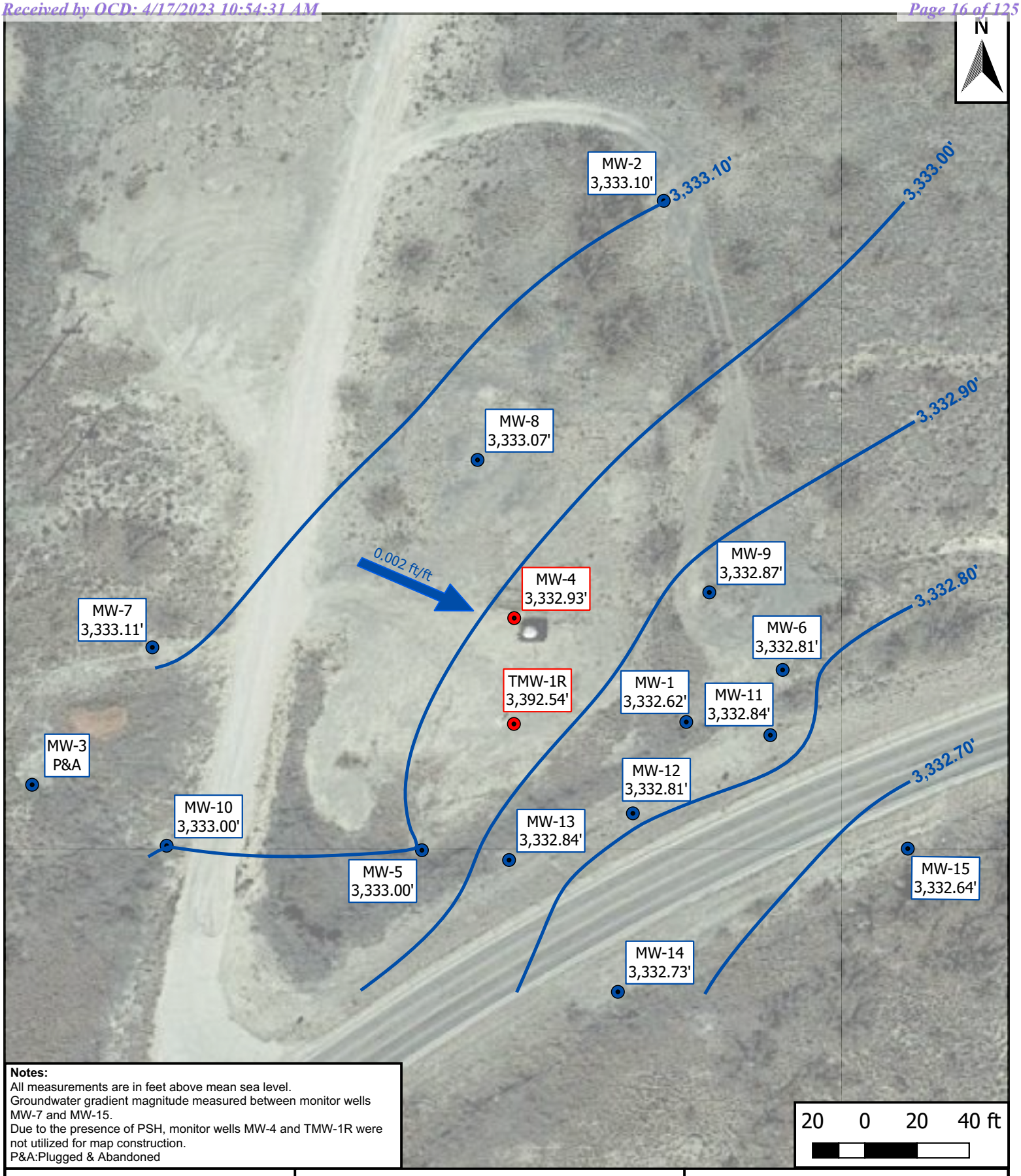

Notes:
All measurements are in feet above mean sea level.
Groundwater gradient magnitude measured between monitor wells MW-7 and MW-15.
Due to the presence of PSH, monitor wells MW-4 and TMW-1R were not utilized for map construction.
P&A:Plugged & Abandoned

Legend
- Monitor Well (MW)
- Recovery Well
- Groundwater Gradient/Magnitude
- Groundwater Elevation Contour (ft)

Figure 2C
Inferred Groundwater Gradient Map – 3Q2022
Plains All American Pipeline, LP
Livingston Ridge to Hugh – P. Sims
GPS: 32.503649, -103.148924
Lea County, New Mexico

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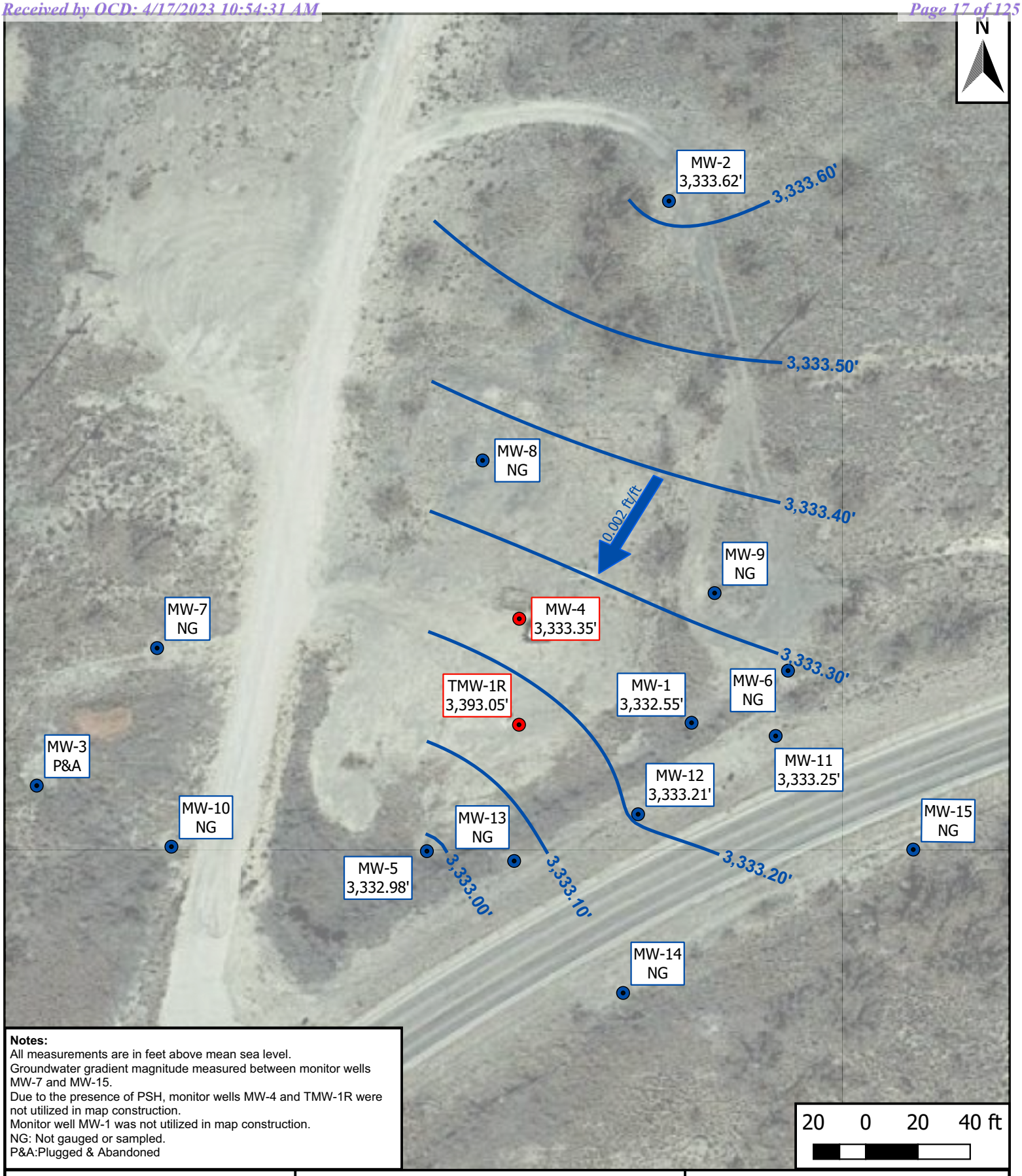
Drafted: bja Checked: jwl Date: 4/13/23



Notes:
All measurements are in feet above mean sea level.
Groundwater gradient magnitude measured between monitor wells MW-7 and MW-15.
Due to the presence of PSH, monitor wells MW-4 and TMW-1R were not utilized in map construction.
Monitor well MW-1 was not utilized in map construction.
NG: Not gauged or sampled.
P&A:Plugged & Abandoned

Legend
- Monitor Well (MW)
- Recovery Well
- Groundwater Gradient/Magnitude
- Groundwater Elevation Contour (ft)

Figure 2D
Inferred Groundwater Gradient Map – 4Q2022
Plains All American Pipeline, LP
Livingston Ridge to Hugh – P. Sims
GPS: 32.503649, -103.148924
Lea County, New Mexico

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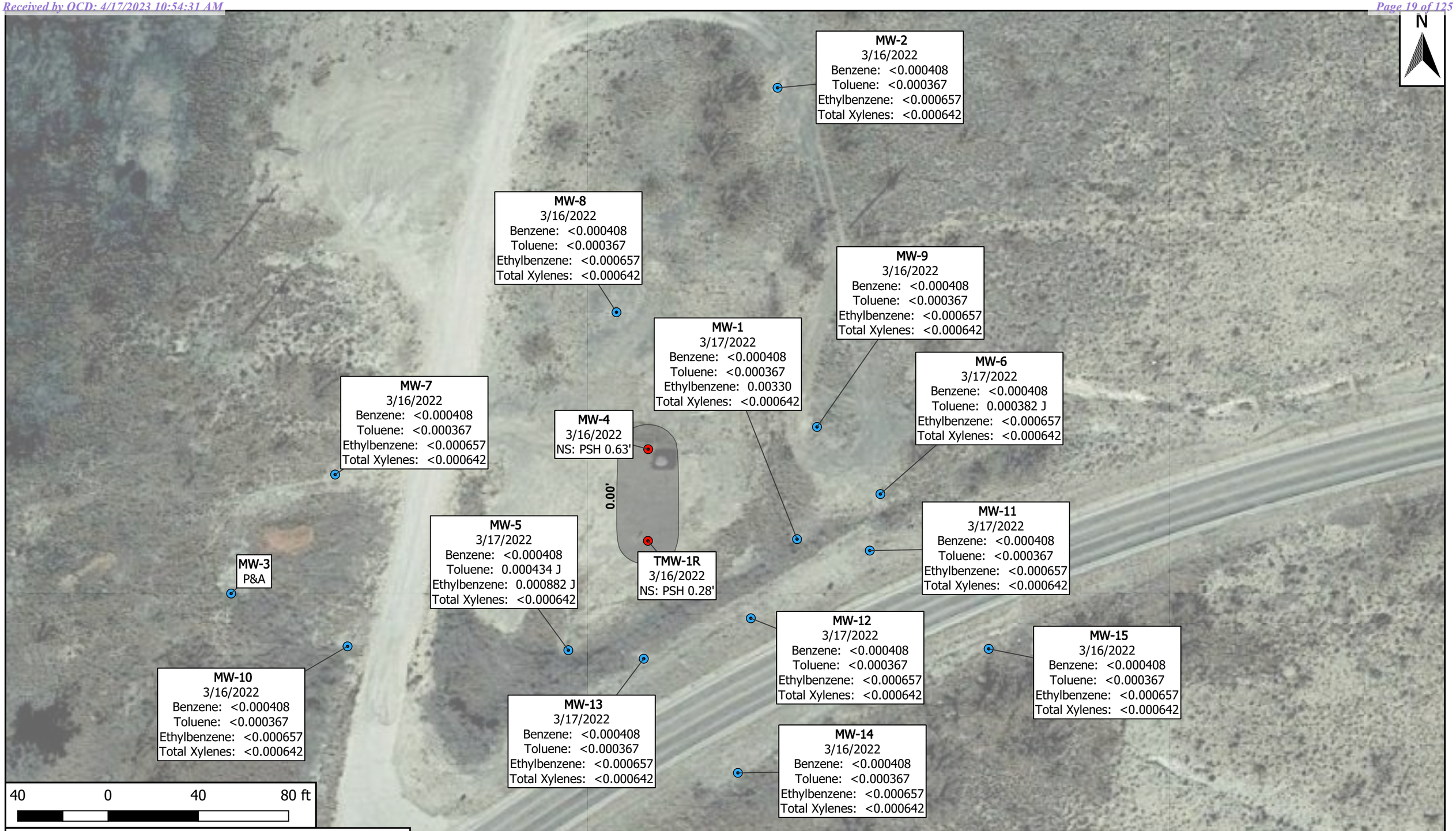
Drafted: bja Checked: jwl Date: 4/13/23

Figures 3A - 3D
Groundwater Concentration Maps



Notes:
All concentrations are reported in mg/L.
Concentrations in **BOLD** exceeded NMOCD regulatory limits.
J: The target analyte was positively identified below the quantitation limit and above the detection limit.
NS: Not Sampled
P&A: Plugged & Abandoned
Monitoring wells MW-4 and TMW-1R were not sampled due to the presence of PSH.

Legend
- Monitor Well
- Recovery Well
- PSH Extent

Figure 3A
Groundwater Concentration Map – 1Q2022
Plains All American Pipeline, LP
Livingston Ridge to Hugh – P. Sims
GPS: 32.503649, -103.148924
Lea County, New Mexico

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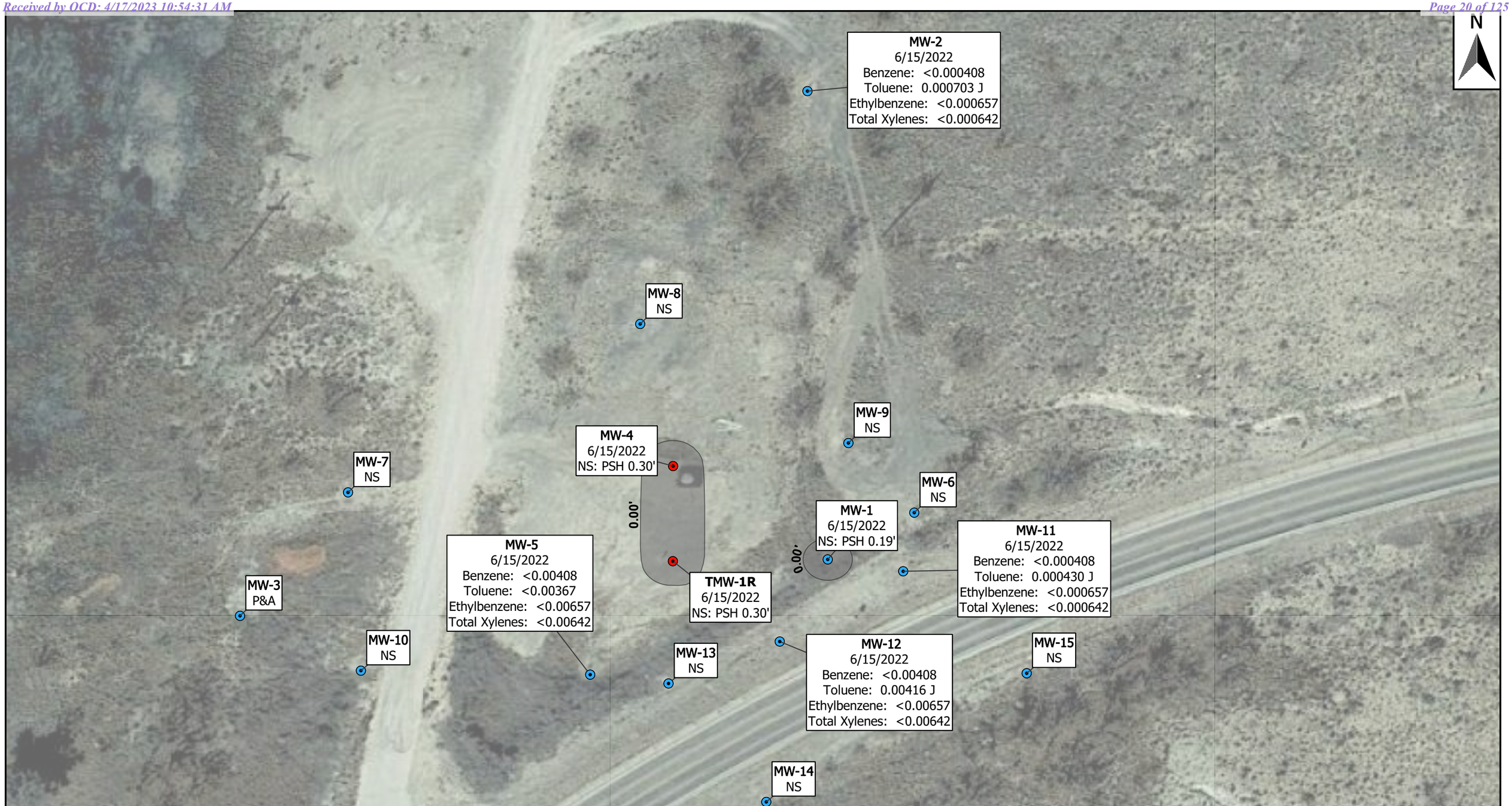

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NS: Not Sampled
P&A: Plugged & Abandoned
Monitoring wells MW-1, MW-4, and TMW-1R were not sampled due to the presence of PSH.

Legend
- Monitor Well
- Recovery Well
- PSH Extent

Figure 3B
Groundwater Concentration Map – 2Q2022
Plains All American Pipeline, LP
Livingston Ridge to Hugh – P. Sims
GPS: 32.503649, -103.148924
Lea County, New Mexico

eTECH Environmental & Safety Solutions, Inc.

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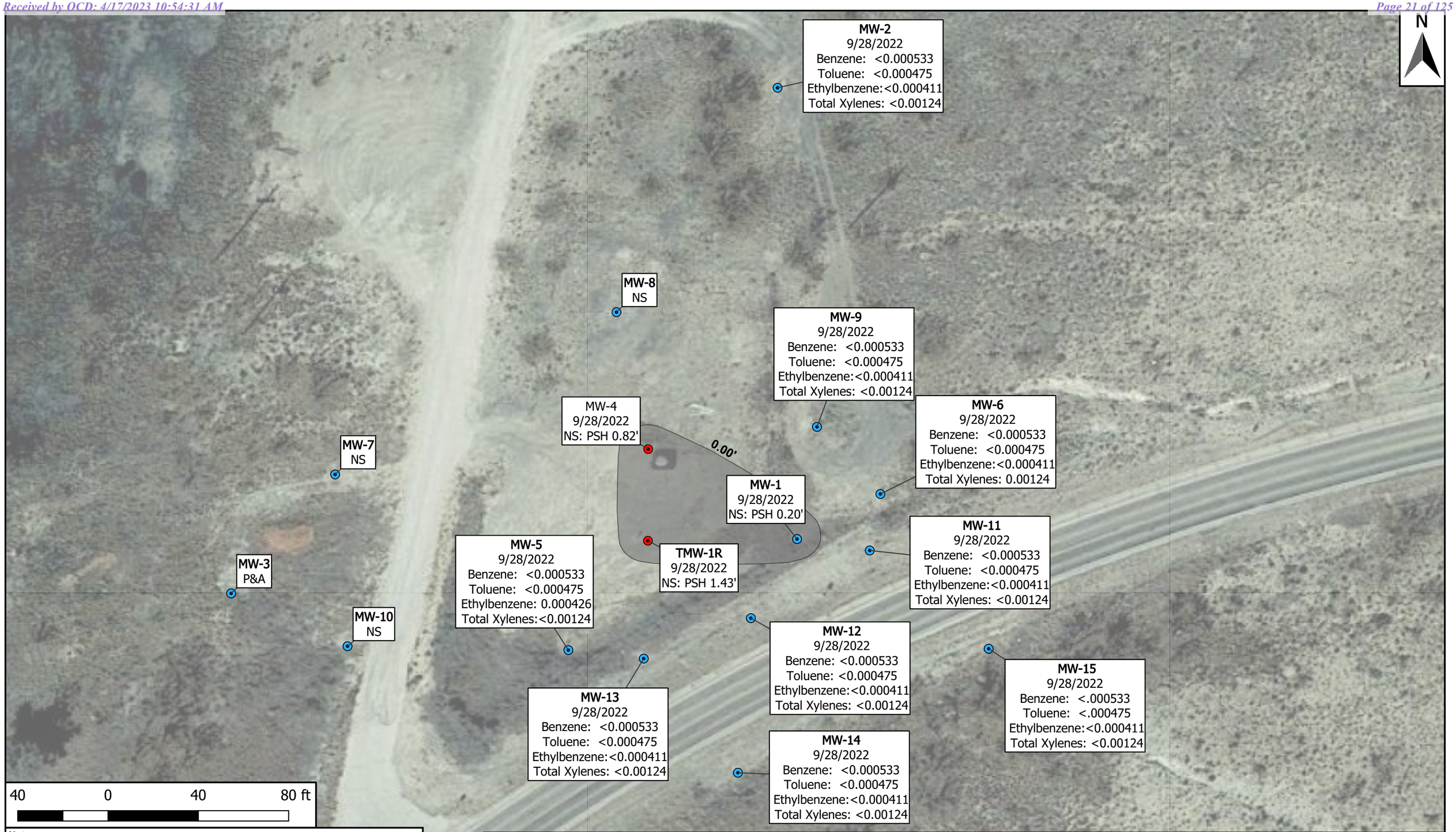

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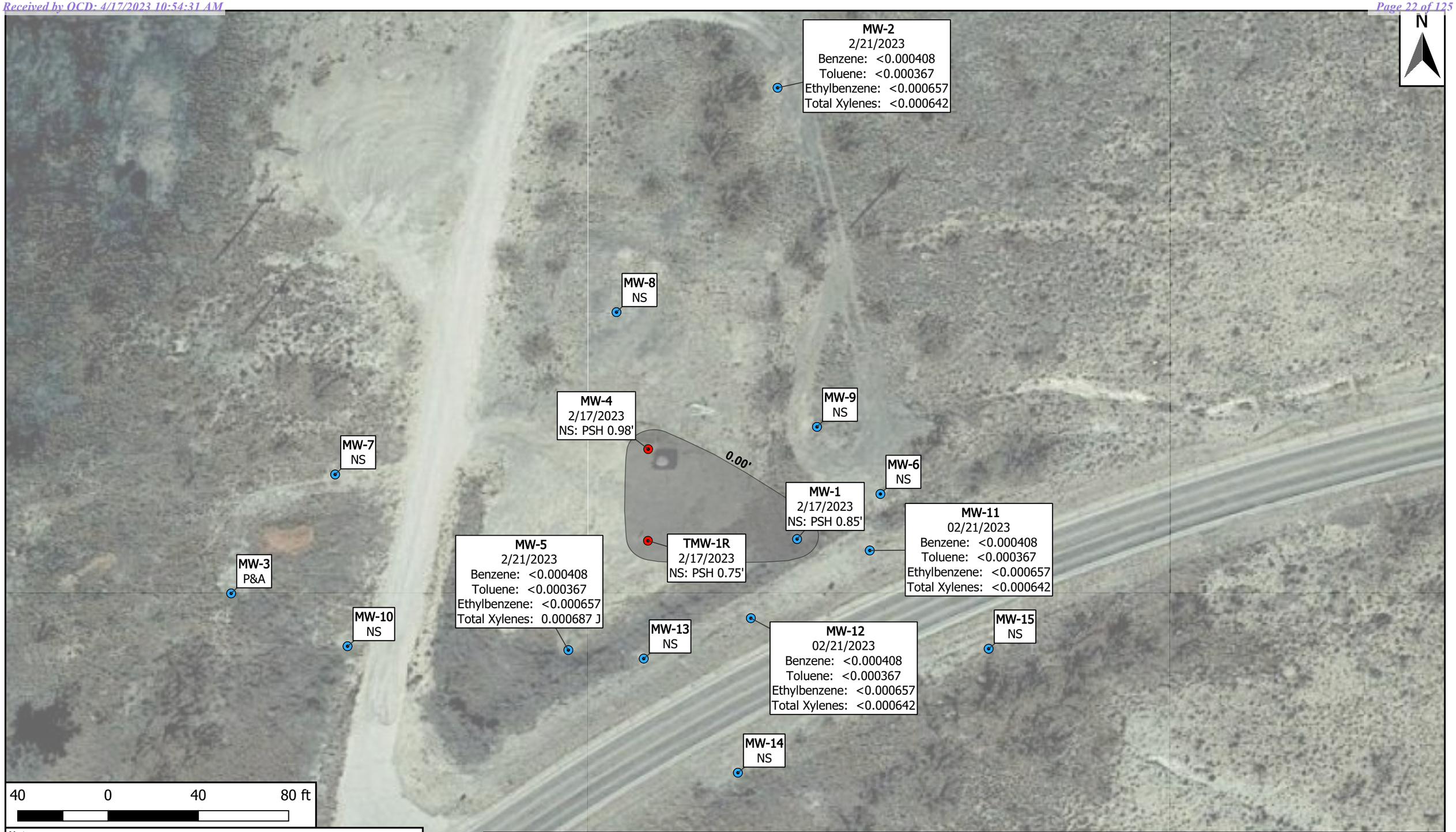
P&A: Plugged & Abandoned
Monitoring wells MW-1, MW-4, and TMW-1R were not sampled due to the presence of PSH.

Legend
- Monitor Well
- Recovery Well
- PSH Extent

Figure 3C
Groundwater Concentration Map – 3Q2022
Plains All American Pipeline, LP
Livingston Ridge to Hugh – P. Sims
GPS: 32.503649, -103.148924
Lea County, New Mexico

eTECH Environmental & Safety Solutions, Inc.

Drafted: bja Checked: jwl Date: 4/14/2023



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Legend
- Monitor Well
- Recovery Well
- PSH Extent

Figure 3D
Groundwater Concentration Map – 4Q2022
Plains All American Pipeline, LP
Livingston Ridge to Hugh – P. Sims
GPS: 32.503649, -103.148924
Lea County, New Mexico

eTECH Environmental & Safety Solutions, Inc.

Drafted: bja Checked: jwl Date: 4/14/2023

Tables 1 - 8

Table 1

Groundwater Elevation & PSH[1] Thickness Summary

Livingston Ridge - HP Sims
Lea County, New Mexico
Plains SRS #: 2001-11005
Etech Project #: 17476
NMOCD[2] Incident ID #: nAPP2109740065

All elevations 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")	03/11/2021	3,374.23	-	39.55	-	3,334.68
	06/16/2021		-	39.89	-	3,334.34
	09/29/2021		-	40.45	-	3,333.78
	12/14/2021		-	40.45	-	3,333.78
	03/16/2022		-	40.39	-	3,333.84
	06/15/2022		40.76	40.95	0.19	3,333.28
	09/28/2022		41.41	41.61	0.20	3,332.62
	02/17/2023		40.83	41.68	0.85	3,332.55
MW-2 (2")	03/11/2021	3,378.27	-	43.25	-	3,335.02
	06/16/2021		-	43.58	-	3,334.69
	09/29/2021		-	44.17	-	3,334.10
	12/14/2021		-	44.17	-	3,334.10
	03/16/2022		-	44.13	-	3,334.14
	06/15/2022		-	44.50	-	3,333.77
	09/28/2022		-	45.17	-	3,333.10
	02/17/2023		-	44.65	-	3,333.62
MW-3 (2")	10/01/2018	3,367.36	Plugged & Abandoned			
MW-4 (2")	03/11/2021	3,372.73	-	37.91	-	3,334.82
	06/16/2021		-	38.24	-	3,334.49
	09/29/2021		-	38.80	-	3,333.93
	12/14/2021		38.71	39.24	0.53	3,333.94
	03/16/2022		38.60	39.23	0.63	3,334.04
	06/15/2022		38.65	38.95	0.30	3,334.04
	09/28/2022		39.68	40.50	0.82	3,332.93
	02/17/2023		39.23	40.21	0.98	3,333.35
MW-5 (2")	03/11/2021	3,370.92	-	36.02	-	3,334.90
	06/16/2021		-	36.39	-	3,334.53
	09/29/2021		-	36.91	-	3,334.01
	12/14/2021		-	36.90	-	3,334.02
	03/16/2022		-	36.84	-	3,334.08
	06/15/2022		-	37.28	-	3,333.64
	09/28/2022		-	37.92	-	3,333.00
	02/17/2023		-	37.94	-	3,332.98
MW-6 (2")	03/11/2021	3,377.02	-	42.38	-	3,334.64
	06/16/2021		-	42.72	-	3,334.30
	09/29/2021		-	43.28	-	3,333.74
	12/14/2021		-	43.29	-	3,333.73
	03/16/2022		-	43.23	-	3,333.79
	06/15/2022		-	43.53	-	3,333.49
	09/28/2022		-	44.21	-	3,332.81

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 & PSH[1] Thickness Summary

Livingston Ridge - HP Sims
Lea County, New Mexico
Plains SRS #: 2001-11005
Etech Project #: 17476
NMOCD[2] Incident ID #: nAPP2109740065

All elevations 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")	03/11/2021	3,369.47	-	34.38	-	3,335.09
	06/16/2021		-	34.81	-	3,334.66
	09/29/2021		-	35.36	-	3,334.11
	12/14/2021		-	35.29	-	3,334.18
	03/16/2022		-	35.25	-	3,334.22
	06/15/2022		-	35.70	-	3,333.77
	09/28/2022		-	36.36	-	3,333.11
MW-8 (2")	03/11/2021	3,373.33	-	38.79	-	3,334.54
	06/16/2021		-	39.16	-	3,334.17
	09/29/2021		-	37.61	-	3,335.72
	12/14/2021		-	39.68	-	3,333.65
	03/16/2022		-	39.64	-	3,333.69
	06/15/2022		-	40.04	-	3,333.29
	09/28/2022		-	40.70	-	3,332.63
MW-9 (2")	03/11/2021	3,375.92	-	41.19	-	3,334.73
	06/16/2021		-	41.52	-	3,334.40
	09/29/2021		-	42.16	-	3,333.76
	12/14/2021		-	43.06	-	3,332.86
	03/16/2022		-	42.02	-	3,333.90
	06/15/2022		-	42.41	-	3,333.51
	09/28/2022		-	43.05	-	3,332.87
MW-10 (2")	03/11/2021	3,370.17	-	35.23	-	3,334.94
	06/16/2021		-	35.67	-	3,334.50
	09/29/2021		-	36.20	-	3,333.97
	12/14/2021		-	36.13	-	3,334.04
	03/16/2022		-	36.08	-	3,334.09
	06/15/2022		-	36.52	-	3,333.65
	09/28/2022		-	37.17	-	3,333.00
MW-11 (2")	03/11/2021	3,373.96	-	39.32	-	3,334.64
	06/16/2021		-	39.66	-	3,334.30
	09/29/2021		-	40.23	-	3,333.73
	12/14/2021		-	40.25	-	3,333.71
	03/16/2022		-	40.17	-	3,333.79
	06/15/2022		-	40.54	-	3,333.42
	09/28/2022		-	41.12	-	3,332.84
	02/17/2023		-	40.71	-	3,333.25
MW-12 (2")	03/11/2021	3,372.41	-	37.74	-	3,334.67
	06/16/2021		-	37.08	-	3,335.33
	09/29/2021		-	41.65	-	3,330.76
	12/14/2021		-	38.63	-	3,333.78
	03/16/2022		-	38.56	-	3,333.85
	06/15/2022		-	38.96	-	3,333.45
	09/28/2022		-	39.60	-	3,332.81
	02/17/2023		-	39.20	-	3,333.21

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 & PSH[1] Thickness Summary

Livingston Ridge - HP Sims
Lea County, New Mexico
Plains SRS #: 2001-11005
Etech Project #: 17476
NMOCD[2] Incident ID #: nAPP2109740065

All elevations 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-13 (2")	03/11/2021	3,368.91	-	34.18	-	3,334.73
	06/16/2021		-	34.56	-	3,334.35
	09/29/2021		-	35.12	-	3,333.79
	12/14/2021		-	35.08	-	3,333.83
	03/16/2022		-	35.03	-	3,333.88
	06/15/2022		-	35.43	-	3,333.48
	09/28/2022		-	36.07	-	3,332.84
MW-14 (2")	03/11/2021	3,371.54	-	36.93	-	3,334.61
	06/16/2021		-	37.33	-	3,334.21
	09/29/2021		-	37.83	-	3,333.71
	12/14/2021		-	37.84	-	3,333.70
	03/16/2022		-	37.75	-	3,333.79
	06/15/2022		-	38.15	-	3,333.39
	09/28/2022		-	38.81	-	3,332.73
MW-15 (2")	03/11/2021	3,377.64	-	43.12	-	3,334.52
	06/16/2021		-	43.45	-	3,334.19
	09/29/2021		-	44.00	-	3,333.64
	12/14/2021		-	44.01	-	3,333.63
	03/16/2022		-	43.97	-	3,333.67
	06/15/2022		-	44.35	-	3,333.29
	09/28/2022		-	45.00	-	3,332.64
TMW-1R	03/11/2021	3,431.82	37.30	37.54	0.24	3,394.48
	06/16/2021		37.66	38.00	0.34	3,394.11
	09/29/2021		38.19	38.64	0.45	3,393.56
	12/14/2021		38.20	38.44	0.24	3,393.58
	03/16/2022		38.12	38.40	0.28	3,393.66
	06/15/2022		38.55	38.85	0.30	3,393.23
	09/28/2022		39.07	40.50	1.43	3,392.54
	02/17/2023		38.66	39.41	0.75	3,393.05

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 BTEX[1] Concentration Analytical Summary

Livingston Ridge to Hugh P. Sims
Lea County, New Mexico
Plains SRS #: 2001-11005
Etech Project #: 17476
NMOCD[2] Incident ID #: nAPP2109740065

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-1	03/12/2021	<0.000408	<0.000367	<0.000657	0.00195 J	0.00159 J	0.00354	0.00354
	DUP-2	<0.000408	<0.000367	<0.000657	<000630	<0.000642	<0.000630	<0.000367
	06/16/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	09/29/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	12/14/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	03/17/2022	<0.000408	<0.000367	0.00330	<0.000629	<0.000642	<0.000642	0.00330 J
	06/15/2022	Not Sampled Due to Phase Separated Hydrocarbons						
	09/28/2022							
	02/21/2023							
MW-2	03/12/2021	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	06/16/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	09/29/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	12/14/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	03/16/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/15/2022	<0.000408	0.000703 J	<0.000657	<0.000629	<0.000642	<0.000642	0.000703 J
	09/28/2022	<0.000533	<0.000475	<0.000411	<0.00124	<0.000551	<0.00124	<0.00124
	DUP-2	<0.000533	<0.000475	<0.000411	<0.00124	<0.000551	<0.00124	<0.00124
	02/21/2023	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
MW-3	10/01/2018	Plugged & Abandoned						
MW-4	03/12/2021	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	06/16/2021	<0.00200	<0.00200	0.0204	0.0109	<0.00200	0.0109	0.0313
	DUP-1	<0.00200	<0.00200	0.0158	0.00833	<0.00200	0.00833	0.0241
	09/29/2021	<0.00200	<0.00200	0.0525	0.0423	<0.00200	0.0423	0.0948
	12/14/2021	Not Sampled Due to Phase Separated Hydrocarbons						
	03/17/2022							
	06/15/2022							
	09/28/2022							
	02/21/2023							
MW-5	03/12/2021	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	06/16/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	09/29/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	DUP-2	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	12/14/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	03/17/2022	<0.000408	0.000434 J	0.000882 J	<0.000629	<0.000642	<0.000642	0.00132 J
	06/15/2022	<0.00408	<0.00367	<0.00657	<0.00629	<0.00642	<0.00642	<0.00657
	09/28/2022	<0.000533	<0.000475	0.000426	<0.00124	<0.000551	<0.00124	<0.00124
	02/21/2023	<0.000408	<0.000367	<0.000657	<0.000629	0.000687 J	0.000687 J	0.000687J
MW-6	03/12/2021	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	06/16/2021	Not Sampled						
	09/29/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	12/14/2021	Not Sampled						
	03/17/2022	<0.000408	0.000382 J	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/15/2022	Not Sampled						
	09/28/2022	<0.000533	<0.000475	<0.000411	<0.00124	<0.000551	<0.00124	<0.00124
	02/21/2023	Not Sampled						

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 BTEX[1] Concentration Analytical Summary

Livingston Ridge to Hugh P. Sims
Lea County, New Mexico
Plains SRS #: 2001-11005
Etech Project #: 17476
NMOCD[2] Incident ID #: nAPP2109740065

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	03/11/2021	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	06/16/2021	Not Sampled						
	09/29/2021	Not Sampled						
	12/14/2021	Not Sampled						
	03/16/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/15/2022	Not Sampled						
	09/28/2022	Not Sampled						
	02/21/2023	Not Sampled						
MW-8	03/12/2021	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	06/16/2021	Not Sampled						
	09/29/2021	Not Sampled						
	12/14/2021	Not Sampled						
	03/16/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	DUP-1	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/15/2022	Not Sampled						
	09/28/2022	Not Sampled						
	02/21/2023	Not Sampled						
MW-9	03/12/2021	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	06/16/2021	Not Sampled						
	09/29/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	12/14/2021	Not Sampled						
	03/16/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/15/2022	Not Sampled						
	09/28/2022	<0.000533	<0.000475	<0.000411	<0.00124	<0.000551	<0.00124	<0.00124
	02/21/2023	Not Sampled						
MW-10	03/11/2021	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	06/16/2021	Not Sampled						
	09/29/2021	Not Sampled						
	12/14/2021	Not Sampled						
	03/16/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/15/2022	Not Sampled						
	09/28/2022	Not Sampled						
	02/21/2023	Not Sampled						
MW-11	03/11/2021	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	06/16/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	09/29/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	12/14/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	03/17/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/15/2022	<0.000408	0.000430 J	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	09/28/2022	<0.000533	<0.000475	<0.000411	<0.00124	<0.000551	<0.00124	<0.00124
	02/21/2023	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
MW-12	03/11/2021	<0.000408	<0.000367	0.00555	0.00215 J	0.00133 J	0.00348	0.00903
	DUP-1	<0.000408	<0.000367	0.00573	0.00193 J	<0.000642	0.00193 J	0.00766
	06/16/2021	<0.00200	<0.00200	0.00224	0.00552	<0.00200	0.00552	0.00776
	09/29/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	12/14/2021	<0.00200	<0.00200	<0.00200	<0.00400	0.00391	<0.00400	<0.00400
	03/17/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	DUP-2	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/15/2022	<0.00408	0.00416 J	<0.00657	<0.00629	<0.00642	<0.00642	<0.00657
	DUP-1	<0.00408	<0.00367	<0.00657	<0.00629	<0.00642	<0.00642	<0.00657
	09/28/2022	<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
	02/21/2023	<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 BTEX[1] Concentration Analytical Summary

Livingston Ridge to Hugh P. Sims
Lea County, New Mexico
Plains SRS #: 2001-11005
Etech Project #: 17476
NMOCD[2] Incident ID #: nAPP2109740065

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-13	03/11/2021	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	06/16/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	09/29/2021	<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
	12/14/2021	Not Sampled						
	03/17/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/15/2022	Not Sampled						
	09/28/2022	<0.000533	<0.000475	<0.000411	<0.00124	<0.000551	<0.00124	<0.00124
	02/21/2023	Not Sampled						
MW-14	03/11/2021	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	06/16/2021	Not Sampled						
	09/29/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	12/14/2021	Not Sampled						
	03/16/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/15/2022	Not Sampled						
	09/28/2022	<0.000533	<0.000475	<0.000411	<0.00124	<0.000551	<0.00124	<0.00124
	02/21/2023	Not Sampled						
MW-15	03/11/2021	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	06/16/2021	Not Sampled						
	09/29/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	12/14/2021	Not Sampled						
	03/16/2022	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	06/15/2022	Not Sampled						
	09/28/2022	<0.000533	<0.000475	<0.000411	<0.00124	<0.000551	<0.00124	<0.00124
	02/21/2023	Not Sampled						
TMW-1	10/01/2018	Plugged & Abandoned						
TMW-1R	03/11/2021	Not Sampled Due to Phase Separated Hydrocarbons						
	06/16/2021							
	09/29/2021							
	12/14/2021							
	03/16/2022							
	06/15/2022							
	09/28/2022							
	02/21/2023							

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
TMW-1R BTEX[1] & PSH[2] Thickness & Recovery Summary

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains SRS #: 2001-11005
Etech Project #: 17476
NMOCD[3] Incident ID #: nAPP2109740065

All elevations are measured in feet above mean sea level

Monitoring Well	Date	Top of Casing (TOC)[4] Elevation*	Depth to PSH Below TOC (feet)	Depth to Water Below TOC (feet)	PSH Thickness (feet)	Total Fluid Recovery (Gallons)	PSH Recovered (Gallons)
TMW-1R	01/09/2020	3431.82	36.41	36.53	0.12	3.0	0.08
	01/20/2020		36.39	36.45	0.06	5.0	0.04
	01/31/2020		36.38	36.41	0.03	3.0	0.02
	02/14/2020		36.42	36.62	0.20	3.0	0.13
	02/19/2020		36.36	36.38	0.02	5.0	0.01
	02/27/2020		36.60	36.80	0.20	3.0	0.13
	03/05/2020		36.31	36.32	0.01	5.0	0.01
	03/17/2020		36.50	36.52	0.02	5.0	0.01
	05/26/2020		36.50	37.60	1.10	5.0	0.72
	06/15/2020		36.75	37.65	0.90	1,008	0.59
	06/29/2020		36.97	38.47	1.50	5.0	0.98
	07/29/2020		37.15	37.35	0.20	4.0	0.13
	08/18/2020		36.79	36.97	0.18	4.0	0.12
	09/01/2020		37.39	37.61	0.22	1,050	0.14
	10/14/2020		37.51	37.66	0.15	4.0	0.10
	11/13/2020		37.50	37.81	0.31	1,050	0.20
	12/29/2020		37.59	37.91	0.32	4.0	0.21
	01/21/2021		37.37	37.56	0.19	3.0	0.12
	02/26/2021		37.35	37.63	0.28	1,050	0.18
	03/29/2021		37.42	37.70	0.28	5.0	0.18
	04/26/2021		37.31	37.68	0.37	5.0	0.24
	05/22/2021		37.42	37.78	0.36	1,680	0.24
	06/29/2021		37.63	38.00	0.37	5.0	0.24
	07/29/2021		Sheen	37.90	-	5.0	-
	08/13/2021		38.02	38.48	0.46	1,350	0.30
	08/26/2021		-	-	-	5.0	-
	10/25/2021		38.33	39.27	0.94	5.0	0.61
	11/15/2021		38.26	38.96	0.70	1,125	0.46
	11/30/2021		38.28	38.51	0.23	5.0	0.15
	12/20/2021		38.20	38.48	0.28	5.0	0.18
	01/25/2022		38.17	38.41	0.24	5.0	0.16
	02/11/2022		38.19	38.54	0.35	1,260	0.23
	02/23/2022		38.18	38.33	0.15	5.0	0.10
	03/29/2022		38.64	39.42	0.78	5.0	0.51
	04/27/2022		38.13	38.59	0.46	5.0	0.30
	08/31/2022		39.00	40.35	1.35	5.0	0.88
	10/19/2022		39.14	39.49	0.35	5.0	0.23
	11/22/2022		38.94	39.67	0.73	5.0	0.48
	11/22/2022		38.94	39.67	0.73	5.0	0.48
			2022 Average PSH Thickness		**0.57**	**1,300**	**3.36**

Notes:
1. BTEX: Benzene, Toluene, Ethylbenzene, Total Xylenes
2. PSH = Phase Separated Hydrocarbons
3. NMOCD = New Mexico Oil Conservation Division
4. TOC = Top Of Casing
* Elevations based on the North American Vertical Datum of 1988.

Table 4
MW-4 Gauging & BTEX[1] Impacted Groundwater Recovery Summary

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains SRS #: 2001-11005
Etech Project #: 17476
NMOCD[2] Incident ID #: nAPP2109740065

All elevation measurements are in feet above mean sea level

Monitoring Well	Date	Top of Casing (TOC)[3] Elevation*	DEPTH TO PRODUCT (Feet)	Depth to Water (Feet)	PSH THICKNESS (Feet)	Groundwater Recovered (gallons)	PSH Recovered
MW-4	05/03/2019	3372.73		36.10		3.0	Bailer
	05/07/2019			-		4.0	Monsoon pump
	05/17/2019			-		3.0	Monsoon pump
	05/21/2019			-		-	
	06/13/2019			36.46		4.0	Monsoon pump
	06/18/2019			36.46		3.0	Monsoon pump
	06/25/2019			36.52		5.0	Monsoon pump
	07/01/2019			36.55		3.0	Monsoon pump
	07/08/2019			36.67		3.0	Monsoon pump
	07/30/2019			-		3.0	Monsoon pump
	08/07/2019			-		3.0	Monsoon pump
	08/13/2019			-		3.0	Monsoon pump
	08/21/2019			-		3.0	Monsoon pump
	09/04/2019			-		3.0	Monsoon pump
	09/09/2019			-		3.0	Monsoon pump
	09/19/2019			-		3.0	Monsoon pump
	10/02/2019			-		3.0	Monsoon pump
	10/07/2019			-		3.0	Monsoon pump
	10/15/2019			-		3.0	Monsoon pump
	10/23/2019			-		3.0	Monsoon pump
	10/31/2019			-		3.0	Monsoon pump
	11/05/2019			-		3.0	Monsoon pump
	11/12/2019			-		3.0	Monsoon pump
	11/19/2019			-		3.0	Monsoon pump
	12/09/2019			-		3.0	Monsoon pump
	12/17/2019			-		3.0	Monsoon pump
	12/23/2019			-		3.0	Monsoon pump
	12/31/2019			-		3.0	Monsoon pump
	01/09/2020		-	-	-	3.0	-
	01/20/2020		-	-	-	5.0	-
	01/31/2020		-	-	-	3.0	-
	02/14/2020		-	36.98	-	4.0	-
	02/19/2020		-	-	-	5.0	-
	02/27/2020		-	-	-	5.0	-
	03/05/2020		-	-	-	5.0	-
	03/17/2020		-	-	-	5.0	-
	05/26/2020		-	-	-	5.0	-
	06/29/2020		-	-	-	5.0	-
	07/29/2020		-	-	-	5.0	-
	08/18/2020		-	-	-	5.0	-
	10/14/2020		-	-	-	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	-
	05/22/2021		-	-	-	5.0	-
	06/29/2021		-	-	-	5.0	-
	07/29/2021		-	-	-	5.0	-
	08/26/2021		-	-	-	5.0	-
	10/25/2021		38.80	39.27	0.47	5.0	0.08
	11/30/2021		38.73	39.46	0.73	5.0	0.12
	12/20/2021		38.70	39.31	0.61	5.0	0.10
	01/25/2022		38.68	39.28	0.60	5.0	0.10
	02/23/2022		37.65	38.55	0.90	5.0	0.15
	03/29/2022		38.64	39.42	0.78	5.0	0.13
	04/27/2022		38.72	39.39	0.67	5.0	0.11
	08/31/2022		39.61	40.78	1.17	5.0	0.19
	10/19/2022		39.65	40.43	0.78	5.0	0.13
	11/22/2022		39.52	39.89	0.37	5.0	0.06
2022 Average PSH Thickness					**0.75**	**35.0**	**0.86**

Notes:
1. BTEX: Benzene, Toluene, Ethylbenzene, Total Xylenes
2. NMOCD = New Mexico Oil Conservation Division
3. TOC = Top Of Casing

Table 5
MW-5 Gauging & BTEX[1] Impacted Groundwater Recovery Summary

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains SRS #: 2001-11005
Etech Project #: 17476
NMOCD[2] Incident ID #: nAPP2109740065

All elevations are measured in feet above mean sea level

Monitoring Well	Date	Top of Casing (TOC)[3] Elevation*	Groundwater Recovered (gallons)
MW-5	01/09/2020	3,370.92	3.0
	01/20/2020		3.5
	01/31/2020		3.0
	02/14/2020		4.0
	02/19/2020		3.5
	02/27/2020		4.0
	03/05/2020		3.5
	03/17/2020		3.0
	05/26/2020		3.0
	06/29/2020		3.5
	07/29/2020		2.5
	08/18/2020		3.0
	10/14/2020		2.5
	12/29/2020		3.0
	01/21/2021		2.5
	02/26/2021		2.5
	03/29/2021		3.75
	04/26/2021		2.5
	05/22/2021		3.0
	06/29/2021		2.5
	07/29/2021		2.0
	08/26/2021		2.5
	10/25/2021		2.5
	11/30/2021		2.0
	12/20/2021		5.0
	01/25/2022		3.0
	02/23/2022		2.5
	03/29/2022		2.0
	04/27/2022		0.0
	08/31/2022		1.0
	10/19/2022		2.0
	11/22/2022		5.0
2022 Total GW[4] Recovered			**15.5**

Notes:
1. BTEX: Benzene, Toluene, Ethylbenzene, Total Xylenes
2. NMOCD = New Mexico Oil Conservation Division
3. TOC = Top Of Casing
4. GW: Groundwater

Table 6
MW-12 Gauging & BTEX[1] Impacted Groundwater Recovery Summary

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains SRS #: 2001-11005
Etech Project #: 17476
NMOCD[2] Incident ID #: nAPP2109740065

All elevations are measured in feet above mean sea level

Monitoring Well	Date	Top of Casing (TOC)[3] Elevation*	Groundwater Recovered (gallons)
MW-12	01/09/2020	3,372.41	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		5.0
	03/05/2020		5.0
	03/17/2020		5.0
	05/26/2020		5.0
	06/29/2020		5.0
	07/29/2020		5.0
	08/18/2020		5.0
	10/14/2020		4.0
	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
	05/22/2021		5.0
	06/29/2021		5.0
	07/29/2021		5.0
	08/26/2021		5.0
	10/25/2021		5.0
	11/30/2021		5.0
	12/20/2021		5.0
	01/25/2022		5.0
	02/23/2022		5.0
	03/29/2022		5.0
	08/31/2022		5.0
	10/19/2022		5.0
	11/22/2022		5.0
2022 Total GW[4] Recovered			**30.0**

Notes:
1. BTEX: Benzene, Toluene, Ethylbenzene, Total Xylenes
2. NMOCD = New Mexico Oil Conservation Division
3. TOC = Top Of Casing
4. GW: Groundwater

Table 7
Quarterly AFR[1] Event Results

Livingston Ridge to Hugh - P. Sims
Lea County, New Mexico
Plains SRS #: 2001-11005
Etech Project #: 17476
NMOCD[2] Incident ID #: nAPP2109740065

All measurements are in feet above mean sea level

Monitoring Well	Date	Targeted Constituent	PSH Fluid Volume (gallons)	Fluid Volume (gallons)	Notes
TMWR-1	12/03/2019	PSH/BTEX	N/A	2,100	Vac Truck, 325 gallons removed from buffalo tank
	03/01/2020	PSH/BTEX	N/A	N/A	1Q20 quarterly AFR not performed due to Covid
	06/15/2020	PSH/BTEX	N/A	1,008	Vac Truck, 333 gallons removed from buffalo tank
	09/01/2020	PSH/BTEX	N/A	1,050	Vac Truck, 210 gallons removed from buffalo tank
	11/13/2020	PSH/BTEX	N/A	1,050	Vac Truck, unknown gallons removed from buffalo tank
	02/26/2021	PSH/BTEX	N/A	1,050	Vac Truck, unknown gallons removed from buffalo tank
	05/22/2021	PSH/BTEX	N/A	1,680	Vac Truck, ~30 gallons removed from buffalo tank
	08/13/2021	PSH/BTEX	N/A	1,260	Vac Truck, unknown gallons removed from buffalo tank
	11/15/2021	PSH/BTEX	N/A	1,050	Vac Truck, ~30 gallons removed from buffalo tank
	02/11/2022	PSH/BTEX	N/A	1,260	Vac Truck, unknown gallons removed from buffalo tank
	5/20/2022	PSH/BTEX	N/A	900	Vac Truck, unknown gallons removed from buffalo tank
	9/30/2022	PSH/BTEX	N/A	1,350	Vac Truck, roughly 100 gallons removed from buffalo tank
			Total Recovered	13,758	

Notes:

1. AFR: Aggressive Fluid Recovery
2. NMOCD: New Mexico Oil Conservation Division

Table 6
Concentrations of PAH[1] in Groundwater Summary

Livingston Ridge to Hugh – P. Sims
Lea County, New Mexico
Plains SRS #: 2001-11005
Etech Project #: 17476
NMOCD[2] Incident ID#: nAPP2109740065

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

Monitoring Well	Date Sampled	EPA SW846-8270C, 3510																
		Naphthalene	Benzo(a)pyrene	Acenaphthene	Acenaphthylene	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	Phenanthrene	Pyrene
NMWQCC Groundwater Criteria[3]		0.03	0.0007	NE[4]														
MW-1	2/16/2006	0.0000136	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	0.00229	<0.00005	0.00399	<0.00005
	5/11/2007	0.017	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	N/A	<0.001	<0.001	NA	<0.001	0.001	<0.001	0.012	<0.001
	2/29/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	N/A	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	11/7/2012	**0.0438**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	NA	<0.002	<0.002	<0.002	0.0180	<0.002
	9/19/2013	0.00592	<0.0000500	0.000128	<0.0000500	0.000162	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	NA	<0.0000500	0.000736	<0.0000500	0.000649	<0.0000500
	10/4/2014	<0.0000149	<0.0000066	<0.00000495	<0.00000236	<0.00000407	<0.00000527	<0.00000998	<0.00000796	<0.00000583	<0.00000427	<0.00000580	0.000332	<0.00000633	<0.00000633	<0.00000750	0.000148	<0.00000691
	12/22/2020	0.000315 J	<0.0000585	<0.000103	<0.0000864	<0.0000888	<0.000138	<0.0000729	<0.000116	<0.000119	<0.000160	<0.0000780	N/A	<0.000161	<0.000103	<0.0000937	<0.0000872	<0.000134
MW-2	6/18/2003	<0.00005	<0.00005	0.000118	0.000061	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	0.000056	0.000078	<0.00005	<0.00005	0.000121
	3/22/2005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<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	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	5/11/2007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.001	<0.001
	2/29/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	11/7/2012	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	NA	<0.002	<0.002	<0.002	<0.002	<0.002
	9/19/2013	0.00056	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	NA	<0.0000513	0.000115	<0.0000513	0.000174	<0.0000513
	10/4/2014	Not Sampled Due to Sample Reduction																
MW-3	6/18/2003	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<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	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	5/11/2007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.001	<0.001
	2/29/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	9/19/2013	Dry - Not Sampled																
MW-4		Not Sampled due to the presence of phase separated hydrocarbons																
	6/18/2003	0.000167	<0.00005	0.000156	<0.00005	0.000144	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	0.000498	<0.00005	0.000891	<0.00005
	11/2/2004	0.0025	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	0.0002	<0.00005	0.000227	<0.00005
	2/16/2006	0.00492	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.000068	<0.00005	NA	<0.00005	0.000251	<0.00005	0.000312	<0.00005
	5/11/2007	**0.034**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	0.001	<0.001	0.006	<0.001
	2/29/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	9/19/2013	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	NA	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513
	10/4/2014	<0.0000149	<0.0000066	<0.00000495	<0.00000236	<0.00000407	<0.00000527	<0.00000998	<0.00000796	<0.00000583	<0.00000427	<0.00000580	0.000114	<0.00000633	<0.00000633	<0.00000750	0.0000614	<0.00000691
	12/23/2020	0.00501	<0.0000577	<0.000101	<0.0000851	<0.0000876	<0.000136	<0.0000719	<0.000114	<0.000117	<0.000158	<0.0000768	N/A	<0.000159	0.000247	<0.0000923	<0.0000860	<0.000132

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 6
Concentrations of PAH[1] in Groundwater Summary

Livingston Ridge to Hugh – P. Sims
Lea County, New Mexico
Plains SRS #: 2001-11005
Etech Project #: 17476
NMOCD[2] Incident ID#: nAPP2109740065

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

Monitoring Well	Date Sampled	EPA SW846-8270C, 3510																
		Naphthalene	Benzo(a)pyrene	Acenaphthene	Acenaphthylene	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	Phenanthrene	Pyrene
NMWQCC Groundwater Criteria[3]		0.03	0.0007	NE[4]														
MW-5	6/18/2003	**0.0403**	0.000249	0.000732	0.00507	0.000856	0.000459	0.000129	<0.00005	0.00007	0.000328	<0.00005	NA	0.000087	0.00268	<0.00005	<0.00005	0.000284
	8/24/2004	0.00768	<0.00005	0.000092	<0.00005	0.00007	<0.00005	<0.00005	<0.00005	0.00006	0.000114	<0.00005	NA	<0.00005	0.000419	<0.00005	0.000898	<0.00005
	2/16/2006	0.00136	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.000115	<0.00005	NA	<0.00005	0.000306	<0.00005	0.000427	<0.00005
	5/11/2007	0.019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	0.606	<0.001	<0.001	<0.001
	2/29/2008	**0.031**	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	<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	NA	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	11/7/2012	**0.0448**	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	NA	<0.002	<0.002	<0.002	0.0161	<0.002
	9/19/2013	**0.0405**	<0.000256	0.00028	<0.000256	0.000397	0.000377	<0.000256	<0.000256	<0.000256	<0.000256	<0.000256	NA	<0.000256	0.00213	<0.000256	0.00374	<0.000256
	10/4/2014	0.00741	<0.00000667	<0.000005	<0.00000238	<0.00000411	<0.00000533	<0.0000101	<0.0000804	<0.00000588	<0.00000431	<0.00000586	0.00071	<0.00000639	0.000301	<0.00000757	0.00019	<0.00000698
	10/19/2015	<0.000968	<0.000395	<0.000968	<0.000736	<0.000977	<0.000371	<0.000463	<0.000353	<0.000579	<0.000386	<0.00041	NA	<0.000505	<0.000997	<0.000371	<0.000804	<0.000463
	11/15/2019	0.00193	<0.000109	<0.000109	<0.000109	<0.000109	<0.000109	<0.000109	<0.000109	<0.000109	<0.000109	<0.000109	0.00126	<0.000109	0.000421	<0.000109	0.000227	<0.000109
	12/22/2020	0.000292 J	<0.0000575	<0.000101	<0.0000849	<0.0000873	<0.000136	<0.0000717	<0.000114	<0.000117	<0.000157	<0.0000766	N/A	<0.000158	0.000286	<0.0000921	<0.0000857	<0.000131
	3/17/2022	0.000472	<0.0000569	<0.0000996	<0.0000839	<0.0000897	<0.000134	<0.0000697	<0.000113	<0.000116	<0.000155	<0.0000757	0.00188	<0.000156	<0.000101	<0.000910	<0.0000847	<0.000130
MW-6	6/18/2003	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	11/2/2004	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<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	NA	<0.00005	0.000126	<0.00005	0.000063	<0.00005
	5/11/2007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	<0.001	0.001	<0.001
	2/29/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	9/19/2013	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	NA	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508
	12/22/2020	<0.0000997	<0.0000585	<0.000103	<0.0000864	<0.0000888	<0.000138	<0.0000729	<0.000116	<0.000119	<0.000160	<0.0000780	N/A	<0.000161	<0.000103	<0.0000937	<0.0000872	<0.000134
MW-7	6/18/2003	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<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	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	5/11/2007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.001	<0.001
	2/29/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	9/19/2013	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	NA	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500
MW-8	6/18/2003	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<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	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	5/11/2007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.001	<0.001
	2/29/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	9/19/2013	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

Notes:
1. PAH: Polycyclic Aromatic Hydrocarbons
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Concentrations of PAH[1] in Groundwater Summary

Livingston Ridge to Hugh – P. Sims
Lea County, New Mexico
Plains SRS #: 2001-11005
Etech Project #: 17476
NMOCD[2] Incident ID#: nAPP2109740065

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

Monitoring Well	Date Sampled	EPA SW846-8270C, 3510																
		Naphthalene	Benzo(a)pyrene	Acenaphthene	Acenaphthylene	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	Phenanthrene	Pyrene
NMWQCC Groundwater Criteria[3]		0.03	0.0007	NE[4]														
MW-9	6/18/2003	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	3/22/2005	0.000544	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	0.000084	<0.00005	0.000058	<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	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	5/11/2007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.001	<0.001
	2/29/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	9/19/2013	<0.0000513	<0.0000513	0.000052	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513	NA	<0.0000513	<0.0000513	<0.0000513	<0.0000513	<0.0000513
	12/22/2020	<0.0000974	<0.0000571	<0.000100	<0.0000843	<0.0000867	<0.000135	<0.0000712	<0.000113	<0.000116	<0.000156	<0.0000761	N/A	<0.000157	<0.000101	<0.0000914	<0.0000852	<0.000130
MW-10	6/18/2003	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<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	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	5/11/2007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.001	<0.001
	2/29/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	9/19/2019	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	NA	<0.0000508	<0.0000508	<0.0000508	0.0000852	<0.0000508
MW-11	11/6/2002	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	8/18/2004	0.0014	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	0.000075	<0.00005	0.000154	<0.00005
	3/22/2005	0.00167	<0.00005	0.000068	<0.00005	0.000055	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	0.00008	<0.00005	0.000296	<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	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	5/11/2007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.001	<0.001
	2/29/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	9/19/2013	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	NA	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500
	12/23/2020	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	NA	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500
MW-12	11/6/2002	0.000198	<0.00005	0.00007	0.000096	0.000151	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	0.000662	<0.00005	0.000722	0.000071
	8/18/2004	0.000262	<0.00005	0.000079	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	0.000078	<0.00005	0.000246	<0.00005
	3/22/2005	0.000107	<0.00005	0.0011	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	0.000166	<0.00005	0.000285	<0.00005
	2/16/2006	<0.00005	<0.00005	0.000055	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	0.000053	<0.00005	0.000174	<0.00005
	5/11/2007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.001	<0.001
	2/29/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	9/19/2013	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	NA	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500
	11/15/2019	0.00210	<0.0000585	<0.000103	<0.0000864	<0.0000888	<0.000138	<0.0000729	<0.000116	<0.000119	<0.000160	<0.0000780	N/A	<0.000161	<0.000103	<0.0000937	<0.0000872	<0.000134
	12/23/2020	0.00210	<0.0000585	<0.000103	<0.0000864	<0.0000888	<0.000138	<0.0000729	<0.000116	<0.000119	<0.000160	<0.0000780	N/A	<0.000161	<0.000103	<0.0000937	<0.0000872	<0.000134
	3/17/2022	<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

Notes:
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Concentrations of PAH[1] in Groundwater Summary

Livingston Ridge to Hugh – P. Sims
Lea County, New Mexico
Plains SRS #: 2001-11005
Etech Project #: 17476
NMOCD[2] Incident ID#: nAPP2109740065

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

Monitoring Well	Date Sampled	EPA SW846-8270C, 3510																
		Naphthalene	Benzo(a)pyrene	Acenaphthene	Acenaphthylene	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	Phenanthrene	Pyrene
NMWQCC Groundwater Criteria[3]		0.03	0.0007	NE[4]														
MW-13	11/6/2002	0.000232	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	8/18/2004	0.00234	<0.00005	0.000139	<0.00005	0.000086	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	0.000141	<0.00005	0.000702	<0.00005
	3/22/2005	0.000746	<0.00005	0.000105	<0.00005	0.000072	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	0.000366	<0.00005	0.000426	<0.00005
	2/16/2006	0.000064	<0.00005	0.000079	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	0.000079	<0.00005	0.000132	<0.00005
	5/11/2007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.001	<0.001
	2/29/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	9/19/2013	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508	NA	<0.0000508	<0.0000508	<0.0000508	<0.0000508	<0.0000508
	12/22/2020	<0.0000997	<0.0000585	<0.000103	<0.0000863	<0.0000888	<0.000138	<0.0000729	<0.000116	<0.000119	<0.000160	<0.0000779	N/A	<0.000161	<0.000103	<0.0000936	<0.0000872	<0.000134
MW-14	11/6/2002	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	8/18/2004	0.00119	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	0.000079	<0.00005
	3/22/2005	0.000071	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<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	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	5/11/2007	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.001	<0.001
	2/29/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	9/19/2013	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	NA	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500
	12/29/2020	<0.000116	<0.0000683	<0.000120	<0.000101	<0.000104	<0.000161	<0.0000851	<0.000136	<0.000139	<0.000187	<0.0000910	N/A	<0.000188	<0.000121	<0.000109	<0.000102	<0.000156
MW-15	11/6/2002	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	8/24/2004	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	2/16/2006	0.0033	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
	5/11/2007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA	<0.001	<0.001	NA	<0.001	<0.001	<0.001	<0.001	<0.001
	2/29/2008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	9/19/2013	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500	NA	<0.0000500	<0.0000500	<0.0000500	<0.0000500	<0.0000500
	12/29/2020	<0.000100	<0.0000588	<0.000103	<0.0000867	<0.0000892	<0.000138	<0.0000732	<0.000117	<0.000120	<0.000161	<0.0000783	N/A	<0.000162	<0.000104	<0.0000940	<0.0000876	<0.000134
TMW-1	2/16/2006	**0.0886**	<0.00005	0.00146	<0.00005	0.00147	<0.00005	<0.00005	<0.00005	<0.00005	0.00221	<0.00005	NA	<0.00005	0.00818	<0.00005	0.0149	0.000788
	5/11/2007	**0.062**	<0.003	<0.002	<0.004	<0.002	<0.002	<0.002	<0.006	NA	<0.002	<0.001	NA	<0.002	0.008	<0.003	<0.002	<0.002
	2/29/2008	**0.069**	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NA	<0.025	<0.025	NA	<0.025	<0.025	<0.025	<0.025	<0.025
	9/19/2013	Not Sampled Due to PSH																
	10/4/2014																	
	10/1/2018	Plugged & Abbandoned																

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

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 820-3709-1
Laboratory Sample Delivery Group: AR227012
Client Project/Site: Livingston Ridge - HP Sims

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

Attn: Brett Dennis

JKramer

Authorized for release by:
3/25/2022 4:33:03 PM

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

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 Ridge - HP Sims

Laboratory Job ID: 820-3709-1
SDG: AR227012

Table of Contents

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

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.
N1	MS, MSD: Spike recovery exceeds upper or lower control limits.
N2	RPD of the MS and MSD exceeds the control limits
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 Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

Job ID: 820-3709-1

Laboratory: Eurofins Lubbock

Narrative

Job Narrative
820-3709-1

Receipt
The samples were received on 3/17/2022 4:01 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 11.3°C

GC/MS Semi VOA
Method 8270D_SIM: Surrogate recovery for the following sample was outside the upper control limit: MW-12 (820-3709-10). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method 8270D_SIM: Surrogate recovery for the following sample was outside control limits: MW-5 (820-3709-13). Matrix interferences are possible; 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 Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

Client Sample ID: MW-2

Lab Sample ID: 820-3709-1
Date Collected: 03/16/22 11:29
Matrix: Water
Date Received: 03/17/22 16:01

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 06:52	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/25/22 06:52	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/25/22 06:52	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 06:52	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 06:52	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 06:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*		*03/25/22 06:52*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*		*03/25/22 06:52*	*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			03/25/22 16:04	1

Client Sample ID: MW-8

Lab Sample ID: 820-3709-2
Date Collected: 03/16/22 12:05
Matrix: Water
Date Received: 03/17/22 16:01

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 07:13	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/25/22 07:13	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/25/22 07:13	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 07:13	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 07:13	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 07:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*		*03/25/22 07:13*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*		*03/25/22 07:13*	*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			03/25/22 16:04	1

Client Sample ID: MW-7

Lab Sample ID: 820-3709-3
Date Collected: 03/16/22 12:34
Matrix: Water
Date Received: 03/17/22 16:01

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 07:33	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/25/22 07:33	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/25/22 07:33	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 07:33	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 07:33	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 07:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*		*03/25/22 07:33*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*		*03/25/22 07:33*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

Client Sample ID: MW-7
Date Collected: 03/16/22 12:34
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-3
Matrix: Water

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			03/25/22 16:04	1

Client Sample ID: MW-10
Date Collected: 03/16/22 13:08
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-4
Matrix: Water

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 07:54	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/25/22 07:54	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/25/22 07:54	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 07:54	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 07:54	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 07:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*		*03/25/22 07:54*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*		*03/25/22 07:54*	*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			03/25/22 16:04	1

Client Sample ID: MW-14
Date Collected: 03/16/22 13:59
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-5
Matrix: Water

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 08:14	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/25/22 08:14	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/25/22 08:14	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 08:14	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 08:14	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 08:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*		*03/25/22 08:14*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*		*03/25/22 08:14*	*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			03/25/22 16:04	1

Client Sample ID: MW-15
Date Collected: 03/16/22 14:40
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-6
Matrix: Water

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 08:35	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/25/22 08:35	1

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

Client Sample ID: MW-15

Date Collected: 03/16/22 14:40
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-6

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/25/22 08:35	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 08:35	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 08:35	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 08:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*		*03/25/22 08:35*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*		*03/25/22 08:35*	*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			03/25/22 16:04	1

Client Sample ID: MW-6

Date Collected: 03/17/22 08:45
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-7

Matrix: Water

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 10:25	1
Toluene	**0.000382**	**J**	0.00200	0.000367	mg/L			03/25/22 10:25	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/25/22 10:25	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 10:25	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 10:25	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 10:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*		*03/25/22 10:25*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*		*03/25/22 10:25*	*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			03/25/22 16:04	1

Client Sample ID: MW-9

Date Collected: 03/17/22 08:10
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-8

Matrix: Water

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 10:46	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/25/22 10:46	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/25/22 10:46	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 10:46	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 10:46	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 10:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*		*03/25/22 10:46*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*		*03/25/22 10:46*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

Client Sample ID: MW-9

Lab Sample ID: 820-3709-8
Matrix: Water
Date Collected: 03/17/22 08:10
Date Received: 03/17/22 16:01

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			03/25/22 16:04	1

Client Sample ID: MW-11

Lab Sample ID: 820-3709-9
Matrix: Water
Date Collected: 03/17/22 09:37
Date Received: 03/17/22 16:01

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 11:06	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/25/22 11:06	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/25/22 11:06	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 11:06	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 11:06	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 11:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*		*03/25/22 11:06*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*		*03/25/22 11:06*	*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			03/25/22 16:04	1

Client Sample ID: MW-12

Lab Sample ID: 820-3709-10
Matrix: Water
Date Collected: 03/17/22 10:10
Date Received: 03/17/22 16:01

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		03/21/22 18:13	03/22/22 13:28	1
Acenaphthylene	<0.0000833	U	0.000180	0.0000833	mg/L		03/21/22 18:13	03/22/22 13:28	1
Anthracene	<0.0000890	U	0.000180	0.0000890	mg/L		03/21/22 18:13	03/22/22 13:28	1
Benzo[a]anthracene	<0.000133	U	0.000180	0.000133	mg/L		03/21/22 18:13	03/22/22 13:28	1
Benzo[a]pyrene	<0.0000565	U	0.000180	0.0000565	mg/L		03/21/22 18:13	03/22/22 13:28	1
Benzo[b]fluoranthene	<0.0000692	U	0.000180	0.0000692	mg/L		03/21/22 18:13	03/22/22 13:28	1
Benzo[g,h,i]perylene	<0.000112	U	0.000180	0.000112	mg/L		03/21/22 18:13	03/22/22 13:28	1
Benzo[k]fluoranthene	<0.000115	U	0.000180	0.000115	mg/L		03/21/22 18:13	03/22/22 13:28	1
Chrysene	<0.000154	U	0.000180	0.000154	mg/L		03/21/22 18:13	03/22/22 13:28	1
Dibenz(a,h)anthracene	<0.0000752	U	0.000180	0.0000752	mg/L		03/21/22 18:13	03/22/22 13:28	1
Dibenzofuran	<0.0000989	U	0.000180	0.0000989	mg/L		03/21/22 18:13	03/22/22 13:28	1
Fluoranthene	<0.000155	U	0.000180	0.000155	mg/L		03/21/22 18:13	03/22/22 13:28	1
Fluorene	<0.0000999	U	0.000180	0.0000999	mg/L		03/21/22 18:13	03/22/22 13:28	1
Indeno[1,2,3-cd]pyrene	<0.0000903	U	0.000180	0.0000903	mg/L		03/21/22 18:13	03/22/22 13:28	1
Naphthalene	<0.0000962	U	0.00360	0.0000962	mg/L		03/21/22 18:13	03/22/22 13:28	1
Phenanthrene	<0.0000841	U	0.000180	0.0000841	mg/L		03/21/22 18:13	03/22/22 13:28	1
Pyrene	<0.000129	U	0.000180	0.000129	mg/L		03/21/22 18:13	03/22/22 13:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*152*	*X*	*54 - 146*	*03/21/22 18:13*	*03/22/22 13:28*	*1*
Nitrobenzene-d5	*144*		*46 - 151*	*03/21/22 18:13*	*03/22/22 13:28*	*1*
p-Terphenyl-d14	*105*		*51 - 139*	*03/21/22 18:13*	*03/22/22 13:28*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

Client Sample ID: MW-12

Lab Sample ID: 820-3709-10
Matrix: Water
Date Collected: 03/17/22 10:10
Date Received: 03/17/22 16:01

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 11:26	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/25/22 11:26	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/25/22 11:26	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 11:26	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 11:26	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 11:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*		*03/25/22 11:26*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*		*03/25/22 11:26*	*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			03/25/22 16:04	1

Client Sample ID: MW-13

Lab Sample ID: 820-3709-11
Matrix: Water
Date Collected: 03/17/22 10:50
Date Received: 03/17/22 16:01

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 11:47	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/25/22 11:47	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/25/22 11:47	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 11:47	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 11:47	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 11:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*		*03/25/22 11:47*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*		*03/25/22 11:47*	*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			03/25/22 16:04	1

Client Sample ID: MW-1

Lab Sample ID: 820-3709-12
Matrix: Water
Date Collected: 03/17/22 11:30
Date Received: 03/17/22 16:01

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 13:09	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/25/22 13:09	1
Ethylbenzene	**0.00330**		0.00200	0.000657	mg/L			03/25/22 13:09	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 13:09	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 13:09	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 13:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*03/25/22 13:09*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*		*03/25/22 13:09*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

Client Sample ID: MW-1

Lab Sample ID: 820-3709-12
Matrix: Water
Date Collected: 03/17/22 11:30
Date Received: 03/17/22 16:01

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00330**	**J**	0.00400	0.000657	mg/L			03/25/22 16:04	1

Client Sample ID: MW-5

Lab Sample ID: 820-3709-13
Matrix: Water
Date Collected: 03/17/22 12:12
Date Received: 03/17/22 16:01

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0000996	U	0.000181	0.0000996	mg/L		03/21/22 18:13	03/22/22 13:47	1
Acenaphthylene	<0.0000839	U	0.000181	0.0000839	mg/L		03/21/22 18:13	03/22/22 13:47	1
Anthracene	<0.0000897	U	0.000181	0.0000897	mg/L		03/21/22 18:13	03/22/22 13:47	1
Benzo[a]anthracene	<0.000134	U	0.000181	0.000134	mg/L		03/21/22 18:13	03/22/22 13:47	1
Benzo[a]pyrene	<0.0000569	U	0.000181	0.0000569	mg/L		03/21/22 18:13	03/22/22 13:47	1
Benzo[b]fluoranthene	<0.0000697	U	0.000181	0.0000697	mg/L		03/21/22 18:13	03/22/22 13:47	1
Benzo[g,h,i]perylene	<0.000113	U	0.000181	0.000113	mg/L		03/21/22 18:13	03/22/22 13:47	1
Benzo[k]fluoranthene	<0.000116	U	0.000181	0.000116	mg/L		03/21/22 18:13	03/22/22 13:47	1
Chrysene	<0.000155	U	0.000181	0.000155	mg/L		03/21/22 18:13	03/22/22 13:47	1
Dibenz(a,h)anthracene	<0.0000757	U	0.000181	0.0000757	mg/L		03/21/22 18:13	03/22/22 13:47	1
Dibenzofuran	**0.00188**		0.000181	0.0000996	mg/L		03/21/22 18:13	03/22/22 13:47	1
Fluoranthene	<0.000156	U	0.000181	0.000156	mg/L		03/21/22 18:13	03/22/22 13:47	1
Fluorene	<0.000101	U	0.000181	0.000101	mg/L		03/21/22 18:13	03/22/22 13:47	1
Indeno[1,2,3-cd]pyrene	<0.0000910	U	0.000181	0.0000910	mg/L		03/21/22 18:13	03/22/22 13:47	1
Naphthalene	**0.000472**	**J**	0.00363	0.0000968	mg/L		03/21/22 18:13	03/22/22 13:47	1
Phenanthrene	<0.0000847	U	0.000181	0.0000847	mg/L		03/21/22 18:13	03/22/22 13:47	1
Pyrene	<0.000130	U	0.000181	0.000130	mg/L		03/21/22 18:13	03/22/22 13:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*155*	*X*	*54 - 146*	*03/21/22 18:13*	*03/22/22 13:47*	*1*
Nitrobenzene-d5	*148*		*46 - 151*	*03/21/22 18:13*	*03/22/22 13:47*	*1*
p-Terphenyl-d14	*120*		*51 - 139*	*03/21/22 18:13*	*03/22/22 13:47*	*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			03/25/22 13:29	1
Toluene	**0.000434**	**J**	0.00200	0.000367	mg/L			03/25/22 13:29	1
Ethylbenzene	**0.000882**	**J**	0.00200	0.000657	mg/L			03/25/22 13:29	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 13:29	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 13:29	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 13:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*		*03/25/22 13:29*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*		*03/25/22 13:29*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00132**	**J**	0.00400	0.000657	mg/L			03/25/22 16:04	1

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

Client Sample ID: DUP-1

Date Collected: 03/16/22 00:00
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-14
Matrix: Water

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 12:07	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/25/22 12:07	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/25/22 12:07	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 12:07	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 12:07	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 12:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*		*03/25/22 12:07*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*		*03/25/22 12:07*	*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			03/25/22 16:04	1

Client Sample ID: DUP-2

Date Collected: 03/17/22 00:00
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-15
Matrix: Water

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 12:48	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/25/22 12:48	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/25/22 12:48	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/25/22 12:48	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/25/22 12:48	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/25/22 12:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*		*03/25/22 12:48*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*		*03/25/22 12:48*	*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			03/25/22 16:04	1

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

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

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

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHd14
Lab Sample ID	Client Sample ID	(54-146)	(46-151)	(51-139)
820-3709-10	MW-12	152 X	144	105
820-3709-13	MW-5	155 X	148	120
LCS 860-45813/2-A	Lab Control Sample	117	116	78
LCSD 860-45813/3-A	Lab Control Sample Dup	122	122	91
MB 860-45813/1-A	Method Blank	143	131	113

Surrogate Legend

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPHd14 = p-Terphenyl-d14

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
820-3678-A-6 MS	Matrix Spike	98	102
820-3678-A-6 MSD	Matrix Spike Duplicate	97	101
820-3709-1	MW-2	108	104
820-3709-2	MW-8	106	105
820-3709-3	MW-7	110	105
820-3709-4	MW-10	111	106
820-3709-5	MW-14	109	105
820-3709-6	MW-15	105	106
820-3709-7	MW-6	105	103
820-3709-8	MW-9	113	106
820-3709-9	MW-11	110	105
820-3709-10	MW-12	106	102
820-3709-11	MW-13	112	106
820-3709-12	MW-1	101	100
820-3709-13	MW-5	107	104
820-3709-14	DUP-1	111	105
820-3709-15	DUP-2	111	104
LCS 880-22265/34	Lab Control Sample	99	103
LCSD 880-22265/35	Lab Control Sample Dup	101	107
MB 880-21823/5-A	Method Blank	98	102
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 Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

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

Lab Sample ID: MB 860-45813/1-A
Matrix: Water
Analysis Batch: 45863

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45813

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.000100	U	0.000182	0.000100	mg/L		03/21/22 18:13	03/22/22 11:51	1
Acenaphthylene	<0.0000842	U	0.000182	0.0000842	mg/L		03/21/22 18:13	03/22/22 11:51	1
Anthracene	<0.0000900	U	0.000182	0.0000900	mg/L		03/21/22 18:13	03/22/22 11:51	1
Benzo[a]anthracene	<0.000134	U	0.000182	0.000134	mg/L		03/21/22 18:13	03/22/22 11:51	1
Benzo[a]pyrene	<0.0000571	U	0.000182	0.0000571	mg/L		03/21/22 18:13	03/22/22 11:51	1
Benzo[b]fluoranthene	<0.0000700	U	0.000182	0.0000700	mg/L		03/21/22 18:13	03/22/22 11:51	1
Benzo[g,h,i]perylene	<0.000113	U	0.000182	0.000113	mg/L		03/21/22 18:13	03/22/22 11:51	1
Benzo[k]fluoranthene	<0.000116	U	0.000182	0.000116	mg/L		03/21/22 18:13	03/22/22 11:51	1
Chrysene	<0.000156	U	0.000182	0.000156	mg/L		03/21/22 18:13	03/22/22 11:51	1
Dibenz(a,h)anthracene	<0.0000760	U	0.000182	0.0000760	mg/L		03/21/22 18:13	03/22/22 11:51	1
Dibenzofuran	<0.000100	U	0.000182	0.000100	mg/L		03/21/22 18:13	03/22/22 11:51	1
Fluoranthene	<0.000157	U	0.000182	0.000157	mg/L		03/21/22 18:13	03/22/22 11:51	1
Fluorene	<0.000101	U	0.000182	0.000101	mg/L		03/21/22 18:13	03/22/22 11:51	1
Indeno[1,2,3-cd]pyrene	<0.0000913	U	0.000182	0.0000913	mg/L		03/21/22 18:13	03/22/22 11:51	1
Naphthalene	<0.0000972	U	0.00364	0.0000972	mg/L		03/21/22 18:13	03/22/22 11:51	1
Phenanthrene	<0.0000850	U	0.000182	0.0000850	mg/L		03/21/22 18:13	03/22/22 11:51	1
Pyrene	<0.000130	U	0.000182	0.000130	mg/L		03/21/22 18:13	03/22/22 11:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*143*		*54 - 146*	*03/21/22 18:13*	*03/22/22 11:51*	*1*
Nitrobenzene-d5	*131*		*46 - 151*	*03/21/22 18:13*	*03/22/22 11:51*	*1*
p-Terphenyl-d14	*113*		*51 - 139*	*03/21/22 18:13*	*03/22/22 11:51*	*1*

Lab Sample ID: LCS 860-45813/2-A
Matrix: Water
Analysis Batch: 45863

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45813

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.0182	0.02039		mg/L		112	66 - 174
Acenaphthylene	0.0182	0.02005		mg/L		110	67 - 182
Anthracene	0.0182	0.02189		mg/L		120	55 - 191
Benzo[a]anthracene	0.0182	0.01940		mg/L		107	16 - 171
Benzo[a]pyrene	0.0182	0.02090		mg/L		115	10 - 165
Benzo[b]fluoranthene	0.0182	0.02266		mg/L		125	10 - 166
Benzo[g,h,i]perylene	0.0182	0.01945		mg/L		107	10 - 154
Benzo[k]fluoranthene	0.0182	0.02250		mg/L		124	10 - 178
Chrysene	0.0182	0.01986		mg/L		109	10 - 172
Dibenz(a,h)anthracene	0.0182	0.02075		mg/L		114	10 - 168
Dibenzofuran	0.0182	0.02075		mg/L		114	68 - 178
Fluoranthene	0.0182	0.02135		mg/L		117	52 - 185
Fluorene	0.0182	0.02070		mg/L		114	64 - 184
Indeno[1,2,3-cd]pyrene	0.0182	0.02299		mg/L		126	10 - 160
Naphthalene	0.0182	0.01978		mg/L		109	66 - 166
Phenanthrene	0.0182	0.02071		mg/L		114	66 - 184
Pyrene	0.0182	0.02117		mg/L		116	58 - 181

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*117*		*54 - 146*

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

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

Lab Sample ID: LCS 860-45813/2-A
Matrix: Water
Analysis Batch: 45863

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45813

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	116		46 - 151
p-Terphenyl-d14	78		51 - 139

Lab Sample ID: LCSD 860-45813/3-A
Matrix: Water
Analysis Batch: 45863

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45813

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			0.0182	0.02134		mg/L		117	66 - 174	5	40
Acenaphthylene			0.0182	0.02122		mg/L		117	67 - 182	6	40
Anthracene			0.0182	0.02272		mg/L		125	55 - 191	4	40
Benzo[a]anthracene			0.0182	0.01549		mg/L		85	16 - 171	22	50
Benzo[a]pyrene			0.0182	0.01552		mg/L		85	10 - 165	30	50
Benzo[b]fluoranthene			0.0182	0.01614		mg/L		89	10 - 166	34	50
Benzo[g,h,i]perylene			0.0182	0.01434		mg/L		79	10 - 154	30	50
Benzo[k]fluoranthene			0.0182	0.01727		mg/L		95	10 - 178	26	50
Chrysene			0.0182	0.01638		mg/L		90	10 - 172	19	50
Dibenz(a,h)anthracene			0.0182	0.01483		mg/L		82	10 - 168	33	50
Dibenzofuran			0.0182	0.02167		mg/L		119	68 - 178	4	40
Fluoranthene			0.0182	0.02064		mg/L		113	52 - 185	3	40
Fluorene			0.0182	0.02143		mg/L		118	64 - 184	3	40
Indeno[1,2,3-cd]pyrene			0.0182	0.01653		mg/L		91	10 - 160	33	50
Naphthalene			0.0182	0.02091		mg/L		115	66 - 166	6	40
Phenanthrene			0.0182	0.02132		mg/L		117	66 - 184	3	40
Pyrene			0.0182	0.02076		mg/L		114	58 - 181	2	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	122		54 - 146
Nitrobenzene-d5	122		46 - 151
p-Terphenyl-d14	91		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

Surrogate	MB %Recovery	MB 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

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

Method: 8021B - Volatile Organic Compounds (GC)

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
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*

Lab Sample ID: 820-3678-A-6 MS
Matrix: Water
Analysis Batch: 22265

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	0.09033		mg/L		90	70 - 130		
Toluene	0.000674	J	0.100	0.08631		mg/L		86	70 - 130		

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

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

Lab Sample ID: 820-3678-A-6 MS
Matrix: Water
Analysis Batch: 22265

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
Ethylbenzene	<0.000657	U	0.100	0.09064		mg/L		91	70 - 130
m-Xylene & p-Xylene	<0.000629	U	0.200	0.2108		mg/L		105	70 - 130
o-Xylene	<0.000642	U	0.100	0.1046		mg/L		105	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 820-3678-A-6 MSD
Matrix: Water
Analysis Batch: 22265

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	0.09011		mg/L		90	70 - 130	0	25
Toluene	0.000674	J	0.100	0.03878	N1 N2	mg/L		38	70 - 130	76	25
Ethylbenzene	<0.000657	U	0.100	0.08917		mg/L		89	70 - 130	2	25
m-Xylene & p-Xylene	<0.000629	U	0.200	0.2073		mg/L		104	70 - 130	2	25
o-Xylene	<0.000642	U	0.100	0.1026		mg/L		103	70 - 130	2	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

GC/MS Semi VOA

Prep Batch: 45813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3709-10	MW-12	Total/NA	Water	3511	
820-3709-13	MW-5	Total/NA	Water	3511	
MB 860-45813/1-A	Method Blank	Total/NA	Water	3511	
LCS 860-45813/2-A	Lab Control Sample	Total/NA	Water	3511	
LCSD 860-45813/3-A	Lab Control Sample Dup	Total/NA	Water	3511	

Analysis Batch: 45863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3709-10	MW-12	Total/NA	Water	8270D SIM	45813
820-3709-13	MW-5	Total/NA	Water	8270D SIM	45813
MB 860-45813/1-A	Method Blank	Total/NA	Water	8270D SIM	45813
LCS 860-45813/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	45813
LCSD 860-45813/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	45813

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	

Analysis Batch: 22265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3709-1	MW-2	Total/NA	Water	8021B	
820-3709-2	MW-8	Total/NA	Water	8021B	
820-3709-3	MW-7	Total/NA	Water	8021B	
820-3709-4	MW-10	Total/NA	Water	8021B	
820-3709-5	MW-14	Total/NA	Water	8021B	
820-3709-6	MW-15	Total/NA	Water	8021B	
820-3709-7	MW-6	Total/NA	Water	8021B	
820-3709-8	MW-9	Total/NA	Water	8021B	
820-3709-9	MW-11	Total/NA	Water	8021B	
820-3709-10	MW-12	Total/NA	Water	8021B	
820-3709-11	MW-13	Total/NA	Water	8021B	
820-3709-12	MW-1	Total/NA	Water	8021B	
820-3709-13	MW-5	Total/NA	Water	8021B	
820-3709-14	DUP-1	Total/NA	Water	8021B	
820-3709-15	DUP-2	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	
820-3678-A-6 MS	Matrix Spike	Total/NA	Water	8021B	
820-3678-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8021B	

Analysis Batch: 22395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3709-1	MW-2	Total/NA	Water	Total BTEX	
820-3709-2	MW-8	Total/NA	Water	Total BTEX	
820-3709-3	MW-7	Total/NA	Water	Total BTEX	
820-3709-4	MW-10	Total/NA	Water	Total BTEX	
820-3709-5	MW-14	Total/NA	Water	Total BTEX	

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

GC VOA (Continued)

Analysis Batch: 22395 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-3709-6	MW-15	Total/NA	Water	Total BTEX	
820-3709-7	MW-6	Total/NA	Water	Total BTEX	
820-3709-8	MW-9	Total/NA	Water	Total BTEX	
820-3709-9	MW-11	Total/NA	Water	Total BTEX	
820-3709-10	MW-12	Total/NA	Water	Total BTEX	
820-3709-11	MW-13	Total/NA	Water	Total BTEX	
820-3709-12	MW-1	Total/NA	Water	Total BTEX	
820-3709-13	MW-5	Total/NA	Water	Total BTEX	
820-3709-14	DUP-1	Total/NA	Water	Total BTEX	
820-3709-15	DUP-2	Total/NA	Water	Total BTEX	

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

Client Sample ID: MW-2
Date Collected: 03/16/22 11:29
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	22265	03/25/22 06:52	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22395	03/25/22 16:04	AJ	XEN MID

Client Sample ID: MW-8
Date Collected: 03/16/22 12:05
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	22265	03/25/22 07:13	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22395	03/25/22 16:04	AJ	XEN MID

Client Sample ID: MW-7
Date Collected: 03/16/22 12:34
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	22265	03/25/22 07:33	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22395	03/25/22 16:04	AJ	XEN MID

Client Sample ID: MW-10
Date Collected: 03/16/22 13:08
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	22265	03/25/22 07:54	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22395	03/25/22 16:04	AJ	XEN MID

Client Sample ID: MW-14
Date Collected: 03/16/22 13:59
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-5
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	22265	03/25/22 08:14	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22395	03/25/22 16:04	AJ	XEN MID

Client Sample ID: MW-15
Date Collected: 03/16/22 14:40
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-6
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	22265	03/25/22 08:35	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22395	03/25/22 16:04	AJ	XEN MID

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

Client Sample ID: MW-6
Date Collected: 03/17/22 08:45
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-7
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	22265	03/25/22 10:25	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22395	03/25/22 16:04	AJ	XEN MID

Client Sample ID: MW-9
Date Collected: 03/17/22 08:10
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-8
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 10:46	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22395	03/25/22 16:04	AJ	XEN MID

Client Sample ID: MW-11
Date Collected: 03/17/22 09:37
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-9
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 11:06	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22395	03/25/22 16:04	AJ	XEN MID

Client Sample ID: MW-12
Date Collected: 03/17/22 10:10
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-10
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	45813	03/21/22 18:13	MR	XEN STF
Total/NA	Analysis	8270D SIM		1			45863	03/22/22 13:28	IS	XEN STF
Total/NA	Analysis	8021B		1	5 mL	5 mL	22265	03/25/22 11:26	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22395	03/25/22 16:04	AJ	XEN MID

Client Sample ID: MW-13
Date Collected: 03/17/22 10:50
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-11
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 11:47	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22395	03/25/22 16:04	AJ	XEN MID

Client Sample ID: MW-1
Date Collected: 03/17/22 11:30
Date Received: 03/17/22 16:01

Lab Sample ID: 820-3709-12
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 13:09	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22395	03/25/22 16:04	AJ	XEN MID

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

Client Sample ID: MW-5

Lab Sample ID: 820-3709-13

Date Collected: 03/17/22 12:12
Date Received: 03/17/22 16:01

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			55.2 mL	2 mL	45813	03/21/22 18:13	MR	XEN STF
Total/NA	Analysis	8270D SIM		1			45863	03/22/22 13:47	IS	XEN STF
Total/NA	Analysis	8021B		1	5 mL	5 mL	22265	03/25/22 13:29	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22395	03/25/22 16:04	AJ	XEN MID

Client Sample ID: DUP-1

Lab Sample ID: 820-3709-14

Date Collected: 03/16/22 00:00
Date Received: 03/17/22 16:01

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 12:07	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22395	03/25/22 16:04	AJ	XEN MID

Client Sample ID: DUP-2

Lab Sample ID: 820-3709-15

Date Collected: 03/17/22 00:00
Date Received: 03/17/22 16:01

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 12:48	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			22395	03/25/22 16:04	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 Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

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 Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

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 Ridge - HP Sims

Job ID: 820-3709-1
SDG: AR227012

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-3709-1	MW-2	Water	03/16/22 11:29	03/17/22 16:01
820-3709-2	MW-8	Water	03/16/22 12:05	03/17/22 16:01
820-3709-3	MW-7	Water	03/16/22 12:34	03/17/22 16:01
820-3709-4	MW-10	Water	03/16/22 13:08	03/17/22 16:01
820-3709-5	MW-14	Water	03/16/22 13:59	03/17/22 16:01
820-3709-6	MW-15	Water	03/16/22 14:40	03/17/22 16:01
820-3709-7	MW-6	Water	03/17/22 08:45	03/17/22 16:01
820-3709-8	MW-9	Water	03/17/22 08:10	03/17/22 16:01
820-3709-9	MW-11	Water	03/17/22 09:37	03/17/22 16:01
820-3709-10	MW-12	Water	03/17/22 10:10	03/17/22 16:01
820-3709-11	MW-13	Water	03/17/22 10:50	03/17/22 16:01
820-3709-12	MW-1	Water	03/17/22 11:30	03/17/22 16:01
820-3709-13	MW-5	Water	03/17/22 12:12	03/17/22 16:01
820-3709-14	DUP-1	Water	03/16/22 00:00	03/17/22 16:01
820-3709-15	DUP-2	Water	03/17/22 00:00	03/17/22 16:01

Loc: 820
3709

820-3709 Chain of Custody

CHAIN OF CUSTODY

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Contact:
Project Manager: Brett Dennis
SRS #: 2001-11005
Sampler's Name: Brady Thornton
Sampler's Signature

TEMP OF COOLER WHEN RECEIVED (°C): 11.1/11.3C

Page 1 of 1

Project Number: AR227012
Project Name: Livingston Ridge - HP Sims

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 40 ml VOA	60 ml VOA			ANALYSIS REQUESTED: BTEX (EPA Method 8021)	PAHs (EPA Method 8270)						Lab Sample ID
GW	3/16/2022	11:29		X	MW-2			3				X							
GW	3/16/2022	12:05		X	MW-8			3				X							
GW	3/16/2022	12:34		X	MW-7			3				X							
GW	3/16/2022	13:08		X	MW-10			3				X							
GW	3/16/2022	13:59		X	MW-14			3				X							
GW	3/16/2022	14:40		X	MW-15			3				X							
GW	3/17/2022	8:45		X	MW-6			3				X							
GW	3/17/2022	8:10		X	MW-9			3				X							
GW	3/17/2022	9:37		X	MW-11			3				X							
GW	3/17/2022	10:10		X	MW-12			3	2			X	X						
GW	3/17/2022	10:50		X	MW-13			3				X							
GW	3/17/2022	11:30		X	MW-1			3				X							
GW	3/17/2022	12:12		X	MW-5			3	2			X	X						
GW	3/16/2022	-		X	DUP-1			3				X							
GW	3/17/2022	-		X	DUP-2			3				X							

TURNAROUND TIME ☐ Normal ☐ 48-Hour Rush ☐ 24-Hour Rush

TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Brady Thornton	3.17.22	16:01	Ashley J. Ruggles	3/17/22	16:01

NOTES: Bill directly to Plains Pipeline

e-mail results to:
brett.dennis@terracon.com
erin.loyd@terracon.com
cjbryant@paalp.com
maochoa@paalp.com

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 ___

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 820-3401 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jessica.kramer@eurofinset.com	State of Origin: Texas	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP Texas		Job #: 820-3709-1
Address: 4145 Greenbriar Dr	Due Date Requested: 3/23/2022			
City: Stafford	TAT Requested (days):			
State, Zip: TX, 77477				
Phone: 281-240-4200(Tel)	PO #:			
Email:	WO #:			
Project Name: Livingston Ridge HP Sims	Project #: 82000658			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)
Other

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Preservation Code:	Perform MS/MSD (Yes or No)	8270D_SIM/3511 Polycyclic Aromatic Hydrocarbons (PAHs)	Perform MS/MSD (Yes or No)	Special Instructions/Note:
MW-12 (820-3709-10)	3/17/22	10:10 Central		Water			X		
MW-5 (820-3709-13)	3/17/22	12:12 Central		Water			X		

Temp: 3.0 IR ID:HOU-323
C/F +0.2
Corrected Temp: 3.2

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I II III IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Andrew T Ruppler	3/18/22 17 00				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
			Lydia	3/19/22 9:38	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 820-3402 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jessica.kramer@eurofinset com	State of Origin: Texas	Page: Page 1 of 2
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 820-3709-1
Address: 1211 W Florida Ave	Due Date Requested: 3/23/2022			
City: Midland	TAT Requested (days):			
State Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: Livingston Ridge - HP Sims	Project #: 82000658			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8021B/5030B BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-2 (820-3709-1)	3/16/22	11 29 Central		Water			X	X	3	
MW-8 (820-3709-2)	3/16/22	12 05 Central		Water			X	X	3	
MW-7 (820-3709-3)	3/16/22	12 34 Central		Water			X	X	3	
MW-10 (820-3709-4)	3/16/22	13 08 Central		Water			X	X	3	
MW-14 (820-3709-5)	3/16/22	13 59 Central		Water			X	X	3	
MW-15 (820-3709-6)	3/16/22	14.40 Central		Water			X	X	3	
MW-6 (820-3709-7)	3/17/22	08 45 Central		Water			X	X	3	
MW-9 (820-3709-8)	3/17/22	08 10 Central		Water			X	X	3	
MW-11 (820-3709-9)	3/17/22	09 37 Central		Water			X	X	3	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Anthony T. Ruppler	3/18/22 17:00		Katelyn	3/21/22 8:00	
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 820-3402 2
Client Contact: Shipping/Receiving	Phone:	E-Mail: jessica.kramer@eurofinset com	State of Origin: Texas	Page: Page 2 of 2
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 820-3709-1
Address: 1211 W Florida Ave	Due Date Requested: 3/23/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: Livingston Ridge - HP Sims	Project #: 82000658			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K - EDTA, L EDA, M - Hexane, N None, O AsNaO2, P - Na2O4S, Q Na2SO3, R - Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W - pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteioil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8021B/5030B BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-12 (820-3709-10)	3/17/22	10 10 Central		Water			X	X	3	
MW-13 (820-3709-11)	3/17/22	10 50 Central		Water			X	X	3	
MW-1 (820-3709-12)	3/17/22	11 30 Central		Water			X	X	3	
MW-5 (820-3709-13)	3/17/22	12 12 Central		Water			X	X	3	
DUP-1 (820-3709-14)	3/16/22	Central		Water			X	X	3	
DUP-2 (820-3709-15)	3/17/22	Central		Water			X	X	3	

Note Since laboratory accreditations are subject to change Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
ashley n. ruggler	3/18/22 17:00			3/21/22 8:00	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 820-4645-1
Laboratory Sample Delivery Group: AR217012
Client Project/Site: Livingston Ridge - HP Sims

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

Attn: Brett Dennis

JKramer

Authorized for release by:
6/21/2022 9:14:38 PM

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

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 Ridge - HP Sims

Laboratory Job ID: 820-4645-1
SDG: AR217012

Table of Contents

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-4645-1
SDG: AR217012

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 Ridge - HP Sims

Job ID: 820-4645-1
SDG: AR217012

Job ID: 820-4645-1

Laboratory: Eurofins Lubbock

Narrative

Job Narrative
820-4645-1

Receipt

The samples were received on 6/16/2022 8:36 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 5.7°C

GC VOA

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

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-4645-1
SDG: AR217012

Client Sample ID: MW-2

Lab Sample ID: 820-4645-1
Date Collected: 06/15/22 13:35
Matrix: Water
Date Received: 06/16/22 08:36

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			06/21/22 12:50	1
Toluene	**0.000703**	**J**	0.00200	0.000367	mg/L			06/21/22 12:50	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			06/21/22 12:50	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			06/21/22 12:50	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/21/22 12:50	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			06/21/22 12:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*06/21/22 12:50*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*		*06/21/22 12:50*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.000703**	**J**	0.00400	0.000657	mg/L			06/21/22 16:54	1

Client Sample ID: MW-5

Lab Sample ID: 820-4645-2
Date Collected: 06/15/22 14:20
Matrix: Water
Date Received: 06/16/22 08:36

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00408	U	0.0200	0.00408	mg/L			06/21/22 14:32	10
Toluene	<0.00367	U	0.0200	0.00367	mg/L			06/21/22 14:32	10
Ethylbenzene	<0.00657	U	0.0200	0.00657	mg/L			06/21/22 14:32	10
m-Xylene & p-Xylene	<0.00629	U	0.0400	0.00629	mg/L			06/21/22 14:32	10
o-Xylene	<0.00642	U	0.0200	0.00642	mg/L			06/21/22 14:32	10
Xylenes, Total	<0.00642	U	0.0400	0.00642	mg/L			06/21/22 14:32	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*06/21/22 14:32*	*10*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*		*06/21/22 14:32*	*10*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00657	U	0.0400	0.00657	mg/L			06/21/22 16:54	1

Client Sample ID: MW-11

Lab Sample ID: 820-4645-3
Date Collected: 06/15/22 15:02
Matrix: Water
Date Received: 06/16/22 08:36

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			06/21/22 13:10	1
Toluene	**0.000430**	**J**	0.00200	0.000367	mg/L			06/21/22 13:10	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			06/21/22 13:10	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			06/21/22 13:10	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/21/22 13:10	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			06/21/22 13:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*06/21/22 13:10*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*		*06/21/22 13:10*	*1*

Eurofins Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-4645-1
SDG: AR217012

Client Sample ID: MW-11

Lab Sample ID: 820-4645-3
Matrix: Water
Date Collected: 06/15/22 15:02
Date Received: 06/16/22 08:36

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			06/21/22 16:54	1

Client Sample ID: MW-12

Lab Sample ID: 820-4645-4
Matrix: Water
Date Collected: 06/15/22 15:39
Date Received: 06/16/22 08:36

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00408	U	0.0200	0.00408	mg/L			06/21/22 14:52	10
Toluene	**0.00416**	**J**	0.0200	0.00367	mg/L			06/21/22 14:52	10
Ethylbenzene	<0.00657	U	0.0200	0.00657	mg/L			06/21/22 14:52	10
m-Xylene & p-Xylene	<0.00629	U	0.0400	0.00629	mg/L			06/21/22 14:52	10
o-Xylene	<0.00642	U	0.0200	0.00642	mg/L			06/21/22 14:52	10
Xylenes, Total	<0.00642	U	0.0400	0.00642	mg/L			06/21/22 14:52	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*06/21/22 14:52*	*10*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*		*06/21/22 14:52*	*10*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00657	U	0.0400	0.00657	mg/L			06/21/22 16:54	1

Client Sample ID: DUP-1

Lab Sample ID: 820-4645-5
Matrix: Water
Date Collected: 06/15/22 00:00
Date Received: 06/16/22 08:36

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00408	U	0.0200	0.00408	mg/L			06/21/22 15:13	10
Toluene	<0.00367	U	0.0200	0.00367	mg/L			06/21/22 15:13	10
Ethylbenzene	<0.00657	U	0.0200	0.00657	mg/L			06/21/22 15:13	10
m-Xylene & p-Xylene	<0.00629	U	0.0400	0.00629	mg/L			06/21/22 15:13	10
o-Xylene	<0.00642	U	0.0200	0.00642	mg/L			06/21/22 15:13	10
Xylenes, Total	<0.00642	U	0.0400	0.00642	mg/L			06/21/22 15:13	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*06/21/22 15:13*	*10*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*		*06/21/22 15:13*	*10*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00657	U	0.0400	0.00657	mg/L			06/21/22 16:54	1

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-4645-1
SDG: AR217012

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
820-4645-1	MW-2	101	100										
820-4645-2	MW-5	98	98										
820-4645-3	MW-11	101	102										
820-4645-4	MW-12	101	101										
820-4645-5	DUP-1	94	96										
LCS 880-28003/3	Lab Control Sample	95	100										
LCSD 880-28003/4	Lab Control Sample Dup	96	98										
MB 880-28003/8	Method Blank	94	99										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-4645-1
SDG: AR217012

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-28003/8
Matrix: Water
Analysis Batch: 28003

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			06/21/22 11:40	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			06/21/22 11:40	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			06/21/22 11:40	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			06/21/22 11:40	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/21/22 11:40	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			06/21/22 11:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*06/21/22 11:40*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*		*06/21/22 11:40*	*1*

Lab Sample ID: LCS 880-28003/3
Matrix: Water
Analysis Batch: 28003

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	0.08661		mg/L		87	70 - 130		
Toluene			0.100	0.08510		mg/L		85	70 - 130		
Ethylbenzene			0.100	0.08949		mg/L		89	70 - 130		
m-Xylene & p-Xylene			0.200	0.1783		mg/L		89	70 - 130		
o-Xylene			0.100	0.09687		mg/L		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-28003/4
Matrix: Water
Analysis Batch: 28003

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	0.08549		mg/L		85	70 - 130	1	20
Toluene			0.100	0.08538		mg/L		85	70 - 130	0	20
Ethylbenzene			0.100	0.08866		mg/L		89	70 - 130	1	20
m-Xylene & p-Xylene			0.200	0.1773		mg/L		89	70 - 130	1	20
o-Xylene			0.100	0.09627		mg/L		96	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-4645-1
SDG: AR217012

GC VOA

Analysis Batch: 28003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4645-1	MW-2	Total/NA	Water	8021B	
820-4645-2	MW-5	Total/NA	Water	8021B	
820-4645-3	MW-11	Total/NA	Water	8021B	
820-4645-4	MW-12	Total/NA	Water	8021B	
820-4645-5	DUP-1	Total/NA	Water	8021B	
MB 880-28003/8	Method Blank	Total/NA	Water	8021B	
LCS 880-28003/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-28003/4	Lab Control Sample Dup	Total/NA	Water	8021B	

Analysis Batch: 28080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-4645-1	MW-2	Total/NA	Water	Total BTEX	
820-4645-2	MW-5	Total/NA	Water	Total BTEX	
820-4645-3	MW-11	Total/NA	Water	Total BTEX	
820-4645-4	MW-12	Total/NA	Water	Total BTEX	
820-4645-5	DUP-1	Total/NA	Water	Total BTEX	

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Livingston Ridge - HP Sims

Job ID: 820-4645-1
SDG: AR217012

Client Sample ID: MW-2
Date Collected: 06/15/22 13:35
Date Received: 06/16/22 08:36

Lab Sample ID: 820-4645-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	28003	06/21/22 12:50	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28080	06/21/22 16:54	SM	XEN MID

Client Sample ID: MW-5
Date Collected: 06/15/22 14:20
Date Received: 06/16/22 08:36

Lab Sample ID: 820-4645-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		10	5 mL	5 mL	28003	06/21/22 14:32	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28080	06/21/22 16:54	SM	XEN MID

Client Sample ID: MW-11
Date Collected: 06/15/22 15:02
Date Received: 06/16/22 08:36

Lab Sample ID: 820-4645-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	28003	06/21/22 13:10	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28080	06/21/22 16:54	SM	XEN MID

Client Sample ID: MW-12
Date Collected: 06/15/22 15:39
Date Received: 06/16/22 08:36

Lab Sample ID: 820-4645-4
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		10	5 mL	5 mL	28003	06/21/22 14:52	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28080	06/21/22 16:54	SM	XEN MID

Client Sample ID: DUP-1
Date Collected: 06/15/22 00:00
Date Received: 06/16/22 08:36

Lab Sample ID: 820-4645-5
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		10	5 mL	5 mL	28003	06/21/22 15:13	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			28080	06/21/22 16:54	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 Ridge - HP Sims

Job ID: 820-4645-1
SDG: AR217012

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 Ridge - HP Sims

Job ID: 820-4645-1
SDG: AR217012

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 Ridge - HP Sims

Job ID: 820-4645-1
SDG: AR217012

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-4645-1	MW-2	Water	06/15/22 13:35	06/16/22 08:36
820-4645-2	MW-5	Water	06/15/22 14:20	06/16/22 08:36
820-4645-3	MW-11	Water	06/15/22 15:02	06/16/22 08:36
820-4645-4	MW-12	Water	06/15/22 15:39	06/16/22 08:36
820-4645-5	DUP-1	Water	06/15/22 00:00	06/16/22 08:36

Loc: 820
4645

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Contact:
Project Manager: Brett Dennis
SRS #: 2001-11005
Sampler's Name: Aaron Adams
Sampler's Signature:

Project Number: AR217012
Project Name: Livingston Ridge - HP Sims

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 5.9/5.7

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 40 ml VOA				BTEX (EPA Method 8021)	PAHs (EPA Method 8270 SIM)							Lab Sample ID
GW	6/15/2022	13:35		X	MW-2			3				X								
GW	6/15/2022	14:20		X	MW-5			3				X								
GW	6/15/2022	15:02		X	MW-11			3				X								
GW	6/15/2022	15:39		X	MW-12			3				X								
GW	6/15/2022			X	DUP-1			3				X								

820-4645 Chain of Custody

TURNAROUND TIME: ☒ Normal ☐ 48-Hour Rush ☐ 24-Hour Rush
TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
	6-16-22	8:36		6/16/22	0836

NOTES: Bill directly to Plains Pipeline

e-mail results to:
1. CJBRYANT@PAALP.COM
2. MAOCHOA@PAALP.COM
3. BRETT.DENNIS@TERRACON.COM
4. ERIN.LOYD@TERRACON.COM
5. AARON.ADAMS@TERRACON.COM

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 _____

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 820-4077 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: Texas	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 820-4645-1
Address: 1211 W Florida Ave	Due Date Requested: 6/22/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: Livingston Ridge - HP Sims	Project #: 82000658			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL; B NaOH; C Zn Acetate; D Nitric Acid; E NaHSO4; F MeOH; G Amchlor; H Ascorbic Acid; I Ice; J DI Water; K EDTA; L EDA; M Hexane; N None; O AsNaO2; P Na2O4S; Q Na2SO3; R Na2S2O3; S H2SO4; T TSP Dodecahydrate; U Acetone; V MCAA; W pH 4-5; Y Trizma; Z other (specify); Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8021B/5030B BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-2 (820-4645-1)	6/15/22	13 35 Central		Water			X	X	3	
MW-5 (820-4645-2)	6/15/22	14 20 Central		Water			X	X	3	
MW-11 (820-4645-3)	6/15/22	15 02 Central		Water			X	X	3	
MW-12 (820-4645-4)	6/15/22	15 39 Central		Water			X	X	3	
DUP-1 (820-4645-5)	6/15/22	Central		Water			X	X	3	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately. If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central LLC.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) — Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Ashley Ruggles	6/16/22 17:00				
2						
3						

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-4645-1
SDG Number: AR217012

Login Number: 4645
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: 820-4645-1
SDG Number: AR217012

Login Number: 4645
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 06/17/22 11:02 AM

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	

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ANALYTICAL REPORT

Eurofins Lubbock
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Laboratory Job ID: 820-5964-1
Laboratory Sample Delivery Group: AR227012
Client Project/Site: Livingston Ridge

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

Attn: Aaron Adams

JKramer

Authorized for release by:
10/5/2022 1:50:53 PM

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LINKS

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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.

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 1:50:53 PM

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

Laboratory Job ID: 820-5964-1
SDG: AR227012

Table of Contents

Definitions/Glossary

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

Job ID: 820-5964-1
SDG: AR227012

Qualifiers

GC/MS 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

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 Ridge

Job ID: 820-5964-1
SDG: AR227012

Job ID: 820-5964-1

Laboratory: Eurofins Lubbock

Narrative

Job Narrative
820-5964-1

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 surrogate recovery for the blank associated with analytical batch 860-71293 was outside the upper control limits. Surrogate 4-Bromofluorobenzene is not associated with target analytes.

Method 8260C: Surrogate 4-Bromofluorobenzene (Surrogate) recovery for the following samples were outside control limits: MW-6 (820-5964-6) and MW-9 (820-5964-7). This surrogate does not correspond to any of the requested target compounds reported from this analytical batch; therefore, the data have been reported.

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 Ridge

Job ID: 820-5964-1
SDG: AR227012

Client Sample ID: MW-15

Lab Sample ID: 820-5964-1
Matrix: Water
Date Collected: 09/28/22 09:55
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 13:58	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			10/03/22 13:58	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			10/03/22 13:58	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			10/03/22 13:58	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			10/03/22 13:58	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			10/03/22 13:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*63 - 144*		*10/03/22 13:58*	*1*
4-Bromofluorobenzene (Surr)	*88*		*74 - 124*		*10/03/22 13:58*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 131*		*10/03/22 13:58*	*1*
Toluene-d8 (Surr)	*90*		*80 - 117*		*10/03/22 13:58*	*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-14

Lab Sample ID: 820-5964-2
Matrix: Water
Date Collected: 09/28/22 10:35
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 14:20	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			10/03/22 14:20	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			10/03/22 14:20	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			10/03/22 14:20	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			10/03/22 14:20	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			10/03/22 14:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*63 - 144*		*10/03/22 14:20*	*1*
4-Bromofluorobenzene (Surr)	*92*		*74 - 124*		*10/03/22 14:20*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*10/03/22 14:20*	*1*
Toluene-d8 (Surr)	*91*		*80 - 117*		*10/03/22 14:20*	*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-11

Lab Sample ID: 820-5964-3
Matrix: Water
Date Collected: 09/28/22 11:30
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 17:42	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			09/30/22 17:42	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			09/30/22 17:42	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 17:42	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			09/30/22 17:42	1

Client Sample Results

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

Job ID: 820-5964-1
SDG: AR227012

Client Sample ID: MW-11

Lab Sample ID: 820-5964-3
Matrix: Water
Date Collected: 09/28/22 11:30
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 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*63 - 144*		*09/30/22 17:42*	*1*
4-Bromofluorobenzene (Surr)	*123*		*74 - 124*		*09/30/22 17:42*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 131*		*09/30/22 17:42*	*1*
Toluene-d8 (Surr)	*106*		*80 - 117*		*09/30/22 17:42*	*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-12

Lab Sample ID: 820-5964-4
Matrix: Water
Date Collected: 09/28/22 12:10
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 19:45	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			09/30/22 19:45	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			09/30/22 19:45	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 19:45	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			09/30/22 19:45	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*63 - 144*		*09/30/22 19:45*	*1*
4-Bromofluorobenzene (Surr)	*122*		*74 - 124*		*09/30/22 19:45*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 131*		*09/30/22 19:45*	*1*
Toluene-d8 (Surr)	*104*		*80 - 117*		*09/30/22 19:45*	*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-13

Lab Sample ID: 820-5964-5
Matrix: Water
Date Collected: 09/28/22 12:50
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 20:06	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			09/30/22 20:06	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			09/30/22 20:06	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 20:06	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			09/30/22 20:06	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 20:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*63 - 144*		*09/30/22 20:06*	*1*
4-Bromofluorobenzene (Surr)	*121*		*74 - 124*		*09/30/22 20:06*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 131*		*09/30/22 20:06*	*1*

Client Sample Results

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

Job ID: 820-5964-1
SDG: AR227012

Client Sample ID: MW-13

Lab Sample ID: 820-5964-5
Date Collected: 09/28/22 12:50
Matrix: Water
Date Received: 09/29/22 09:51

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*80 - 117*		*09/30/22 20:06*	*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-6

Lab Sample ID: 820-5964-6
Date Collected: 09/28/22 13:30
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 18:03	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			09/30/22 18:03	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			09/30/22 18:03	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 18:03	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			09/30/22 18:03	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 18:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*63 - 144*		*09/30/22 18:03*	*1*
4-Bromofluorobenzene (Surr)	*128*	*X*	*74 - 124*		*09/30/22 18:03*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 131*		*09/30/22 18:03*	*1*
Toluene-d8 (Surr)	*104*		*80 - 117*		*09/30/22 18:03*	*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-9

Lab Sample ID: 820-5964-7
Date Collected: 09/28/22 14:15
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 18:23	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			09/30/22 18:23	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			09/30/22 18:23	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 18:23	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			09/30/22 18:23	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*63 - 144*		*09/30/22 18:23*	*1*
4-Bromofluorobenzene (Surr)	*128*	*X*	*74 - 124*		*09/30/22 18:23*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 131*		*09/30/22 18:23*	*1*
Toluene-d8 (Surr)	*108*		*80 - 117*		*09/30/22 18:23*	*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 Results

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

Job ID: 820-5964-1
SDG: AR227012

Client Sample ID: MW-2

Lab Sample ID: 820-5964-8
Matrix: Water
Date Collected: 09/28/22 14:50
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 18:44	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			09/30/22 18:44	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			09/30/22 18:44	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 18:44	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			09/30/22 18:44	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 18:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*63 - 144*		*09/30/22 18:44*	*1*
4-Bromofluorobenzene (Surr)	*121*		*74 - 124*		*09/30/22 18:44*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 131*		*09/30/22 18:44*	*1*
Toluene-d8 (Surr)	*104*		*80 - 117*		*09/30/22 18:44*	*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: 820-5964-9
Matrix: Water
Date Collected: 09/28/22 15:40
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 20:26	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			09/30/22 20:26	1
Ethylbenzene	**0.000426**	**J**	0.00100	0.000411	mg/L			09/30/22 20:26	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 20:26	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			09/30/22 20:26	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 20:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*63 - 144*		*09/30/22 20:26*	*1*
4-Bromofluorobenzene (Surr)	*112*		*74 - 124*		*09/30/22 20:26*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*09/30/22 20:26*	*1*
Toluene-d8 (Surr)	*105*		*80 - 117*		*09/30/22 20:26*	*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: 820-5964-10
Matrix: Water
Date Collected: 09/28/22 00:00
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 19:04	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			09/30/22 19:04	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			09/30/22 19:04	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 19:04	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			09/30/22 19:04	1

Client Sample Results

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

Job ID: 820-5964-1
SDG: AR227012

Client Sample ID: DUP-1

Lab Sample ID: 820-5964-10
Matrix: Water
Date Collected: 09/28/22 00:00
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 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*63 - 144*		*09/30/22 19:04*	*1*
4-Bromofluorobenzene (Surr)	*115*		*74 - 124*		*09/30/22 19:04*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 131*		*09/30/22 19:04*	*1*
Toluene-d8 (Surr)	*102*		*80 - 117*		*09/30/22 19:04*	*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-2

Lab Sample ID: 820-5964-11
Matrix: Water
Date Collected: 09/28/22 00:00
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 19:25	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			09/30/22 19:25	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			09/30/22 19:25	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 19:25	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			09/30/22 19:25	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 19:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*63 - 144*		*09/30/22 19:25*	*1*
4-Bromofluorobenzene (Surr)	*121*		*74 - 124*		*09/30/22 19:25*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*09/30/22 19:25*	*1*
Toluene-d8 (Surr)	*104*		*80 - 117*		*09/30/22 19:25*	*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 Ridge

Job ID: 820-5964-1
SDG: AR227012

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(63-144)	(74-124)	(75-131)	(80-117)
820-5964-1	MW-15	98	88	98	90
820-5964-2	MW-14	98	92	100	91
820-5964-3	MW-11	108	123	102	106
820-5964-4	MW-12	108	122	103	104
820-5964-5	MW-13	104	121	102	102
820-5964-6	MW-6	106	128 X	103	104
820-5964-7	MW-9	105	128 X	104	108
820-5964-8	MW-2	106	121	102	104
820-5964-9	MW-5	108	112	100	105
820-5964-10	DUP-1	105	115	107	102
820-5964-11	DUP-2	105	121	100	104
LCS 860-71293/3	Lab Control Sample	112	101	102	103
LCS 860-71527/3	Lab Control Sample	93	96	99	89
LCSD 860-71293/4	Lab Control Sample Dup	112	99	104	101
LCSD 860-71527/4	Lab Control Sample Dup	93	94	98	88
MB 860-71293/8	Method Blank	107	125 X	105	106
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 Ridge

Job ID: 820-5964-1
SDG: AR227012

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

Lab Sample ID: MB 860-71293/8
Matrix: Water
Analysis Batch: 71293

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 13:36	1
Toluene	<0.000475	U	0.00100	0.000475	mg/L			09/30/22 13:36	1
Ethylbenzene	<0.000411	U	0.00100	0.000411	mg/L			09/30/22 13:36	1
m,p-Xylenes	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 13:36	1
o-Xylene	<0.000551	U	0.00100	0.000551	mg/L			09/30/22 13:36	1
Xylenes, Total	<0.00124	U	0.0100	0.00124	mg/L			09/30/22 13:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*63 - 144*		*09/30/22 13:36*	*1*
4-Bromofluorobenzene (Surr)	*125*	*X*	*74 - 124*		*09/30/22 13:36*	*1*
Dibromofluoromethane (Surr)	*105*		*75 - 131*		*09/30/22 13:36*	*1*
Toluene-d8 (Surr)	*106*		*80 - 117*		*09/30/22 13:36*	*1*

Lab Sample ID: LCS 860-71293/3
Matrix: Water
Analysis Batch: 71293

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	0.05248		mg/L		105	75 - 125		
Toluene			0.0500	0.05116		mg/L		102	70 - 130		
Ethylbenzene			0.0500	0.04965		mg/L		99	75 - 125		
m,p-Xylenes			0.0500	0.05097		mg/L		102	75 - 125		
o-Xylene			0.0500	0.05225		mg/L		104	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*112*		*63 - 144*
4-Bromofluorobenzene (Surr)	*101*		*74 - 124*
Dibromofluoromethane (Surr)	*102*		*75 - 131*
Toluene-d8 (Surr)	*103*		*80 - 117*

Lab Sample ID: LCSD 860-71293/4
Matrix: Water
Analysis Batch: 71293

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	0.05293		mg/L		106	75 - 125	1	25
Toluene			0.0500	0.05173		mg/L		103	70 - 130	1	25
Ethylbenzene			0.0500	0.05137		mg/L		103	75 - 125	3	25
m,p-Xylenes			0.0500	0.05228		mg/L		105	75 - 125	3	25
o-Xylene			0.0500	0.05338		mg/L		107	75 - 125	2	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*112*		*63 - 144*
4-Bromofluorobenzene (Surr)	*99*		*74 - 124*
Dibromofluoromethane (Surr)	*104*		*75 - 131*
Toluene-d8 (Surr)	*101*		*80 - 117*

QC Sample Results

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

Job ID: 820-5964-1
SDG: AR227012

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*

QC Association Summary

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

Job ID: 820-5964-1
SDG: AR227012

GC/MS VOA

Analysis Batch: 71293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-5964-3	MW-11	Total/NA	Water	8260C	
820-5964-4	MW-12	Total/NA	Water	8260C	
820-5964-5	MW-13	Total/NA	Water	8260C	
820-5964-6	MW-6	Total/NA	Water	8260C	
820-5964-7	MW-9	Total/NA	Water	8260C	
820-5964-8	MW-2	Total/NA	Water	8260C	
820-5964-9	MW-5	Total/NA	Water	8260C	
820-5964-10	DUP-1	Total/NA	Water	8260C	
820-5964-11	DUP-2	Total/NA	Water	8260C	
MB 860-71293/8	Method Blank	Total/NA	Water	8260C	
LCS 860-71293/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 860-71293/4	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 71527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-5964-1	MW-15	Total/NA	Water	8260C	
820-5964-2	MW-14	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
820-5964-1	MW-15	Total/NA	Water	Total BTEX	
820-5964-2	MW-14	Total/NA	Water	Total BTEX	
820-5964-3	MW-11	Total/NA	Water	Total BTEX	
820-5964-4	MW-12	Total/NA	Water	Total BTEX	
820-5964-5	MW-13	Total/NA	Water	Total BTEX	
820-5964-6	MW-6	Total/NA	Water	Total BTEX	
820-5964-7	MW-9	Total/NA	Water	Total BTEX	
820-5964-8	MW-2	Total/NA	Water	Total BTEX	
820-5964-9	MW-5	Total/NA	Water	Total BTEX	
820-5964-10	DUP-1	Total/NA	Water	Total BTEX	
820-5964-11	DUP-2	Total/NA	Water	Total BTEX	

Lab Chronicle

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

Job ID: 820-5964-1
SDG: AR227012

Client Sample ID: MW-15
Date Collected: 09/28/22 09:55
Date Received: 09/29/22 09:51

Lab Sample ID: 820-5964-1
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 13:58	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			71973	10/05/22 11:29	JBS	EET HOU

Client Sample ID: MW-14
Date Collected: 09/28/22 10:35
Date Received: 09/29/22 09:51

Lab Sample ID: 820-5964-2
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 14:20	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			71973	10/05/22 11:29	JBS	EET HOU

Client Sample ID: MW-11
Date Collected: 09/28/22 11:30
Date Received: 09/29/22 09:51

Lab Sample ID: 820-5964-3
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	71293	09/30/22 17:42	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			71973	10/05/22 11:29	JBS	EET HOU

Client Sample ID: MW-12
Date Collected: 09/28/22 12:10
Date Received: 09/29/22 09:51

Lab Sample ID: 820-5964-4
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	71293	09/30/22 19:45	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			71973	10/05/22 11:29	JBS	EET HOU

Client Sample ID: MW-13
Date Collected: 09/28/22 12:50
Date Received: 09/29/22 09:51

Lab Sample ID: 820-5964-5
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	71293	09/30/22 20:06	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			71973	10/05/22 11:29	JBS	EET HOU

Client Sample ID: MW-6
Date Collected: 09/28/22 13:30
Date Received: 09/29/22 09:51

Lab Sample ID: 820-5964-6
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	8260C		1	5 mL	5 mL	71293	09/30/22 18:03	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			71973	10/05/22 11:29	JBS	EET HOU

Lab Chronicle

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

Job ID: 820-5964-1
SDG: AR227012

Client Sample ID: MW-9
Date Collected: 09/28/22 14:15
Date Received: 09/29/22 09:51

Lab Sample ID: 820-5964-7
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	8260C		1	5 mL	5 mL	71293	09/30/22 18:23	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: 09/28/22 14:50
Date Received: 09/29/22 09:51

Lab Sample ID: 820-5964-8
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	8260C		1	5 mL	5 mL	71293	09/30/22 18:44	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: 09/28/22 15:40
Date Received: 09/29/22 09:51

Lab Sample ID: 820-5964-9
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	8260C		1	5 mL	5 mL	71293	09/30/22 20:26	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: 09/28/22 00:00
Date Received: 09/29/22 09:51

Lab Sample ID: 820-5964-10
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	71293	09/30/22 19:04	JBS	EET HOU
Total/NA	Analysis	Total BTEX		1			71973	10/05/22 11:29	JBS	EET HOU

Client Sample ID: DUP-2
Date Collected: 09/28/22 00:00
Date Received: 09/29/22 09:51

Lab Sample ID: 820-5964-11
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	71293	09/30/22 19:25	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 Ridge

Job ID: 820-5964-1
SDG: AR227012

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

Method Summary

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

Job ID: 820-5964-1
SDG: AR227012

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 Ridge

Job ID: 820-5964-1
SDG: AR227012

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-5964-1	MW-15	Water	09/28/22 09:55	09/29/22 09:51
820-5964-2	MW-14	Water	09/28/22 10:35	09/29/22 09:51
820-5964-3	MW-11	Water	09/28/22 11:30	09/29/22 09:51
820-5964-4	MW-12	Water	09/28/22 12:10	09/29/22 09:51
820-5964-5	MW-13	Water	09/28/22 12:50	09/29/22 09:51
820-5964-6	MW-6	Water	09/28/22 13:30	09/29/22 09:51
820-5964-7	MW-9	Water	09/28/22 14:15	09/29/22 09:51
820-5964-8	MW-2	Water	09/28/22 14:50	09/29/22 09:51
820-5964-9	MW-5	Water	09/28/22 15:40	09/29/22 09:51
820-5964-10	DUP-1	Water	09/28/22 00:00	09/29/22 09:51
820-5964-11	DUP-2	Water	09/28/22 00:00	09/29/22 09:51

Loc: 820
5964

820-5964 Chain of Custody

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Eurofins
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Contact:
Project Manager: Erin Loyd
SRS #:
Sampler's Name: Austin Worley
Sampler's Signature: Austin Worley

Project Number: AR227012
Project Name: Livingston Ridge

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 2.8/2.7 C

Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 40 ml VOA	BTEX (EPA Method 8260B)	Lab Sample ID
W	9/28/2022	9:55		X	MW-15			X	X	
W	9/28/2022	10:35		X	MW-14			X	X	
W	9/28/2022	11:30		X	MW-11			X	X	
W	9/28/2022	12:10		X	MW-12			X	X	
W	9/28/2022	12:50		X	MW-13			X	X	
W	9/28/2022	13:30		X	MW-6			X	X	
W	9/28/2022	14:15		X	MW-9			X	X	
W	9/28/2022	14:50		X	MW-2			X	X	
W	9/28/2022	15:40		X	MW-5			X	X	
W	9/28/2022			X	DUP-1			X	X	
W	9/28/2022			X	DUP-2			X	X	

TURNAROUND TIME: ☒ Normal ☐ 48-Hour Rush ☐ 24-Hour Rush
TRRP Laboratory Review Checklist: ☐ Yes ☐ No

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
Austin Worley	9-28-22	9:51	Anthony M. Ruggler	9/29/22	9:51

Bill To: Plains

e-mail results to:
aaron.adams@terracon.com
austin.worley@terracon.com

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

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-5964-1
SDG Number: AR227012

Login Number: 5964
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: 820-5964-1
SDG Number: AR227012

Login Number: 5964
List Number: 2
Creator: Bolch, Taylor

List Source: Eurofins Houston
List Creation: 09/30/22 01:11 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	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Joel Lowry
Etech Environmental & Safety Solutions
PO BOX 62228
Midland, Texas 79711

Generated 3/3/2023 1:09:05 PM

JOB DESCRIPTION

Livingston Ridge
SDG NUMBER Lea County NM

JOB NUMBER

880-25362-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

Eurofins Midland

Job Notes

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

Authorization

Generated
3/3/2023 1:09:05 PM

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

Table of Contents

Definitions/Glossary

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

Job ID: 880-25362-1
SDG: Lea County NM

Qualifiers

GC VOA

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

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: Etech Environmental & Safety Solutions
Project/Site: Livingston Ridge

Job ID: 880-25362-1
SDG: Lea County NM

Job ID: 880-25362-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-25362-1

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.

Client Sample Results

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

Job ID: 880-25362-1
SDG: Lea County NM

Client Sample ID: MW-2

Lab Sample ID: 880-25362-1
Date Collected: 02/21/23 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	0.00200	0.000408	mg/L			03/03/23 08:23	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/03/23 08:23	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/03/23 08:23	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/03/23 08:23	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/03/23 08:23	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/03/23 08:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*		*03/03/23 08:23*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*		*03/03/23 08:23*	*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-5

Lab Sample ID: 880-25362-2
Date Collected: 02/21/23 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 08:43	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/03/23 08:43	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/03/23 08:43	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/03/23 08:43	1
o-Xylene	**0.000687**	**J**	0.00200	0.000642	mg/L			03/03/23 08:43	1
Xylenes, Total	**0.000687**	**J**	0.00400	0.000642	mg/L			03/03/23 08:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*		*03/03/23 08:43*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*		*03/03/23 08:43*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.000687**	**J**	0.00400	0.000657	mg/L			03/03/23 13:22	1

Client Sample ID: MW-11

Lab Sample ID: 880-25362-3
Date Collected: 02/21/23 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 09:04	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/03/23 09:04	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/03/23 09:04	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/03/23 09:04	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/03/23 09:04	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/03/23 09:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*		*03/03/23 09:04*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*		*03/03/23 09:04*	*1*

Eurofins Midland

Client Sample Results

Client: Etech Environmental & Safety Solutions
Job ID: 880-25362-1
Project/Site: Livingston Ridge
SDG: Lea County NM

Client Sample ID: MW-11
Lab Sample ID: 880-25362-3
Date Collected: 02/21/23 10:00
Matrix: Water
Date Received: 03/01/23 16:37

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-12
Lab Sample ID: 880-25362-4
Date Collected: 02/21/23 11:00
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 09:24	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/03/23 09:24	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/03/23 09:24	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/03/23 09:24	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/03/23 09:24	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			03/03/23 09:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*		*03/03/23 09:24*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*		*03/03/23 09:24*	*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

Surrogate Summary

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

Job ID: 880-25362-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-25362-1	MW-2	113	108										
880-25362-2	MW-5	113	109										
880-25362-3	MW-11	117	111										
880-25362-4	MW-12	109	109										
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										
LCSD 880-47605/35	Lab Control Sample Dup	114	109										
MB 880-47338/5-A	Method Blank	104	104										
MB 880-47605/39	Method Blank	104	103										

Surrogate Legend

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

QC Sample Results

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

Job ID: 880-25362-1
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

QC Sample Results

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

Job ID: 880-25362-1
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
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*

QC Association Summary

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

Job ID: 880-25362-1
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
880-25362-1	MW-2	Total/NA	Water	8021B	
880-25362-2	MW-5	Total/NA	Water	8021B	
880-25362-3	MW-11	Total/NA	Water	8021B	
880-25362-4	MW-12	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: 47750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25362-1	MW-2	Total/NA	Water	Total BTEX	
880-25362-2	MW-5	Total/NA	Water	Total BTEX	
880-25362-3	MW-11	Total/NA	Water	Total BTEX	
880-25362-4	MW-12	Total/NA	Water	Total BTEX	

Lab Chronicle

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

Job ID: 880-25362-1
SDG: Lea County NM

Client Sample ID: MW-2

Lab Sample ID: 880-25362-1
Matrix: Water
Date Collected: 02/21/23 13:00
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 08:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47750	03/03/23 13:22	SM	EET MID

Client Sample ID: MW-5

Lab Sample ID: 880-25362-2
Matrix: Water
Date Collected: 02/21/23 12:00
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 08:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47750	03/03/23 13:22	SM	EET MID

Client Sample ID: MW-11

Lab Sample ID: 880-25362-3
Matrix: Water
Date Collected: 02/21/23 10:00
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 09:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47750	03/03/23 13:22	SM	EET MID

Client Sample ID: MW-12

Lab Sample ID: 880-25362-4
Matrix: Water
Date Collected: 02/21/23 11:00
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 09:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47750	03/03/23 13:22	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
Job ID: 880-25362-1
Project/Site: Livingston Ridge
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

Method Summary

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

Job ID: 880-25362-1
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

Sample Summary

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

Job ID: 880-25362-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
880-25362-1	MW-2	Water	02/21/23 13:00	03/01/23 16:37
880-25362-2	MW-5	Water	02/21/23 12:00	03/01/23 16:37
880-25362-3	MW-11	Water	02/21/23 10:00	03/01/23 16:37
880-25362-4	MW-12	Water	02/21/23 11:00	03/01/23 16:37

eurofins | 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: 753627

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Project Manager:	Joel Lowry	Bill to: (if different)	Camille Bryant
Company Name:	eTech Environmental	Company Name:	Plains All American Pipeline
Address:		Address:	1106 Griffith Drive
City, State ZIP:		City, State ZIP:	Midland, TX 79706
Phone:	575-396-2378	Email:	pm@etechenv.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables EDD ☐ ADaPT ☐ Other:

Project Name:	Livingston Ridge	Turn Around	
Project Number:	17476	☑ Routine ☐ Rush	
Project Location:	Lea County, NM	Due Date:	
Sampler's Name:	Zach Cooder	TAT starts the day received by the lab, if received by 4:30pm	
PO #:	2001-11005		

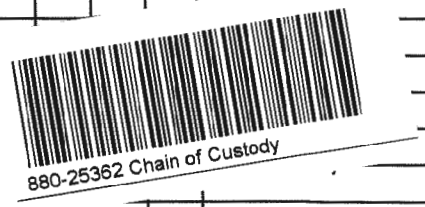
SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	IR-4	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.1	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	0.8	
Total Containers:	12	Corrected Temperature:	0.7	

ANALYSIS REQUEST

Preservative Codes

None NO DI Water H_2O
Cool Cool MeOH Me
HCL HC HNO_3. HN
H_2SO_4 H_2 NaOH Na
H_3PO_4. HP
$NaHSO_4$. NABIS
$Na_2S_2O_3$ $NaSO_3$
Zn Acetate+NaOH Zn
NaOH+Ascorbic Acid SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Parameters: BTEX	Sample Comments
MW 2	W	2-21-23	1:00	—	—	3	X	
MW 5	W	"	12:00	—	—	3	X	
MW 11	W	"	10:00	—	—	3	X	
MW 12	W	"	11:00	—	—	3	X	



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 SiO_2 Na Sr Tl 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 Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Teddy Rosdell Lee	3/1/23 16:37			3/2/23 229
3			4		
5			6		

Revised Date 08/25/2020 Rev 2020.2

3/3/2023

Loc: 880
25362

Login Sample Receipt Checklist

Client: Etech Environmental & Safety Solutions

Job Number: 880-25362-1
SDG Number: Lea County NM

Login Number: 25362
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 208279

CONDITIONS

Operator:	OGRID:
PLAINS MARKETING L.P. 333 Clay Street Suite 1900 Houston, TX 77002	34053
	Action Number: 208279
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	1. Continue to gauge and sample Monitor wells MW-2, MW-5, MW-11, and MW-12 on a quarterly schedule. 2. Continue to sample MW-6, MW-9, MW-13, MW-14 and MW-15 on a semi-annual basis. 3. Continue to sample MW-7, MW-8, MW-10 annually. 4. Monthly recovery for PSH and dissolved phase impacted hydrocarbon groundwater to continue for monitor wells MW-4 and TMW-1R. 5. Submit the 2023 Annual Monitoring Report no later than April 1, 2024.	5/16/2023