2021 Annual Groundwater Monitoring Report

Review of 2021 ANNUAL GROUNDWATER MONITORING REPORT: **Content satisfactory**

Contractor anticipated actions approved by OCD and are as follows;
1. Continue manual PSH recovery from monitoring well MW-1
2. Collect monthly effluent air samples of SVE emissions and analyze for TPH and BTEX
3. Continue gauging MW-2, MW-4, and MW-5 for the presence of PSH, purged, and sampling quarterly for BTEX in 2022
4. Sample MW-3 and MW-6 on a semiannual basis
5. Submit Annual Groundwater Monitoring Report to NMOCD no later than March 31, 2023.

Plains All American Pipeline, L.P.
DCP Plant to Lea Station 6-Inch Section 31
Plains All American Pipeline, L.P. SRS No. 2009-084
Lea County, New Mexico
NMOCD Reference No. 1RP-2166
NMOCD Incident No. nAPP2109734163

Terracon Project No. AR217009
March 28, 2022

Prepared for:

Plains All American Pipeline, L.P.
1106 Griffith Drive
Midland, Texas 79706

Prepared by:

Terracon Consultants, Inc.
Lubbock, Texas

Terracon

March 28, 2022

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

Attn: Mrs. Camille Bryant
Telephone: (432) 221-7924
Email: CJBryant@paalp.com

Re: 2021 Annual Groundwater Monitoring Report
DCP Plant to Lea Station 6-Inch Section 31
U/L "K", Sec. 31, T20S, R37E
Lea County, New Mexico
NMOCD Reference No. 1RP-2166
NMOCD Incident No. nAPP2109734163
Plains All American Pipeline, L.P. SRS N0. 2009-084
Terracon Project No. AR217009

Dear Mrs. Bryant:

Terracon is pleased to submit one electronic copy of the 2021 Annual Groundwater Monitoring Report for the above-referenced site.

We appreciate the opportunity to perform these services for Plains All American Pipeline, L.P. Please contact either of the undersigned at (806) 300-0140 if you have questions regarding the information provided in the report.

Sincerely,
Terracon

Prepared by:

Brett Dennis
Staff Scientist
Lubbock

Reviewed by:

Erin Loyd, P.G.
Principal
Office Manager – Lubbock

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1.0 INTRODUCTION

1.1 Site Description

The legal description of the DCP Plant to Lea Station 6-Inch Section 31 release site is Unit Letter "K" (NE/SW), Section 31, Township 20 South, Range 37 East, in Lea County, New Mexico. The property affected by the release is owned by The State of New Mexico and administered by the New Mexico State Land Office (NMSLO). The geographic coordinates of the release site are 32.527330° North latitude and 103.29060° West longitude. A "Topographic Map" depicting the site's location is provided as Exhibit 1 in Appendix A.

Site Name	DCP Plant to Lea Station 6-Inch Section 31
Site Location	Latitude 32.527330° North, Longitude 103.29060° West
General Site Description	The site consists of six groundwater monitoring wells located in, and adjacent to, a pipeline right-of-way surrounded by native pasture land.
Landowner	State of New Mexico

1.2 Background Information

Based on information provided by the client, on April 2, 2009, Plains All American Pipeline, L.P. (Plains) discovered a crude oil release from a 6-inch steel pipeline. During initial response activities, Plains installed a temporary clamp on the pipeline to mitigate the release. The crude oil release resulted in a surface stain measuring approximately 6 feet (ft.) in width by 8 ft. in length. Plains initially classified the release as "non-reportable". Upon further investigation, Plains reclassified the release to "reportable" status and notified the New Mexico Oil Conservation Division (NMOCD) Hobbs District 1 Office and submitted a *Release Notification and Corrective Action* (Form C-141) on April 29, 2009. The cause of the release was attributed to external corrosion of the pipeline. The C-141 indicated approximately 20 barrels (bbls) of crude oil were released from the pipeline, with no recovery.

On April 15, 2009, soil boring (SB-1) was advanced approximately 10 ft. west of the release point to evaluate the vertical extent of soil impact. During advancement of the soil boring, groundwater was encountered at approximately 77 ft. below ground surface (bgs). Temporary casing was installed in the boring to obtain a preliminary groundwater sample. On April 16, 2009, a groundwater sample (SB-1) was collected from the temporary casing and submitted for laboratory analysis of total dissolved solids (TDS), chlorides, and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Following the collection of the groundwater sample, the temporary casing was removed from the soil boring and the soil boring was plugged with cement and bentonite, as

required by the New Mexico Office of the State Engineer (NMOSE). Laboratory analytical results indicated a benzene concentration of 1.915 milligrams per liter (mg/L), a BTEX concentration of 4.7711 mg/L, a chloride concentration of 54.6 mg/L, and a TDS concentration of 788 mg/L. Based on the analytical results of the submitted groundwater sample, Plains notified NMOCD representatives in the Hobbs District Office and the Santa Fe Office of the laboratory-confirmed impact to groundwater at the site.

On June 2, 2009, subsequent excavation of crude oil impacted soil began at the site. Approximately 1,400 cubic yards (cy) were excavated and stockpiled on a plastic liner to mitigate the potential leaching of the contaminants into the vadose zone. The final dimensions of the excavation were approximately 77 ft. in width, approximately 80 ft. in length, and 15 ft. in depth.

On September 21 through September 23, 2009, four monitoring wells (MW-1, MW-2, MW-3, and MW-4), were drilled, completed, and developed to further evaluate the status of the groundwater at the site with NMOCD approval. Soil samples were collected at 5-foot drilling intervals and field screened using a photo-ionization detector (PID). Selected soil samples were submitted to the laboratory for determination of concentrations of BTEX and total petroleum hydrocarbons (TPH) using EPA Methods SW-846 8021b and SW-846 8015M, respectively.

Monitoring well MW-1 was installed on the floor of the excavation, at approximately 15 ft. bgs, to a total depth of approximately 86 ft. bgs. Soil samples collected at 25 ft. bgs, 35 ft. bgs, 45 ft. bgs, 55 ft. bgs, 65 ft. bgs, and 75 ft. bgs were submitted to the laboratory for analysis. Laboratory analytical results indicated benzene concentrations were less than the appropriate laboratory method detection limit (MDL) for all of the submitted soil samples. BTEX concentrations ranged from 0.0359 milligrams per kilogram (mg/kg) for the soil sample collected at 25 ft. bgs to 13.444 mg/kg for the soil sample collected at 55 ft. bgs. The TPH concentrations ranged from 286 mg/kg for the soil sample collected at 25 ft. bgs to 1,538 mg/kg for the soil sample collected at 55 ft. bgs.

Monitoring well MW-2 is located approximately 75 ft. northwest (up-gradient) of the release point. The well was installed to a total depth of approximately 90 ft. bgs. Soil samples collected at 15 ft. bgs, 30 ft. bgs, 45 ft. bgs, 60 ft. bgs, and 75 ft. bgs were submitted to the laboratory for analysis. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the appropriate laboratory MDL for all of the submitted soil samples.

Monitoring well MW-3 is located approximately 75 ft. to the southwest (cross-gradient) of the release point. The monitoring well was installed to a total depth of approximately 90 ft. bgs. Soil samples collected at 15 ft. bgs, 30 ft. bgs, 45 ft. bgs, and 60 ft. bgs were submitted to the laboratory for analysis. Laboratory analytical results indicated benzene concentrations ranged from less than the appropriate laboratory MDL for the soil samples collected at 15 ft. bgs, 30 ft. bgs, 45 ft. bgs, and 60 ft. bgs to 0.0025 mg/kg for the soil sample collected at 60 ft. bgs. Analytical results indicated BTEX concentrations ranged from less than the appropriate laboratory MDL for the soil samples collected at 15 ft. bgs, 30 ft. bgs, and 45 ft. bgs to 0.0052 mg/kg for the soil

sample collected at 60 ft. bgs. TPH concentrations were less than the appropriate laboratory MDL for all of the submitted soil samples.

Monitoring well MW-4 is located approximately 75 ft. to the southeast (down-gradient) of the release point. The monitoring well was installed to a total depth of approximately 89 ft. bgs. Soil samples collected at 15 ft. bgs, 30 ft. bgs, 45 ft. bgs, and 60 ft. bgs were submitted to the laboratory for analysis. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the appropriate laboratory MDL for all of the submitted soil samples.

On January 25, 2011, monitoring well MW-5 was installed to further monitor the down-gradient migration of the phase separated hydrocarbons (PSH) plume. Monitoring well MW-5 is located approximately 60 ft. to the southeast (down-gradient) of the release point. The well was installed to a total depth of approximately 95 ft. bgs. Soil samples collected at 15 ft. bgs, 25 ft. bgs, 45 ft. bgs, 65 ft. bgs, and 75 ft. bgs were submitted to the laboratory for analysis. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the appropriate laboratory MDL for all of the submitted soil samples. PSH was not observed in monitoring well MW-5.

On September 11, 2013, monitoring well MW-6 was installed to further monitor the down-gradient migration of the PSH plume. Monitoring well MW-6 is located approximately 95 ft. to the east (cross-gradient) of the release point. The well was installed to a total depth of approximately 100 ft. bgs. Soil samples collected at 5 ft. bgs, 40 ft. bgs, and 75 ft. bgs were submitted to the laboratory for analysis. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the appropriate laboratory MDL for all of the submitted soil samples. PSH was not observed in monitoring well MW-6.

On October 18, 2016, Terracon assumed project management responsibilities and oversight of groundwater monitoring activities at the DCP Plant to Lea Station 6-Inch Section 31 project site. There are a total of six monitoring wells (MW-1 through MW-6) located at the site. Monitoring wells MW-2 through MW-6 are gauged and sampled on a quarterly schedule and monitoring well MW-1 is currently not sampled due to the presence of PSH. A “Site Diagram” depicting monitoring well locations is provided as Exhibit 2 in Appendix A.

On March 6, 2020, a soil vapor extraction (SVE) unit was installed on monitor well MW-1. Previously a mobile dual phase extraction (MDPE) unit was utilized for the extraction of soil vapor. Monthly effluent air samples are collected from the SVE unit to ensure compliance with New Mexico Environment Department (NMED) Air Quality Bureau Action Levels. Results of effluent sample analysis is summarized in Table 3 of Appendix B.

During May of 2020, due to COVID-19, manual recovery events were reduced from a frequency of once per week to once per month. The monthly recovery event frequency persisted into 2021.

On January 11, 2022, approval was received from the NMOCD to reduce sampling frequency of monitoring wells MW-3 and MW-6 from a quarterly to a semi-annual basis. Both of these monitoring wells were sampled during each quarter of the 2021 reporting period. Monitoring wells MW-3 and MW-6 will be sampled semi-annually beginning in the 2022 reporting period, tentatively during the 1st and 3rd quarter monitoring events.

1.3 Scope of Work

Terracon's scope of work includes project management responsibilities, oversight of groundwater monitoring activities, and preparation of an *Annual Groundwater Monitoring Report* in accordance with the NMOCD letter, dated May 1998, requiring submittal of and *Annual Groundwater Monitoring* Report by April 1st of each year. Groundwater monitoring activities include conducting quarterly events at the site. Quarterly monitoring events include measuring the static water levels in the monitoring wells, checking for the presence of PSH, and the collection of groundwater samples from each of the on-site wells not exhibiting a measurable thickness of PSH. In accordance with the approved scope of work, Terracon conducted the quarterly groundwater monitoring events on March 18, June 17, September 10, and December 9, 2021.

2.0 GROUNDWATER REMEDIATION PROGRAM

2.1 Groundwater Monitoring

Quarterly groundwater monitoring events were conducted on March 18 (1Q2021), June 17 (2Q2021), September 10 (3Q2021), and December 9, 2021 (4Q2021). Quarterly groundwater monitoring events included measuring the static water level in the on-site monitoring wells, checking for the presence of PSH, purging, and the collection of groundwater samples from each of the on-site wells not exhibiting a measurable thickness of PSH.

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 cycles of five minutes each. Each collected sample was placed in laboratory-supplied containers appropriate to the analysis requested and placed on ice in a cooler. The sample coolers and completed chain-of-custody forms were delivered to Xenco Laboratories in Lubbock, Texas for analysis of benzene, toluene, ethylbenzene, and total (BTEX). Purged water was placed into an on-site polystyrene aboveground storage tank (AST) and disposed of at an NMOCD-approved disposal facility.

Based on sampling criteria provided by the NMOCD, groundwater samples collected from the on-site monitor wells were not subject to analysis of polynuclear aromatic hydrocarbons (PAHs). PAH sample requirements were met, as two years of sampling was performed on monitoring well MW-2 through MW-6. However, PAH was inadvertently analyzed during the 4th quarter monitoring

event. There were no detections of PAHs above laboratory sample detection limits. Therefore, to adhere to the requirement of two consecutive years of PAH concentrations below action levels monitor wells MW-2 through MW-6 were analyzed for PAHs during the 4th quarter of 2021. Concentrations of PAHs were below applicable actions levels. PAH sampling will be completed on monitoring well MW-1 once it no longer contains PSH. Historical PAH data can be found in Table 5 in Appendix B.

Groundwater elevation gauging data collected during the respective quarterly sampling events were used to construct groundwater gradient maps, which are included as Exhibits 3 through 6 in Appendix A. Groundwater flow direction was relatively consistent during each quarter of 2021 in the southeasterly direction. Groundwater elevation and PSH thickness data is summarized in Table 1 in Appendix B.

3.0 LABORATORY ANALYTICAL METHODS

The groundwater samples collected from the on-site monitoring wells were analyzed for BTEX using EPA SW-846 Method 8021B. Laboratory results from the analysis of groundwater samples collected from the monitor wells are summarized in Table 2 in Appendix B and presented on Exhibits 7 through 10 in Appendix A. Copies of the certified laboratory reports and chain-of-custody forms are provided in Appendix C.

4.0 GROUNDWATER DATA EVALUATION

4.1 Groundwater Sample Results

Laboratory analytical results from groundwater samples collected during each quarterly monitoring event were compared to NMOCD regulatory standards based on New Mexico Water Quality Control Commission (NMWQCC) groundwater standards found in Section 20.6.2.3103 of the New Mexico Administrative Code (NMAC).

4.1.1 Monitoring Well MW-1

- Monitoring well MW-1 was not sampled due to the presence of PSH. PSH thicknesses of 1.40 ft (1Q2021), 1.32 ft. (2Q2021), 1.20 ft (3Q2021), 1.04 ft (4Q2021) were observed during the quarterly monitoring events.

4.1.2 Monitoring Wells MW-2, MW-3, MW-4, MW-5, and MW-6

- Laboratory analytical results indicated BTEX concentrations were below the respective laboratory SDL during each quarterly monitoring event.

5.0 CORRECTIVE ACTION

5.1 Product Recovery

An estimated 1.23 gallons of PSH were recovered from monitoring well MW-1 by manual recovery in 2021. During the last recovery event, the PSH thickness in monitoring well MW-1 measured 0.84 ft. An estimated 31.5 gallons (0.75 bbls) of hydrocarbon impacted groundwater were recovered manually from monitoring well MW-1 for 2021. Since recovery operations began in 2009, an estimated 5,799.43 gallons (138 bbls) of PSH have been manually recovered from monitoring well MW-1.

In September 2012, an MDPE unit was installed on monitoring well MW-1 by Talon LPE. The MDPE unit was shared with the nearby release site known as DCP Plant to Lea Station 6-Inch #2 (NMOCD Reference #1RP-2136), and the location of the unit was alternated periodically until an SVE unit was placed on the previously mentioned site on July 19, 2017.

On March 6, 2020, an SVE unit was installed on monitor well MW-1. Monthly effluent air samples are collected from the SVE unit to ensure compliance with New Mexico Environment Department (NMED) Air Quality Bureau (AQB) Action Levels.

During the 2021 reporting period, an average of 4.91 gallons per day of PSH in the vapor phase. The effluent sample collected on December 20, 2021 exhibited concentrations of TPH exceeding NMED AQB Action Level of 10 tons per year. The calculated value of TPH in the previously mentioned sample resulted in 14.8 tons per year. In response, Terracon mobilized to the site and adjusted a dilution valve on the SVE unit to ensure compliance in the future. Monitoring well MW-1 SVE air emissions analytical results for BTEX and TPH is summarized in Table 3 of Appendix B.

6.0 SUMMARY OF FINDINGS

The findings of the 2021 Quarterly groundwater monitoring activities are as follows:

- Currently, there are six groundwater monitoring wells (MW-1 through MW-6) located at the site.
- Monitoring well MW-1 was not sampled during each quarterly monitoring event due to the presence of PSH.
- Monitoring well MW-2 through MW-6 were gauged, purged, and sampled during each quarterly monitoring event.
- Benzene, toluene, ethylbenzene and total xylene concentrations were below the respective laboratory SDLs in groundwater samples collected from monitoring wells MW-2, MW-3, MW-4, MW-5, and MW-6 during each quarterly monitoring event.

- Monitor wells MW-2, MW-3, MW-4, MW-5, and MW-6 were analyzed for PAHs for the second consecutive year during the 4th quarter monitoring events. Concentrations of PAHs were not detected above NMOCD Action Levels.
- The groundwater flow direction was relatively consistent to the southeast for each quarterly event. The groundwater gradient averaged 0.002 ft./ft.
- An estimated 1.23 gallons of PSH was recovered manually from monitoring well MW-1.

7.0 ANTICIPATED ACTIONS AND REQUESTS

- Manual PSH recovery will continue on monitoring well MW-1.
- Monthly effluent air samples of SVE emissions will be collected and analyzed for TPH and BTEX.
- Monitoring wells MW-2, MW-4, and MW-5 will continue to be gauged for the presence of PSH, purged, and sampled quarterly for analysis of BTEX in 2022.
- Per NMOCD approval, monitoring wells MW-3 and MW-6 will be sampled on a semi-annual basis, tentatively during the 1st and 3rd quarter of 2022.
- An *Annual Groundwater Monitoring Report* will be prepared detailing field activities and the results of groundwater monitoring activities conducted during the 2022 reporting period.

8.0 DISTRIBUTION

Copy 1: Bradford Billings, Hydrologist, E Spec. A.
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
bradford.billings@state.nm.us

Copy 2: New Mexico Oil Conservation Division
District 1 Office
1625 N. French Drive
Hobbs, New Mexico 88240
emnrd-ocd-district1spills@state.nm.us

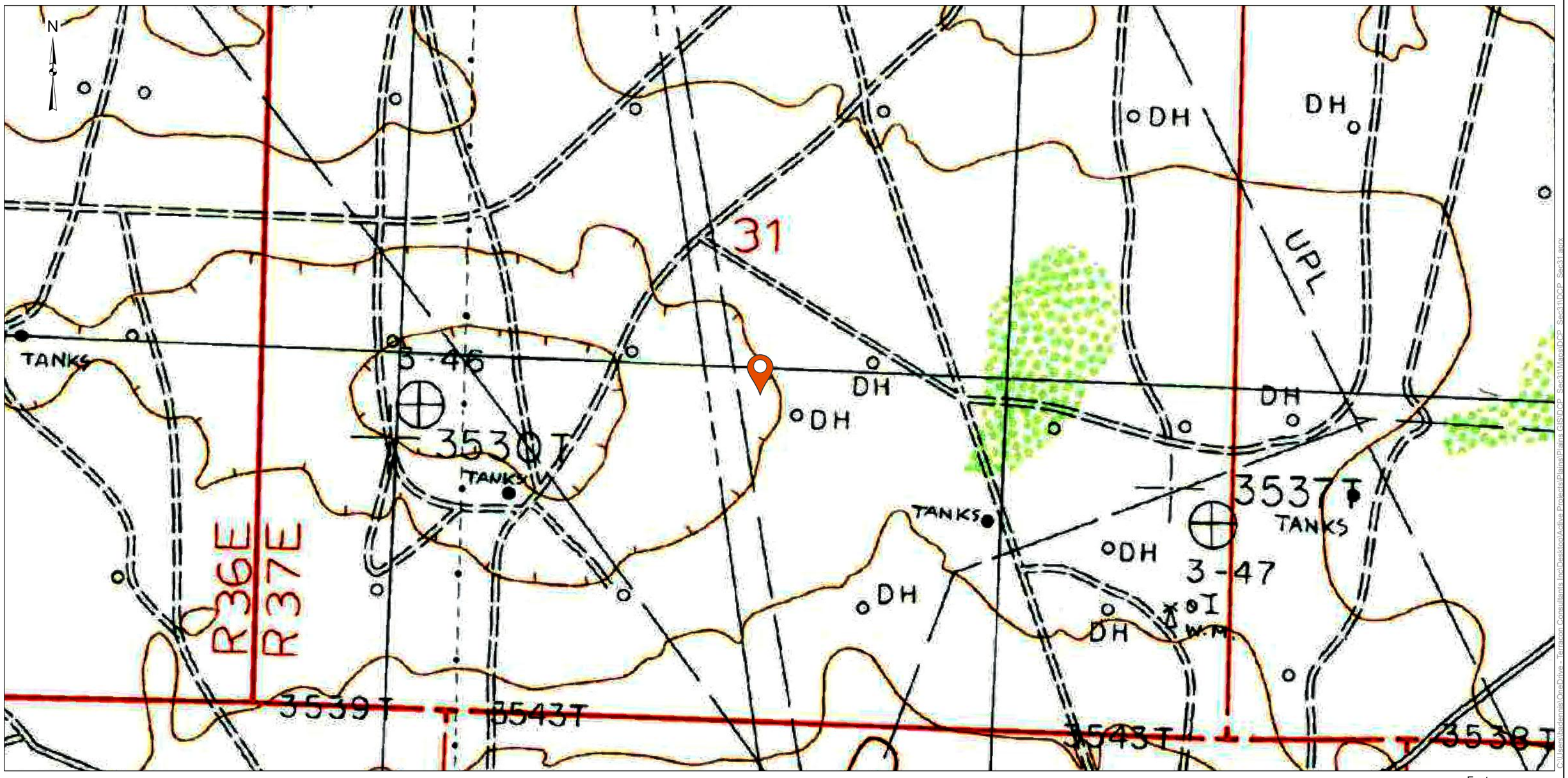
Copy 3: Ryan Mann, Remediation Specialist
New Mexico State Land Office
914 N. Linam Street
Hobbs, New Mexico 88240
rmann@slo.state.nm.us

Copy 4: Mrs. Camille Bryant
Plains All American Pipeline, L.P.
1106 Griffith Drive
Midland, Texas 79706
cjbryant@paalp.com

Copy 5: Mr. Jeff Dann
Plains All American Pipeline, L.P.
333 Clay Street, Suite 1600
Houston, Texas 77002
jpdann@paalp.c

APPENDIX A

Exhibit 1 – Topographic Map
Exhibit 2 – Site Diagram
Exhibit 3 – 1Q20 Groundwater Gradient Map (03/18/21)
Exhibit 4 – 2Q20 Groundwater Gradient Map (06/17/21)
Exhibit 5 – 3Q20 Groundwater Gradient Map (09/10/21)
Exhibit 6 – 4Q20 Groundwater Gradient Map (12/09/21)
Exhibit 7 – 1Q20 Groundwater Contaminant Concentration Map (03/18/21)
Exhibit 8 – 2Q20 Groundwater Contaminant Concentration Map (06/17/21)
Exhibit 9 – 3Q20 Groundwater Contaminant Concentration Map (09/10/21)
Exhibit 10 – 4Q20 Groundwater Contaminant Concentration Map (12/09/21)



Legend:

Site Location

DATA SOURCES:
USGS Topoview - Monument South, NM 1985

Feet
0 400 800 1,600

Project No.:	AR217009
Date:	Jan 2022
Drawn By:	BAD
Reviewed By:	ELL

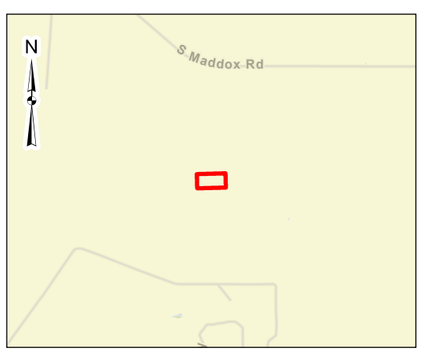
Terracon
5847 50th Street Lubbock, Texas 79424
PH. (806) 300-0140 terracon.com

Topographic Map

DCP Plant to Lea Station 6" Sec. 31
Plains SRS # 2009-084
NMOCD Ref. # 1RP-2166
Lea County, New Mexico
GPS: 32.527330, -103.290600

Exhibit

1



Legend:

- Monitor Well (MW)
- Recovery Well w/ Soil Vapor Extraction (SVE) Unit

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Feet
0 40 80 160

Project No.:	AR217009
Date:	Jan 2022
Drawn By:	BAD
Reviewed By:	ELL

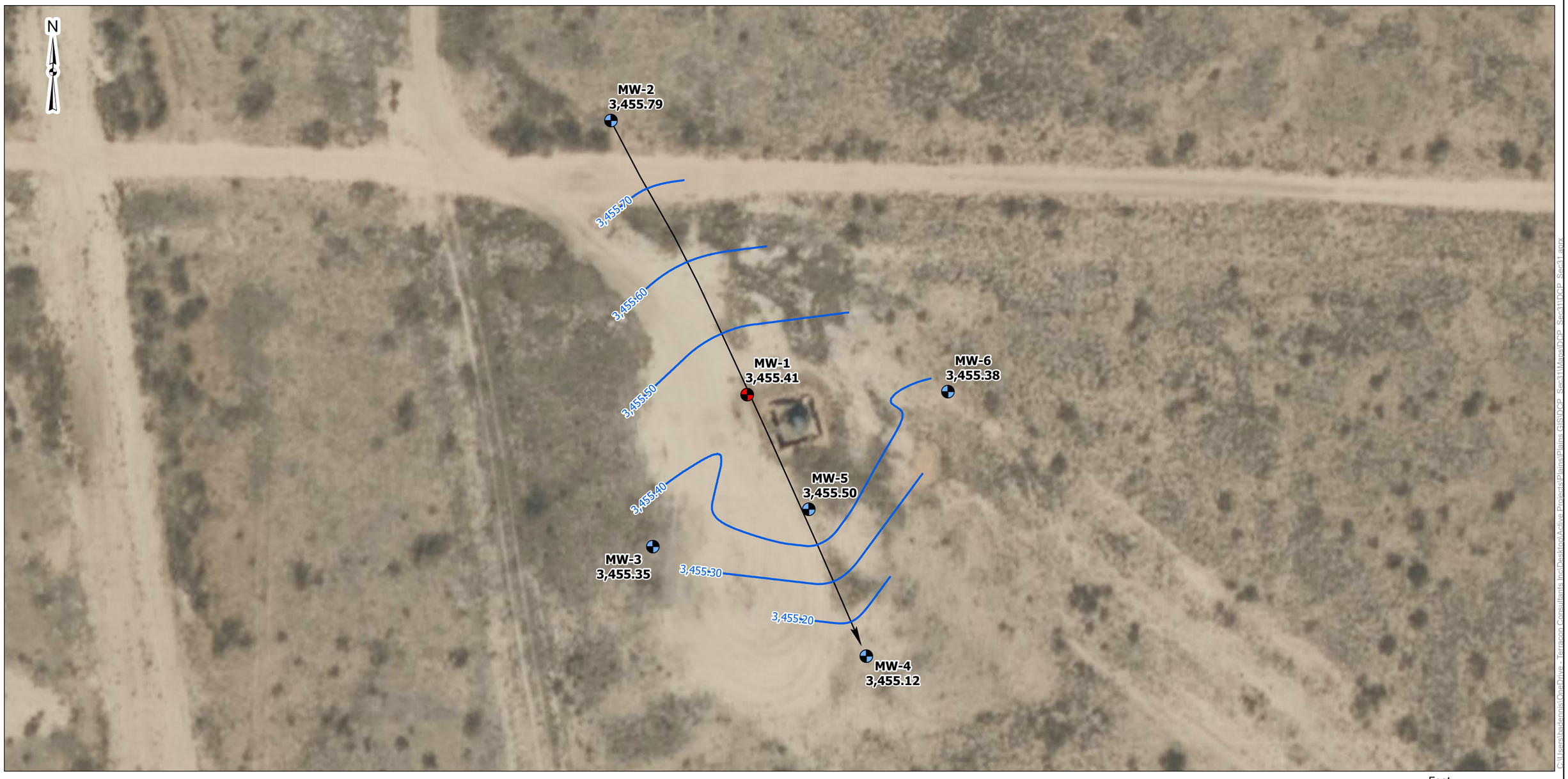
Terracon
5847 50th Street Lubbock, Texas 79424
PH. (806) 300-0140 terracon.com

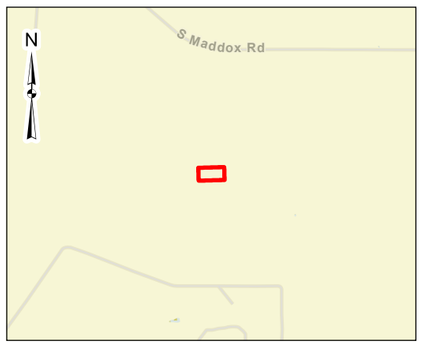
Site Diagram

DCP Plant to Lea Station 6" Sec. 31
Plains SRS # 2009-084
NMOCD Ref. # 1RP-2166
Lea County, New Mexico
GPS: 32.527330, -103.290600

Exhibit

2





Legend:

- Monitor Well (MW)
- Recovery Well w/ Soil Vapor Extraction (SVE) Unit
- Groundwater Contour
- Groundwater Flow Direction

Notes:

- All groundwater elevations are measured in feet above mean sea level.
- Groundwater contours were interpolated using ArcGIS's kringing algorithm.
- Monitor wells MW-1 and MW-5 were not honored in interpolation.
- Groundwater contour interval: 0.10 ft.
- Groundwater gradient: 0.002 ft./ft.

Feet
0 30 60 120

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	AR217009
Date:	Apr 2021
Drawn By:	BAD
Reviewed By:	ELL

Terracon
5847 50th Street Lubbock, Texas 79424
PH. (806) 300-0140 terracon.com

1Q21 Groundwater Gradient Map

DCP Plant to Lea Station 6" Sec. 31
Plains SRS # 2009-084
NMOCD Ref. # 1RP-2166
Lea County, New Mexico
GPS: 32.527330, -103.290600

Exhibit

3

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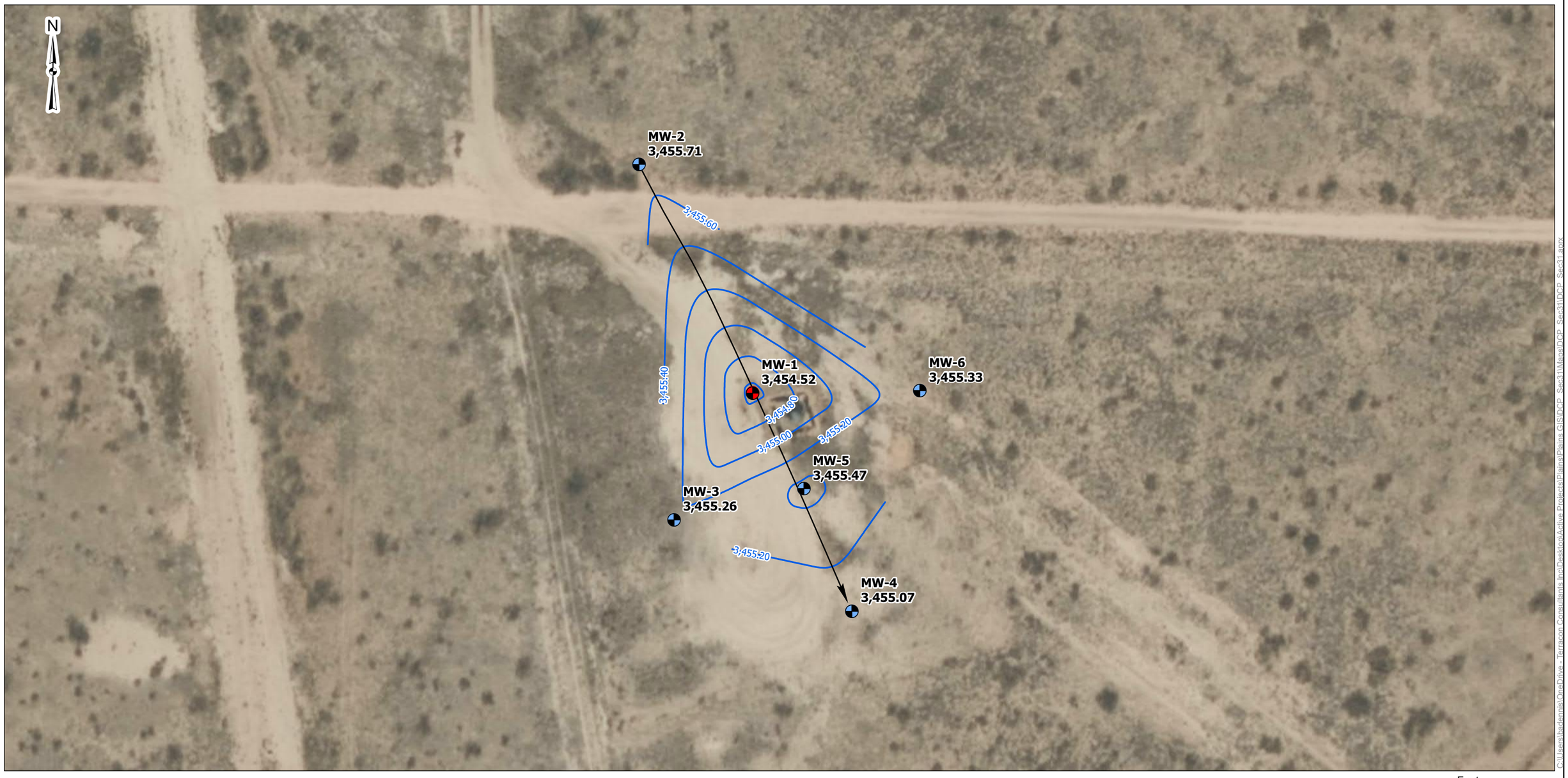

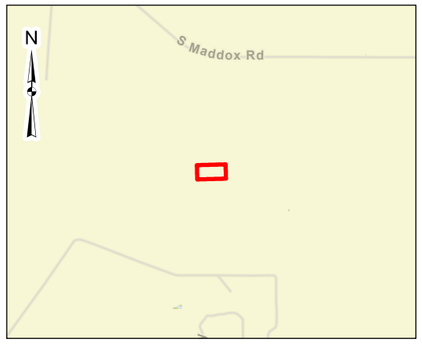

Legend:

- Monitor Well (MW)
- Recovery Well w/ Soil Vapor Extraction (SVE) Unit
- Groundwater Contour
- Groundwater Flow Direction

Notes:
- All groundwater elevations are measured in feet above mean sea level.
- Groundwater contours were interpolated using ArcGIS's kringing algorithm.
- Groundwater contour interval: 0.20 ft.
- Groundwater gradient: 0.002 ft./ft.

Feet
0 40 80 160

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	AR217009
Date:	Jul 2021
Drawn By:	BAD
Reviewed By:	ELL

Terracon
5847 50th Street Lubbock, Texas 79424
PH. (806) 300-0140 terracon.com

2Q21 Groundwater Gradient Map

DCP Plant to Lea Station 6" Sec. 31
Plains SRS # 2009-084
NMOCD Ref. # 1RP-2166
Lea County, New Mexico
GPS: 32.527330, -103.290600

Exhibit

4

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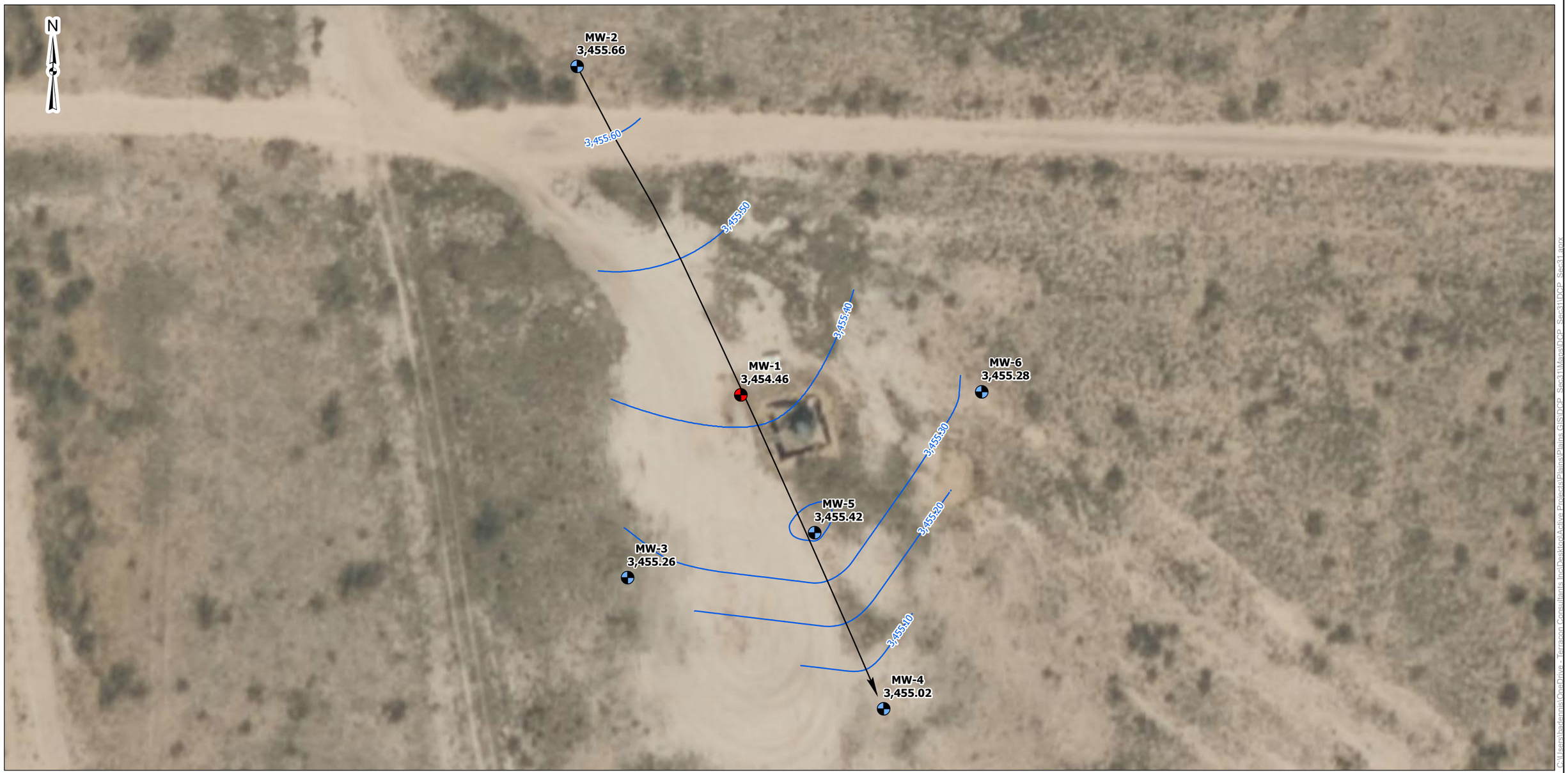

Legend:

- Monitor Well (MW)
- Recovery Well w/ Soil Vapor Extraction (SVE) Unit
- Groundwater Flow Direction
- Groundwater Contour

Notes:
- All groundwater elevations are measured in feet above mean sea level.
- Groundwater contours were interpolated using ArcGIS's kringing algorithm.
- Groundwater contour interval: 0.10 ft.
- Groundwater gradient: 0.002 ft./ft.

Feet
0 25 50 100

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	AR217009
Date:	Oct 2021
Drawn By:	BAD
Reviewed By:	ELL

Terracon
5847 50th Street Lubbock, Texas 79424
PH. (806) 300-0140 terracon.com

3Q21 Groundwater Gradient Map

DCP Plant to Lea Station 6" Sec. 31
Plains SRS # 2009-084
NMOCD Ref. # 1RP-2166
Lea County, New Mexico
GPS: 32.527330, -103.290600

Exhibit

5

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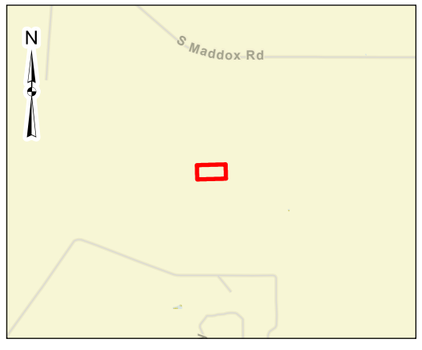

Legend:

- Monitor Well (MW)
- Recovery Well w/ Soil Vapor Extraction (SVE) Unit
- Groundwater Flow Direction
- Groundwater Contour

Notes:
- All groundwater elevations are measured in feet above mean sea level.
- Groundwater contours were interpolated using ArcGIS's kringing algorithm.
- Monitor well MW-1 was not honored in the interpolation.
- Groundwater contour interval: 0.10 ft.
- Groundwater gradient: 0.002 ft./ft.

Feet
0 40 80 160

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	AR217009
Date:	Jan 2022
Drawn By:	BAD
Reviewed By:	ELL

Terracon
5847 50th Street Lubbock, Texas 79424
PH. (806) 300-0140 terracon.com

4Q21 Groundwater Gradient Map

DCP Plant to Lea Station 6" Sec. 31
Plains SRS # 2009-084
NMOCD Ref. # 1RP-2166
Lea County, New Mexico
GPS: 32.527330, -103.290600

Exhibit

6

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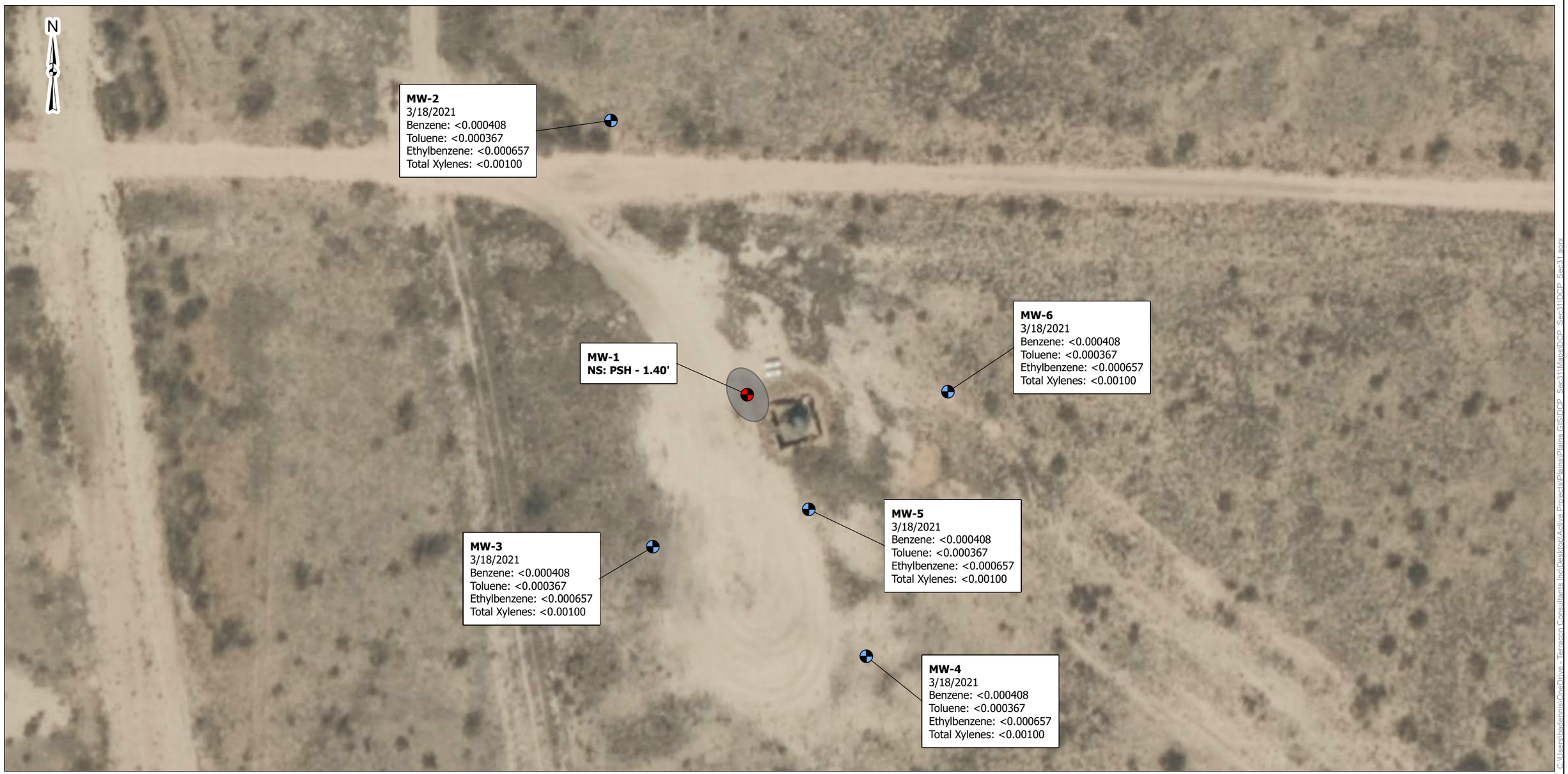

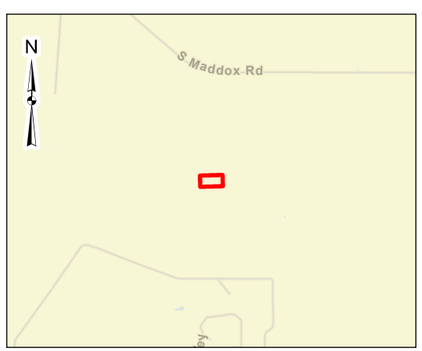

Legend:

- Monitor Well (MW)
- Recovery Well w/ Soil Vapor Extraction (SVE) Unit
- Free Phase Plume

New Mexico- Oil Conservation Division (NMOCD) Criteria:
B (Benzene) - 0.01 mg/L
T (Toluene) - 0.75 mg/L
E (Ethylbenzene) - 0.75 mg/L
X (Total Xylenes) - 0.62 mg/L
- NS: Monitoring well was not sampled due to presence of PSH.
- **Bold** concentrations indicate concentrations above the laboratory sample detection limit (SDL).
- **Red text** indicates a concentration exceeding NMOCD Action Levels.
- PSH thicknesses are measured in tenths of feet.

Feet
0 30 60 120

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	AR217009
Date:	Apr 2021
Drawn By:	BAD
Reviewed By:	ELL

Terracon
5847 50th Street Lubbock, Texas 79424
PH. (806) 300-0140 terracon.com

1Q21 Groundwater Concentration Map

DCP Plant to Lea Station 6" Sec. 31
Plains SRS # 2009-084
NMOCD Ref. # 1RP-2166
Lea County, New Mexico
GPS: 32.527330, -103.290600

Exhibit

7

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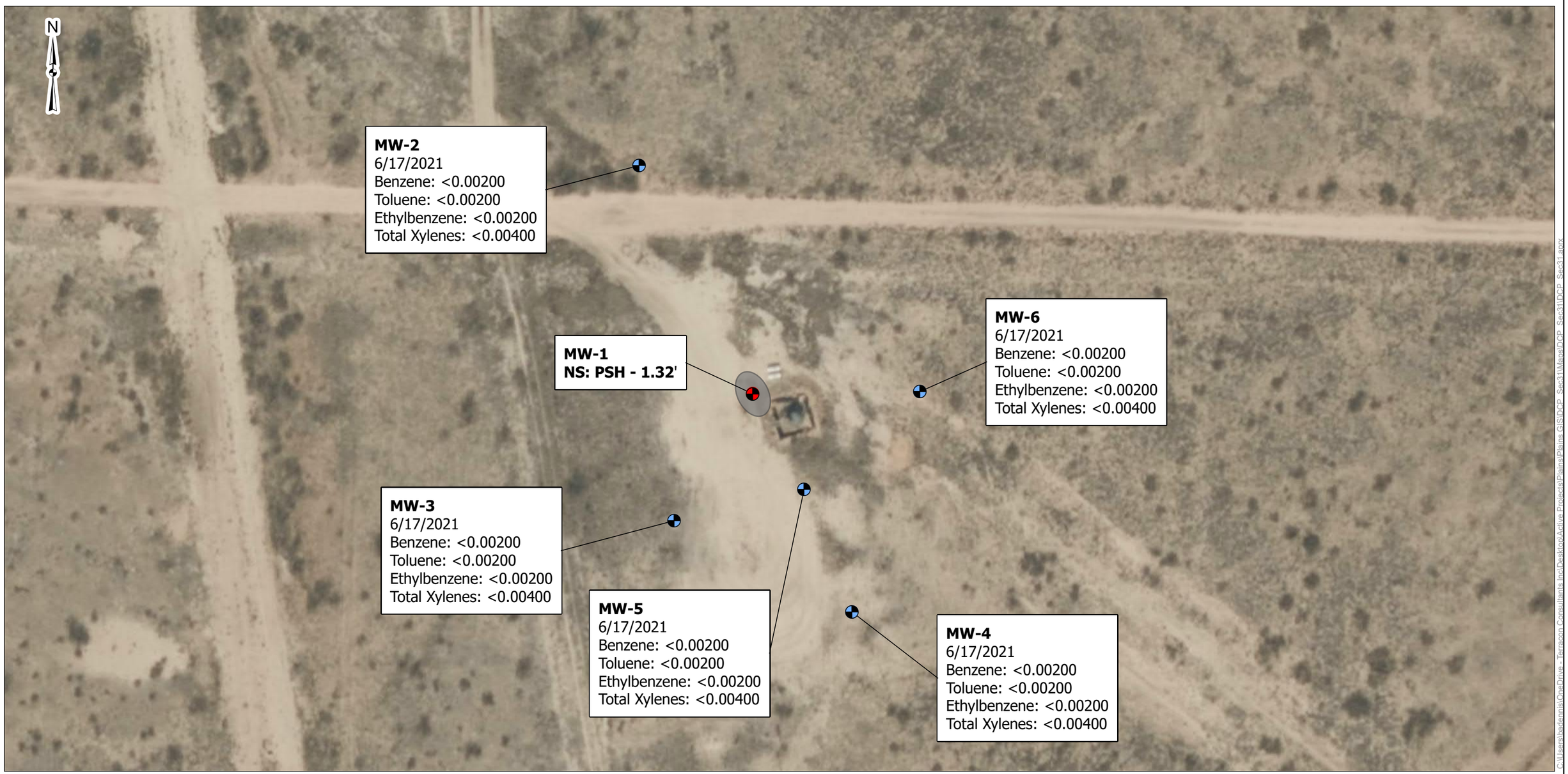

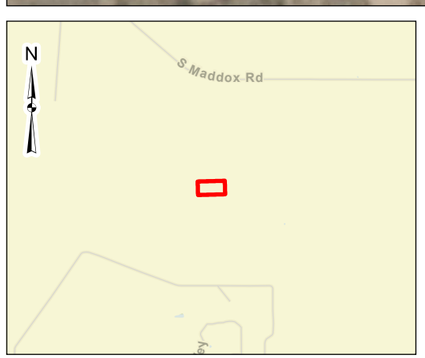

Legend:

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- Recovery Well w/ Soil Vapor Extraction (SVE) Unit
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- **Bold** concentrations indicate concentrations above the laboratory sample detection limit (SDL).
- **Red text** indicates a concentration exceeding NMOCD Action Levels.
- PSH thicknesses are measured in tenths of feet.

Feet
0 40 80 160

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	AR217009
Date:	Jul 2021
Drawn By:	BAD
Reviewed By:	ELL

Terracon
5847 50th Street Lubbock, Texas 79424
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2Q21 Groundwater Concentration Map

DCP Plant to Lea Station 6" Sec. 31
Plains SRS # 2009-084
NMOCD Ref. # 1RP-2166
Lea County, New Mexico
GPS: 32.527330, -103.290600

Exhibit

8

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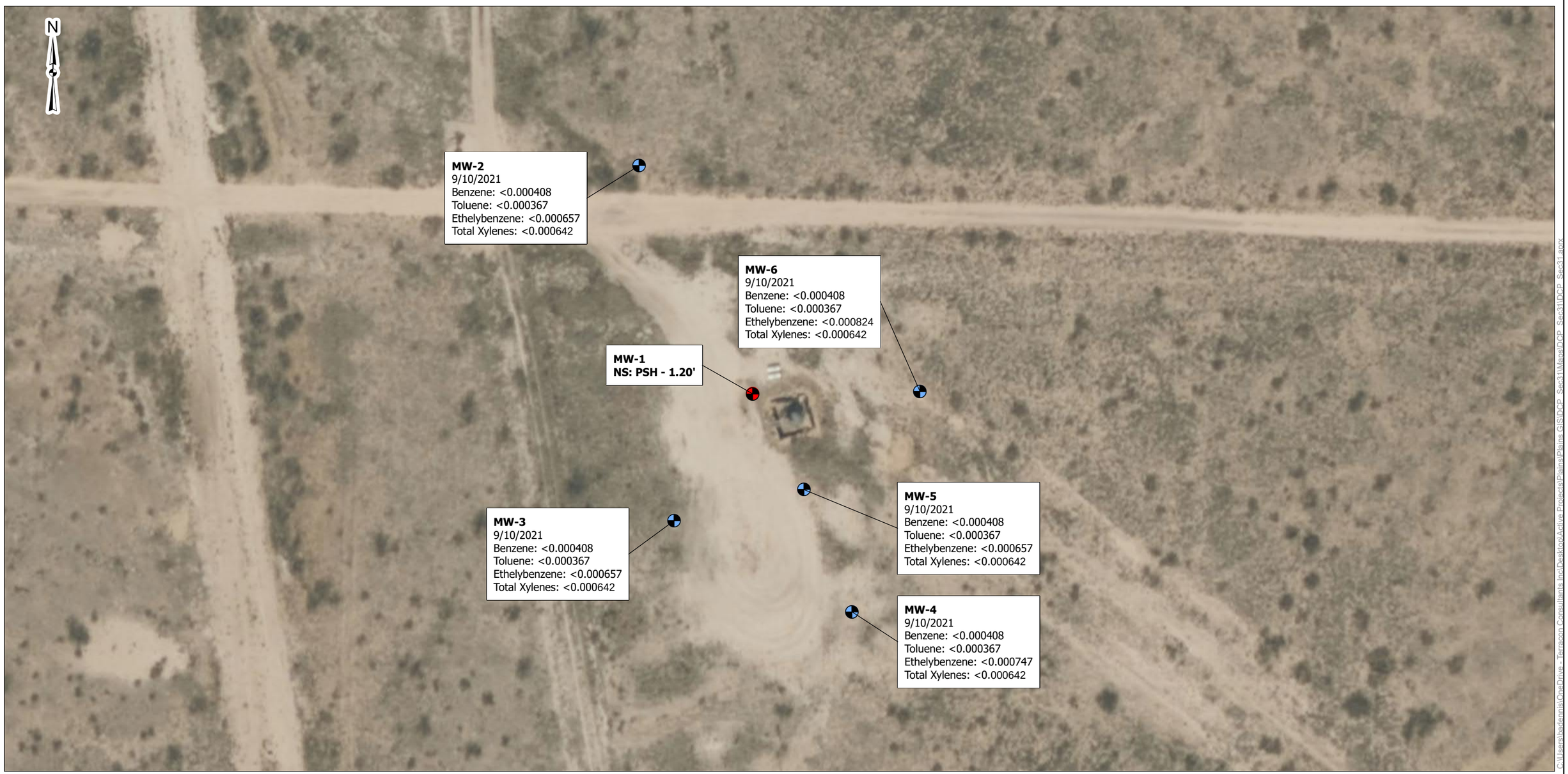

Legend:

- Monitor Well (MW)
- Recovery Well w/ Soil Vapor Extraction (SVE) Unit

New Mexico- Oil Conservation Division (NMOCD) Criteria:
B (Benzene) - 0.01 mg/L
T (Toluene) - 0.75 mg/L
E (Ethylbenzene) - 0.75 mg/L
X (Total Xylenes) - 0.62 mg/L
- NS: Monitoring well was not sampled due to presence of PSH.
- **Bold** concentrations indicate concentrations above the laboratory sample detection limit (SDL).
- **Red text** indicates a concentration exceeding NMOCD Action Levels.
- PSH thicknesses are measured in tenths of feet.

Feet
0 40 80 160

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	AR217009
Date:	Oct 2021
Drawn By:	BAD
Reviewed By:	ELL

Terracon
5847 50th Street Lubbock, Texas 79424
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3Q21 Groundwater Concentration Map

DCP Plant to Lea Station 6" Sec. 31
Plains SRS # 2009-084
NMOCD Ref. # 1RP-2166
Lea County, New Mexico
GPS: 32.527330, -103.290600

Exhibit

9

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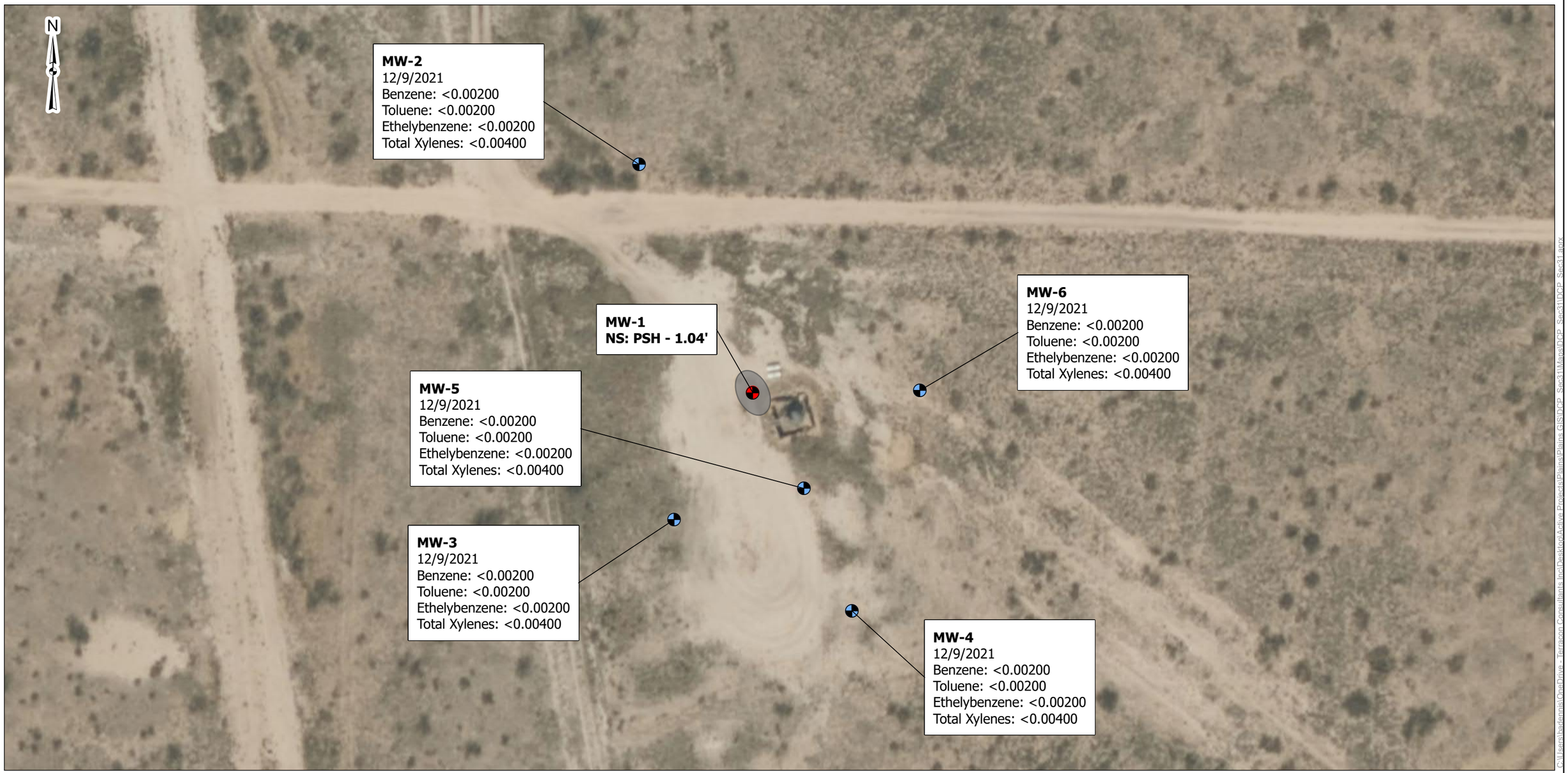

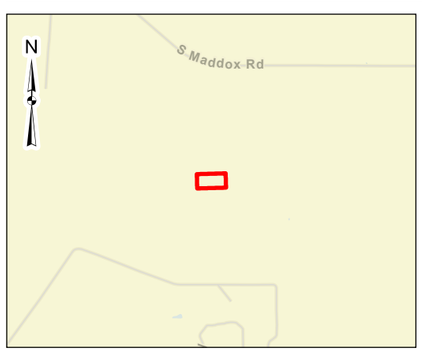

Legend:

- Monitor Well (MW)
- Recovery Well w/ Soil Vapor Extraction (SVE) Unit
- Free Phase Plume

New Mexico- Oil Conservation Division (NMOCD) Criteria:
B (Benzene) - 0.01 mg/L
T (Toluene) - 0.75 mg/L
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X (Total Xylenes) - 0.62 mg/L
- NS: Monitoring well was not sampled due to presence of PSH.
- **Bold** concentrations indicate concentrations above the laboratory sample detection limit (SDL).
- **Red text** indicates a concentration exceeding NMOCD Action Levels.
- PSH thicknesses are measured in tenths of feet.

Feet
0 40 80 160

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	AR217009
Date:	Jan 2022
Drawn By:	BAD
Reviewed By:	ELL

Terracon
5847 50th Street Lubbock, Texas 79424
PH. (806) 300-0140 terracon.com

3Q21 Groundwater Concentration Map

DCP Plant to Lea Station 6" Sec. 31
Plains SRS # 2009-084
NMOCD Ref. # 1RP-2166
Lea County, New Mexico
GPS: 32.527330, -103.290600

Exhibit

10

APPENDIX B

Table 1 – Groundwater Elevation and PSH Thickness Summary
Table 2 – Groundwater BTEX Concentration Analytical Summary
Table 3 – Air Emission Analytical Summary - BTEX and TPH
Table 4 – MW-1 PSH Thickness & BTEX Recovery Summary
Table 5 – Historical Concentrations of PAH in Groundwater Summary

Table 1
Groundwater Elevation and PSH[1] Thickness Summary

DCP Plant to Lea Station 6-Inch Sec. 31
Lea County, New Mexico
Plains Pipeline, L.P. SRS #: 2009-084
Terracon Project#: AR217009
NMOCD[2] Reference #: 1RP-2166
All measurements are in feet above mean sea level

Monitoring Well (Well Diameter ")	Date Gauged	Top of Casing (TOC)[3] Elevation	Depth to PSH Below TOC (feet)	Depth to Water Below TOC (feet)	PSH Thickness (feet)	Corrected Groundwater Elevation
MW-1 (4")	01/23/2020	3,539.59	83.95	84.45	0.50	3,455.57
	06/24/2020		84.37	84.50	0.13	3,455.20
	09/21/2020		84.72	86.36	1.64	3,454.62
	12/18/2020		84.87	86.37	1.50	3,454.50
	03/18/2021		83.97	85.37	1.40	3,455.41
	06/17/2021		84.87	86.19	1.32	3,454.52
	09/10/2021		84.95	86.15	1.20	3,454.46
	12/09/2021		85.02	86.06	1.04	3,454.41
MW-2 (2")	01/23/2020	3,539.37	-	84.55	-	3,454.82
	06/24/2020		-	83.55	-	3,455.82
	09/21/2020		-	83.55	-	3,455.82
	12/18/2020		-	83.62	-	3,455.75
	03/18/2021		-	83.58	-	3,455.79
	06/17/2021		-	83.66	-	3,455.71
	09/10/2021		-	83.71	-	3,455.66
	12/09/2021		-	83.71	-	3,455.66
MW-3 (2")	01/23/2020	3,539.28	-	83.83	-	3,455.45
	06/24/2020		-	83.86	-	3,455.42
	09/21/2020		-	83.85	-	3,455.43
	12/18/2020		-	83.93	-	3,455.35
	03/18/2021		-	83.93	-	3,455.35
	06/17/2021		-	84.02	-	3,455.26
	09/10/2021		-	84.02	-	3,455.26
	12/09/2021		-	84.05	-	3,455.23
MW-4 (2")	01/23/2020	3,540.07	-	84.88	-	3,455.19
	06/24/2020		-	84.89	-	3,455.18
	09/21/2020		-	84.89	-	3,455.18
	12/18/2020		-	84.97	-	3,455.10
	03/18/2021		-	84.95	-	3,455.12
	06/17/2021		-	85.00	-	3,455.07
	09/10/2021		-	85.05	-	3,455.02
	12/09/2021		-	85.09	-	3,454.98
MW-5 (4")	01/23/2020	3,539.90	-	84.46	-	3,455.44
	06/24/2020		-	84.59	-	3,455.31
	09/21/2020		-	84.48	-	3,455.42
	12/18/2020		-	84.50	-	3,455.40
	03/18/2021		-	84.57	-	3,455.50
	06/17/2021		-	84.60	-	3,455.47
	09/10/2021		-	84.65	-	3,455.42
	12/09/2021		-	84.73	-	3,455.34
MW-6 (2")	01/23/2020	3,540.82	-	85.39	-	3,455.43
	06/24/2020		-	83.35	-	3,457.47
	09/21/2020		-	85.39	-	3,455.43
	12/18/2020		-	85.45	-	3,455.37
	03/18/2021		-	85.44	-	3,455.38
	06/17/2021		-	85.49	-	3,455.33
	09/10/2021		-	85.54	-	3,455.28
	12/09/2021		-	85.56	-	3,455.26

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

DCP Plant to Lea Station 6-Inch Sec. 31
Lea County, New Mexico
Plains Pipeline, L.P. SRS #: 2009-084
NMOCD[2] Reference #: 1RP-2166
Terracon Project #: AR217009
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	01/23/2020	Not Sampled due to presence of PSH						
	06/25/2020							
	09/21/2020							
	12/18/2020							
	03/18/2021							
	06/17/2021							
	09/10/2021							
	12/09/2021							
MW-2	01/23/2020	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	06/25/2020	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	09/21/2020	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	12/18/2020	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	03/18/2021	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.00100	<0.00100
	06/17/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	09/10/2021	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	12/09/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
MW-3	01/23/2020	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	06/25/2020	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	09/21/2020	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	12/18/2020	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	03/18/2021	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.00100	<0.00100
	06/17/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	09/10/2021	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	12/09/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
MW-4	01/23/2020	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	06/25/2020	**0.00123 J**	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	**0.00123 J**
	09/21/2020	**0.000520 J**	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	**0.000520 J**
	12/18/2020	<0.000480	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	03/18/2021	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.00100	<0.00100
	06/17/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	09/10/2021	<0.000408	<0.000367	<0.000747	<0.000629	<0.000642	<0.000642	<0.000747
	12/09/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
MW-5	01/23/2020	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	DUP-1	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	06/25/2020	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	DUP-1	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	09/21/2020	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	DUP-1	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	12/18/2020	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	DUP-1	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	03/18/2021	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.00100	<0.00100
	DUP-1	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.00100	<0.00100
	06/17/2021	<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
	09/10/2021	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.00400
	DUP-1	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	12/09/2021	<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
MW-6	01/23/2020	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	06/25/2020	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	09/21/2020	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	12/18/2020	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	03/18/2021	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.00100	<0.00100
	06/17/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
	09/10/2021	<0.000408	<0.000367	<0.000824	<0.000629	<0.000642	<0.000642	<0.00824
	12/09/2021	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400

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

TABLE 3
Air Emission Analytical Summary - BTEX[1] and TPH[2]

DCP Plant to Lea Station 6-Inch Sec. 31
Lea County, New Mexico
Plains Pipeline, L.P. SRS#: 2009-084
NMOCD Reference #: 1RP-2166
Terracon Project No. AR217009

Sample I.D.	Sample Date	Laboratory	BTEX / TPH (mg/m^3)	Emission Mass[3] (tons/year)	Emission Volume (gal/day)
New Mexico Environment Department (NMED) Air Quality Burea (AQB) Action Level requiring an Air Permit				**10**	
EF-1 (20200331)	03/31/20	Pace	Benzene - 3.96	0.003	0.002
			Toluene - 8.80	0.006	0.004
			Ethylbenzene - ND	N/A	N/A
			Total Xylene - 17.6	0.012	0.009
			Total BTEX - 6.2	0.004	0.003
			TPH - GRO - N/A	N/A	N/A
EFF-1 (20200430)	04/30/20	Pace	Benzene - 12.8	0.009	0.007
			Toluene - 16.7	0.011	0.009
			Ethylbenzene - 1.87	0.001	0.001
			Total Xylene - 41.6	0.028	0.021
			Total BTEX - 17.2	0.012	0.009
			TPH - GRO - 6,490	4.42	4.09
EFF-1 (20200528)	05/28/20	Pace	Benzene - 27.8	0.019	0.014
			Toluene - 36.0	0.025	0.018
			Ethylbenzene - 3.20	0.002	0.002
			Total Xylene - 101	0.069	0.052
			Total BTEX - 29.2	0.020	0.015
			TPH - GRO - 12,500	8.51	7.87
EFF-1 (20200629)	06/29/20	Pace	Benzene - 42.8	0.029	0.022
			Toluene - 77.2	0.053	0.040
			Ethylbenzene - 9.70	0.007	0.005
			Total Xylene - 169	0.115	0.086
			Total BTEX - 72.4	0.049	0.037
			TPH - GRO - 19,900	**13.6**	12.5
EFF-1 (20200729)	07/29/20	Pace	Benzene - 26.3	0.018	0.013
			Toluene - 46.7	0.032	0.024
			Ethylbenzene - 4.30	0.003	0.002
			Total Xylene - 65.5	0.045	0.034
			Total BTEX - 25.4	0.017	0.013
			TPH - GRO - 9,250	6.30	5.83
EFF-1 (20200819)	08/19/20	Pace	Benzene - 13.1	0.009	0.007
			Toluene - 17.9	0.012	0.009
			Ethylbenzene - ND	-	-
			Total Xylene - 16.0	0.010	0.008
			Total BTEX - 6.00	0.004	0.003
			TPH - GRO - 5,580	3.80	3.51
EFF-1 (09282020)	09/28/20	Pace	Benzene - 21.3	0.014	0.011
			Toluene - 31.1	0.021	0.016
			Ethylbenzene - 3.10	0.002	0.002
			Total Xylene - 64.9	0.044	0.033
			Total BTEX - 120.4	0.082	0.062
			TPH - GRO - 9,250	6.30	5.82
EFF-1 (10292020)	10/29/20	Pace	Benzene - 18.2	0.012	0.009
			Toluene - 28.1	0.019	0.014
			Ethylbenzene - 2.90	0.002	0.001
			Total Xylene - 32.9	0.022	0.017
			Total BTEX - 82.1	0.056	0.042
			TPH - GRO - 7,230	4.92	4.55
EFF-1 (12312020)	12/31/20	Pace	Benzene - 15.6	0.011	0.008
			Toluene - 26.2	0.018	0.013
			Ethylbenzene - 2.51	0.002	0.001
			Total Xylene - 54.3	0.037	0.028
			Total BTEX - 98.6	0.067	0.050
			TPH - GRO - 5,780	3.935	3.64
			2020 TPH Average:	6.466	5.980

Notes:

1. BTEX: Benzene, toluene, ethylbenzene, total xylene analyzed by EPA Method 8021B

2. TPH: Total petroleum hydrocarbons analyzed by EPA Method 8015

3. Emission Mass calculated assuming flowrate 1.1073 (m^3/min) and constituent concentration were constant for the entirety of a year.

4. SVE Emission: Soil Vapor Extraction

NA: Indicates constituant was not analyzed

< = Constituent not detected above laboratory sample detection limit (SDL)

Bold denotes concentrations that could potentially be in violation of applicable NMED AQB criteria.

TABLE 3
Air Emission Analytical Summary - BTEX[1] and TPH[2]

DCP Plant to Lea Station 6-Inch Sec. 31
Lea County, New Mexico
Plains Pipeline, L.P. SRS#: 2009-084
NMOCD Reference #: 1RP-2166
Terracon Project No. AR217009

Sample I.D.	Sample Date	Laboratory	BTEX / TPH (mg/m³)	Emission Mass[3] (tons/year)	Emission Volume (gal/day)
New Mexico Environment Department (NMED) Air Quality Burea (AQB) Action Level requiring an Air Permit				**10**	
EFF-1 Sec. 31	01/28/21	Pace	Benzene - 14.7	0.010	0.008
			Toluene - 25.6	0.017	0.013
			Ethylbenzene - 2.49	0.002	0.001
			Total Xylene - 59.3	0.040	0.030
			Total BTEX - 102	0.069	0.052
			TPH - GRO - 7,560	5.15	4.76
EFF-1 (02262021)	02/26/21	Pace	Benzene - 9.26	0.006	0.005
			Toluene - 20.7	0.014	0.011
			Ethylbenzene - 2.45	0.002	0.001
			Total Xylene - 47.1	0.032	0.024
			Total BTEX - 79.5	0.054	0.041
			TPH - GRO - 7,770	5.29	4.89
EFF-1 (03302021)	03/30/21	Pace	Benzene - 7.67	0.005	0.004
			Toluene - 14.3	0.010	0.007
			Ethylbenzene - 1.60	0.001	0.001
			Total Xylene - 32.4	0.022	0.017
			Total BTEX - 56.0	0.038	0.029
			TPH - GRO - 5,910	4.02	3.72
EFF-1 (04272021)	04/27/21	Pace	Benzene - 0.00470	0.000003	0.000002
			Toluene - 0.0180	0.000012	0.000009
			Ethylbenzene - 0.00274	0.000002	0.000001
			Total Xylene - 0.0456	0.000031	0.000023
			Total BTEX - 0.0710	0.000048	0.000036
			TPH - GRO - ND	-	-
EFF-1 (05272021)	05/27/21	Pace	Benzene - ND	-	-
			Toluene - 27.9	0.0190	0.0143
			Ethylbenzene - 5.42	0.0037	0.0028
			Total Xylene - 60.0	0.0408	0.0307
			Total BTEX - 93.3	0.0635	0.0478
			TPH - GRO - 6,400	4.36	4.03
EFF-1 (06282021)	06/28/21	Pace	Benzene - 2.97	0.00202	0.00152
			Toluene - 5.99	0.00408	0.00307
			Ethylbenzene - 0.815	0.00055	0.00042
			Total Xylene - 13.6	0.00925	0.00696
			Total BTEX - 23.4	0.0159	0.0120
			TPH - GRO - 3,480	2.37	2.19
EFF-1 (07272021)	07/27/21	Pace	Benzene - 6.77	0.005	0.003
			Toluene - 11.0	0.007	0.006
			Ethylbenzene - ND	-	-
			Total Xylene - 21.9	0.015	0.011
			Total BTEX - 39.6	0.027	0.020
			TPH - GRO - 4,250	2.89	2.68
EFF-1 (08252021)	08/25/21	Pace	Benzene - ND	-	-
			Toluene - 9.79	0.007	0.005
			Ethylbenzene - 1.40	0.001	0.001
			Total Xylene - 23.16	0.016	0.012
			Total BTEX - 34.4	0.023	0.018
			TPH - GRO - 6,070	4.13	3.82
EFF-1 (09302021)	09/30/21	Pace	Benzene - ND	-	-
			Toluene - 18.0	0.012	0.009
			Ethylbenzene - 3.50	0.002	0.002
			Total Xylene - 40.3	0.027	0.021
			Total BTEX - 61.8	0.042	0.032
			TPH - GRO - 7,230	4.92	4.55
EFF-1 (10282021)	10/28/21	Pace	Benzene - 5.27	0.004	0.003
			Toluene - 8.02	0.005	0.004
			Ethylbenzene - ND	-	-
			Total Xylene - 15.3	0.010	0.008
			Total BTEX - 28.6	0.019	0.015
			TPH - GRO - 3,120	2.12	1.96
EFF-1 (11302021)	11/30/22	Pace	Benzene - 4.66	0.003	0.002
			Toluene - 9.64	0.0066	0.0049
			Ethylbenzene - 1.67	0.0011	0.0009
			Total Xylene - 20.9	0.0142	0.0107
			Total BTEX - 36.9	0.0251	0.0189
			TPH - GRO - 4,670	3.18	2.94
EFF-1 (12202021)	12/20/21	Pace	Benzene - ND	-	-
			Toluene - 561	0.382	0.287
			Ethylbenzene - 119	0.081	0.061
			Total Xylene - 379	0.258	0.194
			Total BTEX - 1,059	0.721	0.542
			TPH - GRO - 21,700	**14.8**	13.7
			2021 TPH Average:	4.91	4.54

Notes:

1. BTEX: Benzene, toluene, ethylbenzene, total xylene analyzed by EPA Method 8021B

2. TPH: Total petroleum hydrocarbons analyzed by EPA Method 8015

3. Emission Mass calculated assuming flowrate 1.1073 (m^3/min) and constituent concentration were constant for the entirety of a year.

4. SVE Emission: Soil Vapor Extraction

NA: Indicates constituant was not analyzed

< = Constituent not detected above laboratory sample detection limit (SDL)

Bold denotes concentrations that could potentially be in violation of applicable NMED AQB criteria.

TABLE 4

MW-1 SVE[1] System Operation and PSH[2] Thickness & Recovery Summary

DCP Plant to Lea Station 6-Inch Sec. 31

Lea County, New Mexico

Plains Pipeline, L.P. SRS #2009-084

Terracon Project #: AR217009

NMOCD[3] REFERENCE #: 1RP-2166

All measurements are 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)	PID[5] Reading	SVE[6] Unit Hours of Operation	Total Fluid Recovery (gallons)	PSH Recovered (gallons)
MW-1	01/10/2020	3,540.25	84.36	84.70	0.34	-	-	3.0	0.06
	02/07/2020		84.26	84.40	0.14	-	-	3.0	0.02
	02/20/2020		84.11	84.33	0.22	-	-	3.0	0.04
	03/02/2020		84.00	84.29	0.29	-	-	3.0	0.05
	03/06/2020		-	-	-	525.0	0	-	-
	03/16/2020		83.62	84.67	1.05	1,582.0	11.0	-	-
	03/30/2020		84.00	84.22	0.22	380.0	20.0	3.0	0.04
	04/16/2020		-	-	-	1,192.0	144.0	-	-
	04/30/2020		-	-	-	757.0	159.0	-	-
	05/28/2020		-	-	-	1,314.0	159.0	-	-
	06/18/2020		84.30	85.00	0.70	-	160.0	5.0	0.11
	06/29/2020		-	-	-	855.9	160.0	-	-
	07/29/2020		84.35	85.45	1.10	932.3	160.0	3.0	0.18
	08/19/2020		84.39	85.47	1.08	855.9	160.0	5.0	0.18
	09/28/2020		84.52	85.41	0.89	475.2	163.0	3.0	0.15
	10/14/2020		84.35	85.45	1.10	932.3	160.0	3.0	0.18
	10/29/2020		84.66	86.29	1.63	729.1	164.0	4.0	0.27
	11/12/2020		-	-	-	952.2	164.0	-	-
	12/30/2020		84.88	86.33	1.45	618.7	164.0	4.0	0.24
	01/28/2021		84.67	85.78	1.11	1,105.0	192.0	2.5	0.18
	02/26/2021		-	-	-	1,339.0	199.0	4.0	-
	03/30/2021		83.87	85.42	1.55	758.0	199.0	3.0	0.25
	04/27/2021		84.40	85.16	0.76	971.9	204.0	2.5	0.12
	05/28/2021		84.64	85.41	0.77	957.0	208.0	3.0	0.13
	06/28/2021		84.66	85.42	0.76	1,102.0	208.0	3.5	0.12
	07/27/2021		84.56	85.56	1.00	915.3	-	3.0	0.16
	08/25/2021		83.78	84.44	0.66	963.2	149.2	3.0	0.11
	10/28/2021		84.90	84.98	0.08	-	-	3.5	0.01
	11/30/2021		-	-	-	752.9	1,496.0	-	-
	12/20/2021		84.76	85.60	0.84	-	-	3.5	0.14
			2021 Average PSH Thickness		**0.84**	**2021 Total Recovered**		**31.5**	**1.227**

Notes:

1. SVE: Soil Vapor Extraction
2. PSH: Phase Separated Hydrocarbons
3. NMOCD: New Mexico Oil Conservation Division
4. TOC: Top Of Casing
5. PID: Photoionization Detector
6. SVE: Soil Vapor Extraction

* 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

Table 5
Historical Concentrations of PAH[1] in Groundwater Summary

DCP Plant to Lea Station 6-Inch Section 31
Lea County, New Mexico
Plains Pipeline, L.P. SRS #: 2009-084
Terracon Project #: AR217009
NMOCD[2] Reference#: 1RP-2166

All concentrations are in milligrams per liter (mg/L) [3]

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[4]		0.03	0.0007	NE[5]															
MW-1	12/10/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	N/A	<0.05	<0.05	<0.05	N/A	<0.05
	12/18/2020	Well Not Sampled Due to PSH																	
	12/9/2021																		
MW-2	9/29/2009	N/A	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	N/A	<0.005	<0.005	<0.005	<0.005	<0.005
	12/18/2020	<0.000101	<0.0000592	<0.000104	<0.0000873	<0.0000898	<0.000139	<0.0000737	<0.000117	<0.000120	<0.000162	N/A	<0.0000788	<0.000163	<0.000105	<0.0000947	<0.0000882	<0.000135
	12/9/2021	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	**0.000272**	**0.000232**	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184	<0.000184
MW-3	9/29/2009	N/A	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	N/A	<0.005	<0.005	<0.005	<0.005	<0.005
	12/16/2011	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	N/A	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111
	11/9/2012	<0.00031	<0.00019	<0.00035	<0.00033	<0.00016	<0.00024	<0.00036	<0.00049	<0.00028	<0.00022	<0.00019	N/A	<0.00024	<0.00030	<0.00032	<0.00027	<0.00027
	12/18/2020	<0.000100	<0.0000590	<0.000103	<0.0000870	<0.0000895	<0.000139	<0.0000735	<0.000117	<0.000120	<0.000161	N/A	<0.0000785	<0.000162	<0.000104	<0.0000944	<0.0000879	<0.000135
	12/9/2021	<0.00373	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186	<0.000186
MW-4	9/29/2009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	N/A	<0.005	<0.005	<0.005	<0.005	<0.005
	12/21/2011	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	N/A	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102
	12/18/2020	<0.000116	<0.0000679	<0.000119	<0.000100	<0.000103	<0.000160	<0.0000846	<0.000135	<0.000138	<0.000186	N/A	<0.0000904	<0.000187	<0.000120	<0.000109	<0.000101	<0.000155
	12/9/2021	<0.00366	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183	<0.000183
MW-5	3/25/2011	N/A	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	N/A	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
	11/9/2012	<0.00032	<0.00020	<0.00037	<0.00034	<0.00016	<0.00025	<0.00038	<0.00051	<0.00029	<0.00023	<0.00020	N/A	<0.00025	<0.00031	<0.00034	<0.00028	<0.00028
	12/23/2013	0.000535	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	N/A	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049
	12/18/2020	<0.000110	<0.0000644	<0.000113	<0.0000950	<0.0000978	<0.000152	<0.0000802	<0.000128	<0.000131	<0.000176	N/A	<0.0000858	<0.000177	<0.000114	<0.000103	<0.0000960	<0.000147
	12/9/2021	<0.00378	<0.000189	<0.000189	<0.000189	<0.000189	<0.000189	<0.000189	<0.000189	<0.000189	<0.000189	<0.000189	<0.000189	<0.000189	<0.000189	<0.000189	<0.000189	<0.000189
MW-6	5/13/2014	N/A	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	N/A	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051
	12/18/2020	<0.000101	<0.0000590	<0.000103	<0.0000870	<0.0000895	<0.000139	<0.0000735	<0.000117	<0.000120	<0.000161	N/A	<0.0000786	<0.000163	<0.000104	<0.0000944	<0.0000879	<0.000135
	12/9/2021	<0.00367	<0.000188	<0.000188	<0.000188	<0.000188	<0.000188	<0.000188	<0.000188	<0.000188	<0.000188	<0.000188	<0.000188	<0.000188	<0.000188	<0.000188	<0.000188	<0.000188

Notes:
1. PAH: Polycyclic Aromatic Hydrocarbons
2. NMOCD: New Mexico Oil Conservation Division
3. mg/L milligrams per liter
4. NMWQCC Groundwater Criteria: Recommended Remediation Action Level Criteria (NMAC 20.6.2)
5. NE: Not Established
J: The target analyte was positively identified below the quantitation limit and above the detection limit
Bold text indicates a concentration above the laboratory detection limit.
Highlighted text indicates a concentration exceeding the NMOCD RRAL Criteria

APPENDIX C

Certified Laboratories Analytical Reports:

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 820-170-1
Laboratory Sample Delivery Group: AR217009
Client Project/Site: DCP Sec. 31

For:
Terracon Consulting Eng & Scientists
5827 50th St
Suite 1
Lubbock, Texas 79424

Attn: Brett Dennis

Jkramer

Authorized for release by:
3/28/2021 8:48:55 AM

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.

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 EQC 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. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· EQC 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 EQC: Nicki Smith (Environmental Chemistry) and Zachary Smith (Water Microbiology).

Jessica Kramer
Project Manager
3/28/2021 8:48:55 AM

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Laboratory Job ID: 820-170-1
SDG: AR217009

Table of Contents

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-170-1
SDG: AR217009

Qualifiers

GC VOA

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

Glossary

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

Case Narrative

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-170-1
SDG: AR217009

Job ID: 820-170-1

Laboratory: Eurofins Xenco, Lubbock

Narrative

Job Narrative
820-170-1

Receipt
The samples were received on 3/19/2021 1:45 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 5.3°C

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

Detection Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-170-1
SDG: AR217009

Client Sample ID: MW-2 Lab Sample ID: 820-170-1

No Detections.

Client Sample ID: MW-3 Lab Sample ID: 820-170-2

No Detections.

Client Sample ID: MW-4 Lab Sample ID: 820-170-3

No Detections.

Client Sample ID: MW-5 Lab Sample ID: 820-170-4

No Detections.

Client Sample ID: MW-6 Lab Sample ID: 820-170-5

No Detections.

Client Sample ID: Dup-1 Lab Sample ID: 820-170-6

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Xenco, Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-170-1
SDG: AR217009

Client Sample ID: MW-2

Lab Sample ID: 820-170-1
Date Collected: 03/18/21 14:14
Matrix: Water
Date Received: 03/19/21 13:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/27/21 07:02	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/27/21 07:02	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/27/21 07:02	1
Total BTEX	<0.00100	U	0.00200	0.00100	mg/L			03/27/21 07:02	1
Xylenes, Total	<0.00100	U	0.00400	0.00100	mg/L			03/27/21 07:02	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/27/21 07:02	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/27/21 07:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*03/27/21 07:02*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*		*03/27/21 07:02*	*1*

Client Sample ID: MW-3

Lab Sample ID: 820-170-2
Date Collected: 03/18/21 14:57
Matrix: Water
Date Received: 03/19/21 13:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/27/21 07:28	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/27/21 07:28	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/27/21 07:28	1
Total BTEX	<0.00100	U	0.00200	0.00100	mg/L			03/27/21 07:28	1
Xylenes, Total	<0.00100	U	0.00400	0.00100	mg/L			03/27/21 07:28	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/27/21 07:28	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/27/21 07:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*03/27/21 07:28*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*		*03/27/21 07:28*	*1*

Client Sample ID: MW-4

Lab Sample ID: 820-170-3
Date Collected: 03/18/21 15:52
Matrix: Water
Date Received: 03/19/21 13:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/27/21 07:54	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/27/21 07:54	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/27/21 07:54	1
Total BTEX	<0.00100	U	0.00200	0.00100	mg/L			03/27/21 07:54	1
Xylenes, Total	<0.00100	U	0.00400	0.00100	mg/L			03/27/21 07:54	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/27/21 07:54	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/27/21 07:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*		*03/27/21 07:54*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*		*03/27/21 07:54*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-170-1
SDG: AR217009

Client Sample ID: MW-5

Lab Sample ID: 820-170-4
Date Collected: 03/18/21 17:03
Matrix: Water
Date Received: 03/19/21 13:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/27/21 08:20	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/27/21 08:20	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/27/21 08:20	1
Total BTEX	<0.00100	U	0.00200	0.00100	mg/L			03/27/21 08:20	1
Xylenes, Total	<0.00100	U	0.00400	0.00100	mg/L			03/27/21 08:20	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/27/21 08:20	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/27/21 08:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*		*03/27/21 08:20*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*		*03/27/21 08:20*	*1*

Client Sample ID: MW-6

Lab Sample ID: 820-170-5
Date Collected: 03/18/21 16:22
Matrix: Water
Date Received: 03/19/21 13:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/27/21 08:46	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/27/21 08:46	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/27/21 08:46	1
Total BTEX	<0.00100	U	0.00200	0.00100	mg/L			03/27/21 08:46	1
Xylenes, Total	<0.00100	U	0.00400	0.00100	mg/L			03/27/21 08:46	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/27/21 08:46	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/27/21 08:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*		*03/27/21 08:46*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*		*03/27/21 08:46*	*1*

Client Sample ID: Dup-1

Lab Sample ID: 820-170-6
Date Collected: 03/18/21 00:00
Matrix: Water
Date Received: 03/19/21 13:45

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			03/27/21 10:05	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/27/21 10:05	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/27/21 10:05	1
Total BTEX	<0.00100	U	0.00200	0.00100	mg/L			03/27/21 10:05	1
Xylenes, Total	<0.00100	U	0.00400	0.00100	mg/L			03/27/21 10:05	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/27/21 10:05	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/27/21 10:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*		*03/27/21 10:05*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*		*03/27/21 10:05*	*1*

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-170-1
SDG: AR217009

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)										
820-170-1	MW-2	100	79										
820-170-2	MW-3	103	89										
820-170-3	MW-4	123	100										
820-170-4	MW-5	124	101										
820-170-5	MW-6	125	101										
820-170-6	Dup-1	109	76										
LCS 880-846/117	Lab Control Sample	112	94										
LCSD 880-846/118	Lab Control Sample Dup	117	100										
MB 880-846/122	Method Blank	71	83										
MB 880-905/5-A	Method Blank	71	81										

Surrogate Legend

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

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-170-1
SDG: AR217009

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-846/122
Matrix: Water
Analysis Batch: 846

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			03/27/21 04:01	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			03/27/21 04:01	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			03/27/21 04:01	1
Total BTEX	<0.00100	U	0.00200	0.00100	mg/L			03/27/21 04:01	1
Xylenes, Total	<0.00100	U	0.00400	0.00100	mg/L			03/27/21 04:01	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			03/27/21 04:01	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			03/27/21 04:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*		*03/27/21 04:01*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*		*03/27/21 04:01*	*1*

Lab Sample ID: LCS 880-846/117
Matrix: Water
Analysis Batch: 846

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	0.09664		mg/L		97	70 - 130		
Ethylbenzene			0.100	0.09158		mg/L		92	70 - 130		
Toluene			0.100	0.08601		mg/L		86	70 - 130		
m-Xylene & p-Xylene			0.200	0.1841		mg/L		92	70 - 130		
o-Xylene			0.100	0.09959		mg/L		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: LCSD 880-846/118
Matrix: Water
Analysis Batch: 846

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	0.09783		mg/L		98	70 - 130	1	20
Ethylbenzene			0.100	0.09621		mg/L		96	70 - 130	5	20
Toluene			0.100	0.1037		mg/L		104	70 - 130	19	20
m-Xylene & p-Xylene			0.200	0.1918		mg/L		96	70 - 130	4	20
o-Xylene			0.100	0.1036		mg/L		104	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: MB 880-905/5-A
Matrix: Water
Analysis Batch: 846

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 905

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L		03/26/21 11:28	03/26/21 14:25	1

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-170-1
SDG: AR217009

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

Lab Sample ID: MB 880-905/5-A
Matrix: Water
Analysis Batch: 846

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 905

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L		03/26/21 11:28	03/26/21 14:25	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L		03/26/21 11:28	03/26/21 14:25	1
Total BTEX	<0.00100	U	0.00200	0.00100	mg/L		03/26/21 11:28	03/26/21 14:25	1
Xylenes, Total	<0.00100	U	0.00400	0.00100	mg/L		03/26/21 11:28	03/26/21 14:25	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L		03/26/21 11:28	03/26/21 14:25	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L		03/26/21 11:28	03/26/21 14:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*03/26/21 11:28*	*03/26/21 14:25*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*03/26/21 11:28*	*03/26/21 14:25*	*1*

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-170-1
SDG: AR217009

GC VOA

Analysis Batch: 846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-170-1	MW-2	Total/NA	Water	8021B	
820-170-2	MW-3	Total/NA	Water	8021B	
820-170-3	MW-4	Total/NA	Water	8021B	
820-170-4	MW-5	Total/NA	Water	8021B	
820-170-5	MW-6	Total/NA	Water	8021B	
820-170-6	Dup-1	Total/NA	Water	8021B	
MB 880-846/122	Method Blank	Total/NA	Water	8021B	
MB 880-905/5-A	Method Blank	Total/NA	Water	8021B	905
LCS 880-846/117	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-846/118	Lab Control Sample Dup	Total/NA	Water	8021B	

Prep Batch: 905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-905/5-A	Method Blank	Total/NA	Water	5035	

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-170-1
SDG: AR217009

Client Sample ID: MW-2
Date Collected: 03/18/21 14:14
Date Received: 03/19/21 13:45

Lab Sample ID: 820-170-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	846	03/27/21 07:02	MR	XM

Client Sample ID: MW-3
Date Collected: 03/18/21 14:57
Date Received: 03/19/21 13:45

Lab Sample ID: 820-170-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	846	03/27/21 07:28	MR	XM

Client Sample ID: MW-4
Date Collected: 03/18/21 15:52
Date Received: 03/19/21 13:45

Lab Sample ID: 820-170-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	846	03/27/21 07:54	MR	XM

Client Sample ID: MW-5
Date Collected: 03/18/21 17:03
Date Received: 03/19/21 13:45

Lab Sample ID: 820-170-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	846	03/27/21 08:20	MR	XM

Client Sample ID: MW-6
Date Collected: 03/18/21 16:22
Date Received: 03/19/21 13:45

Lab Sample ID: 820-170-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	846	03/27/21 08:46	MR	XM

Client Sample ID: Dup-1
Date Collected: 03/18/21 00:00
Date Received: 03/19/21 13:45

Lab Sample ID: 820-170-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	846	03/27/21 10:05	MR	XM

Laboratory References:

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

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-170-1
SDG: AR217009

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21

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
8021B		Water	Total BTEX

Method Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-170-1
SDG: AR217009

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XM
5030B	Purge and Trap	SW846	XM

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-170-1
SDG: AR217009

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
820-170-1	MW-2	Water	03/18/21 14:14	03/19/21 13:45	
820-170-2	MW-3	Water	03/18/21 14:57	03/19/21 13:45	
820-170-3	MW-4	Water	03/18/21 15:52	03/19/21 13:45	
820-170-4	MW-5	Water	03/18/21 17:03	03/19/21 13:45	
820-170-5	MW-6	Water	03/18/21 16:22	03/19/21 13:45	
820-170-6	Dup-1	Water	03/18/21 00:00	03/19/21 13:45	

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen, Lubbock, Texas 79424
Phone:
Contact:
SRS #: 2009-084

Office Location: Lubbock
Project Manager: Brett Dennis
Sampler's Name: ~~Aaron Adams~~ Brett Dennis
Sampler's Signature:

Project Number: AR217009
Project Name: DCP Sec. 31

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 5.3 / 5.28 IR-4

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 8021)							Lab Sample ID
GW	3/18/2021	14:14		X	MW-2			3				X							
GW	3/18/2021	14:57		X	MW-3			3				X							
GW	3/18/2021	15:52		X	MW-4			3				X							
GW	3/18/2021	17:03		X	MW-5			3				X							
GW	3/18/2021	16:22		X	MW-6			3				X							
GW	3/18/2021	-		X	Dup-1			3				X							

NFE

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:
	3/19/21	13:45	Eddy Rendon	3/19/21	13:45

NOTES: Bill directly to Plains Pipeline

e-mail results to:
brett.dennis@terracon.com
erin.loyd@terracon.com
algroves@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 _____

820-170 Chain of Custody

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 820-144 1
Client Contact: Shipping/Receiving	Phone	E-Mail: jessica.kramer@eurofinset.com	State of Origin: Texas	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Texas		Job #: 820-170-1
Address: 1211 W. Florida Ave	Due Date Requested: 3/26/2021			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: AR217009 DCP Sec. 31	Project #: 82000284			
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:	8021B/5030B BTEX	Special Instructions/Note
MW-2 (820-170-1)	3/18/21	14 14 Central		Water		X	
MW-3 (820-170-2)	3/18/21	14 57 Central		Water		X	
MW-4 (820-170-3)	3/18/21	15 52 Central		Water		X	
MW-5 (820-170-4)	3/18/21	17 03 Central		Water		X	
MW-6 (820-170-5)	3/18/21	16 22 Central		Water		X	
Dup-1 (820-170-6)	3/18/21	Central		Water		X	

Note: Since laboratory accreditations are subject to change, Eurofins Xenco 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 Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco 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
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: 11/01/2020

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-170-1
SDG Number: AR217009

Login Number: 170
List Number: 1
Creator: Lee, Randell

List Source: Eurofins Lubbock

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.	N/A	
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: 820-170-1
SDG Number: AR217009

Login Number: 170
List Number: 2
Creator: Copeland, Tatiana

List Source: Eurofins Midland
List Creation: 03/22/21 11:21 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	

Pace Analytical®
National Center for Testing & Innovation

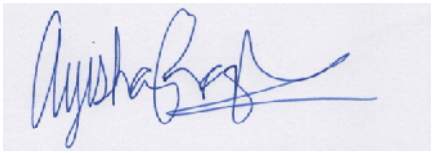
ANALYTICAL REPORT

January 05, 2021

Plains All American Pipeline - Terracon

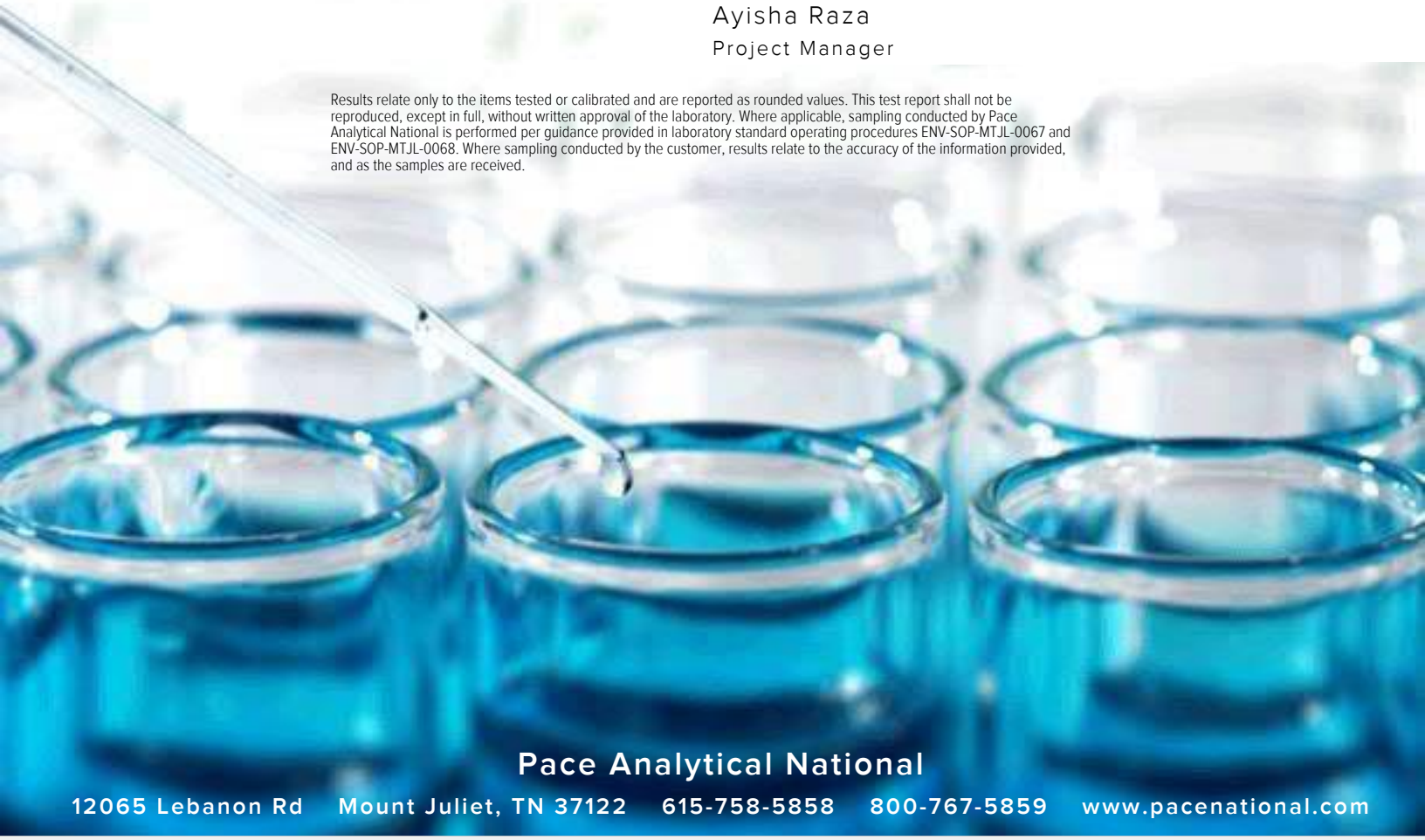
Sample Delivery Group:	L1301754
Samples Received:	12/31/2020
Project Number:	AR207009
Description:	DCP Section 31 (SRS# 2009-084)
Site:	SRS# 2009-084
Report To:	Brett Dennis 5827 50th St. Suite 1 Lubbock, TX 79424

Entire Report Reviewed By:



Ayisha Raza
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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SAMPLE SUMMARY

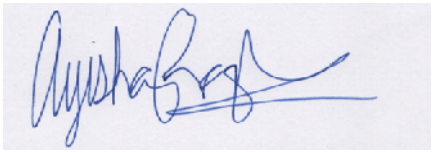
EFF-1 L1301754-01 Air

			Collected by	Collected date/time	Received date/time
			Brett Dennis	12/30/20 13:30	12/31/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1599572	400	12/31/20 23:46	12/31/20 23:46	GLN	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1599879	10000	01/01/21 16:07	01/01/21 16:07	GLN	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Ayisha Raza
Project Manager

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	80.0	256	4890	15600		400	WG1599572
Ethylbenzene	100-41-4	106	80.0	347	580	2510		400	WG1599572
Toluene	108-88-3	92.10	200	753	6950	26200		400	WG1599572
m&p-Xylene	1330-20-7	106	160	694	9040	39200		400	WG1599572
o-Xylene	95-47-6	106	80.0	347	3490	15100		400	WG1599572
TPH (GC/MS) Low Fraction	8006-61-9	101	80000	330000	1400000	5780000		400	WG1599572
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.4*				WG1599879

Method Blank (MB)

(MB) R3608741-3 12/31/20 10:36

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
Toluene	U		0.0870	0.500
TPH (GC/MS) Low Fraction	U		39.7	200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3608741-1 12/31/20 09:13 • (LCSD) R3608741-2 12/31/20 09:56

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	3.75	4.34	4.38	116	117	70.0-130			0.917	25
Ethylbenzene	3.75	4.30	4.39	115	117	70.0-130			2.07	25
m&p-Xylene	7.50	8.71	8.82	116	118	70.0-130			1.25	25
o-Xylene	3.75	4.29	4.33	114	115	70.0-130			0.928	25
Toluene	3.75	4.29	4.31	114	115	70.0-130			0.465	25
TPH (GC/MS) Low Fraction	203	230	233	113	115	70.0-130			1.30	25

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.

ACCOUNT:	PROJECT:	SDG:	DATE/TIME:	PAGE:
Plains All American Pipeline - Terracon	AR207009	L1301754	01/05/21 14:24	8 of 9

D196

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Pace
Address: 12065 Lebanon Rd
Mt. Juliet, TN 37122
Phone: (800) 767-5859
Contact:

Office Location: Lubbock
Project Manager: Brett Dennis
Sampler's Name: Brett Dennis
SRS #: 2009-084
Sampler's Signature:

Project Number: AR207009
Project Name: DCP Sec. 31 (SRS# 2009-084)

ANALYSIS REQUESTED

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

Page 1 of 1

C1301754

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: tedlar bag	BTEX (EPA Method 8021)	TPH 8015 extended	Chloride (EPA Method 300)	Hold	Lab Sample ID
A	12/30/2020	13:30		X	EFF-1			1	X	X			-91

NFE

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:
	12/30/20	16:17		12/31	0945

NOTES: Bill directly to Plains Pipeline

e-mail results to:
brett.dennis@terracon.com
algroves@paalp.com

OK

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 _____

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres.Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RAD Screen <0.5 mR/hr:	Y N		

AMB

RAD SCREEN: <0.5 mR/hr

COC SP

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ANALYTICAL REPORT

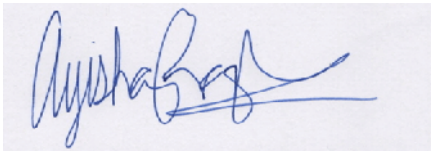
February 02, 2021

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1311575
Samples Received:	01/29/2021
Project Number:	AR217009
Description:	DCP Sec. 31

Report To: Brett Dennis
5847 50th St.
Suite 1
Lubbock, TX 79424

Entire Report Reviewed By:



Ayisha Raza
Project Manager

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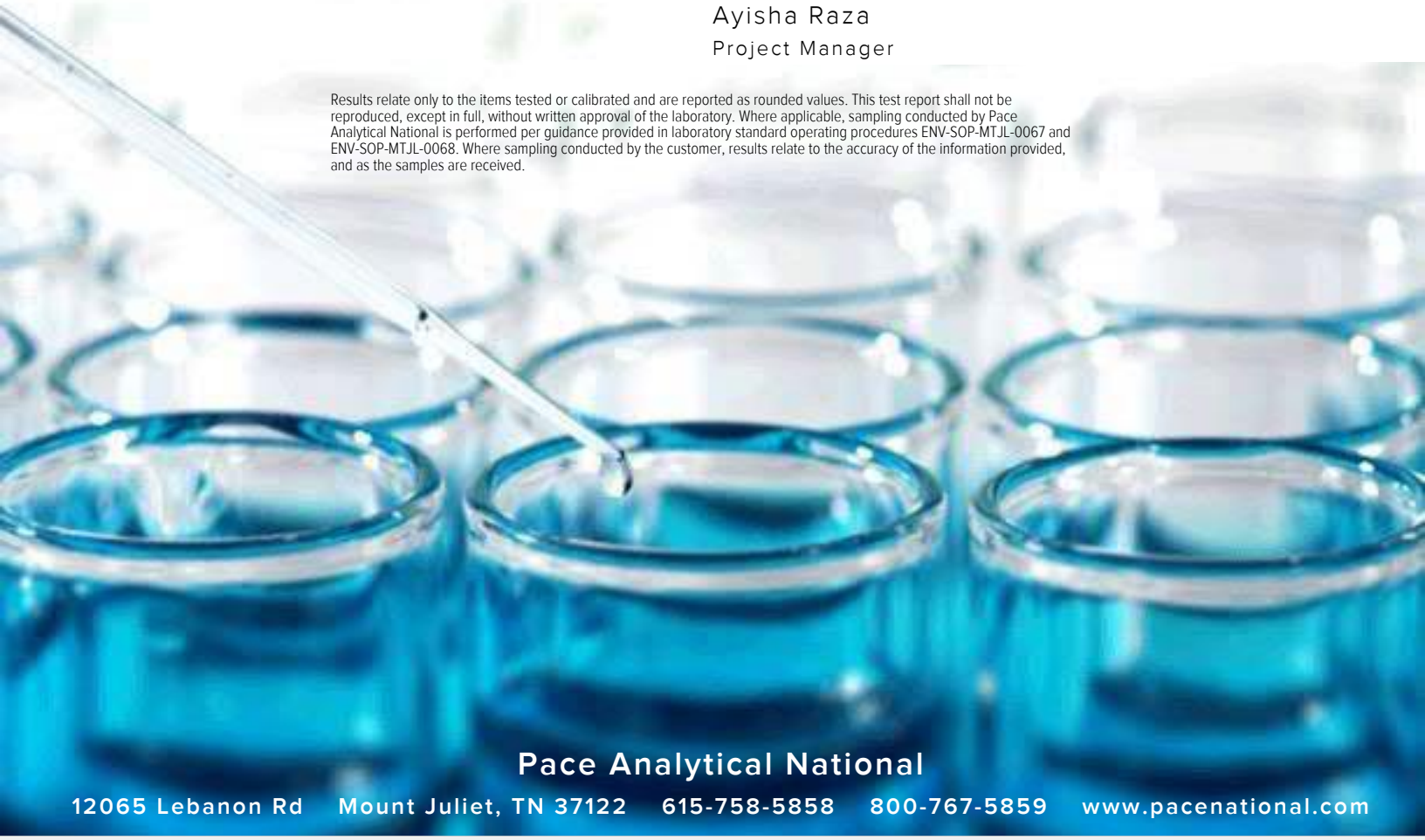

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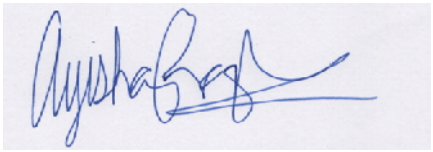
SAMPLE SUMMARY

EFF-1 SEC. 31 L1311575-01 Air

			Collected by	Collected date/time	Received date/time
			Aaron Adams	01/28/21 11:39	01/29/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1613428	800	01/30/21 00:23	01/30/21 00:23	DAH	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Ayisha Raza
Project Manager

Volatile Organic Compounds (MS) by Method M18-Mod

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	160	511	4600	14700		800	WG1613428
Toluene	108-88-3	92.10	400	1510	6790	25600		800	WG1613428
Ethylbenzene	100-41-4	106	160	694	574	2490		800	WG1613428
m&p-Xylene	1330-20-7	106	320	1390	9880	42800		800	WG1613428
o-Xylene	95-47-6	106	160	694	3800	16500		800	WG1613428
Methyl tert-butyl ether	1634-04-4	88.10	160	577	ND	ND		800	WG1613428
TPH (GC/MS) Low Fraction	8006-61-9	101	160000	661000	1830000	7560000		800	WG1613428
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*94.7*				WG1613428

Method Blank (MB)

(MB) R3617583-3 01/29/21 10:17

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
MTBE	U		0.0647	0.200
Toluene	U		0.0870	0.500
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*84.6*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3617583-1 01/29/21 08:54 • (LCSD) R3617583-2 01/29/21 09:36

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
MTBE	3.75	3.83	3.82	102	102	70.0-130			0.261	25
Benzene	3.75	4.16	4.16	111	111	70.0-130			0.000	25
Toluene	3.75	4.09	4.12	109	110	70.0-130			0.731	25
Ethylbenzene	3.75	4.74	4.67	126	125	70.0-130			1.49	25
m&p-Xylene	7.50	9.36	9.33	125	124	70.0-130			0.321	25
o-Xylene	3.75	4.62	4.59	123	122	70.0-130			0.651	25
TPH (GC/MS) Low Fraction	203	252	251	124	124	70.0-130			0.398	25
(S) 1,4-Bromofluorobenzene				*87.6*	*86.9*	*60.0-140*				

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Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN, 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

Pace Analytical National 1313 Point Mallard Parkway SE Suite B Decatur, AL, 35601

Alabama	40160
ANSI National Accreditation Board	L2239

Pace Analytical National 660 Bercut Dr. Ste. C Sacramento, CA, 95811

California	2961	Oregon	CA300002
Minnesota	006-999-465	Washington	C926
North Dakota	R-214		

Pace Analytical National 6000 South Eastern Avenue Ste 9A Las Vegas, NV, 89119

Nevada	NV009412021-1

Pace Analytical National 1606 E. Brazos Street Suite D Victoria, TX, 77901

Texas	T104704328-20-18

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

B215

CHAIN OF CUSTODY RECORD

Terracon

Office Location: Lubbock
Project Manager: Brett Dennis
Sampler's Name: Aaron Adams

Laboratory: ESC
Address: 12065 Lebanon Rd, Mt. Juliet, TN 37122
Phone: (800) 767-5859
Contact:
SRS #: 2009-084
Sampler's Signature: Aaron Adams

Project Number: AR217009
Project Name: DCP Sec. 31

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C)
Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: tedlar bag				BTEX (EPA Method 8021)	TPH (EPA Method 8015) Extended						Lab Sample ID
A	1/28/2021	11:39		X	EFF-1 Sec. 31			X				X	X						L1311576-01

NFE

TURNAROUND TIME: [X] Normal [ ] 48-Hour Rush [ ] 24-Hour Rush

TRRP Laboratory Review Checklist: [ ] Yes [ ] No

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
Aaron Adams	1-28-2021	17:00	K. Holder	1/29/21	5:30

NOTES: Bill directly to Plains Pipeline

e-mail results to:
1. CJBRYANT@PAALP.COM
2. ALGROVES@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 _____

TRACK 8126 0841 7617

Sample Receipt Checklist

		If Applicable	
COC Seal Present/Intact:	Y N	VOA Zero Headspace:	Y N
COC Signed/Accurate:	Y N	Pres.Correct/Check:	Y N
Bottles arrive intact:	Y N		
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
[illegible] mR/hr:	Y N		

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

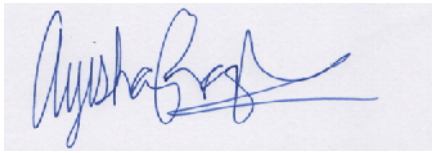
March 02, 2021

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1321006
Samples Received:	02/27/2021
Project Number:	AR217009
Description:	DCP Sec. 31

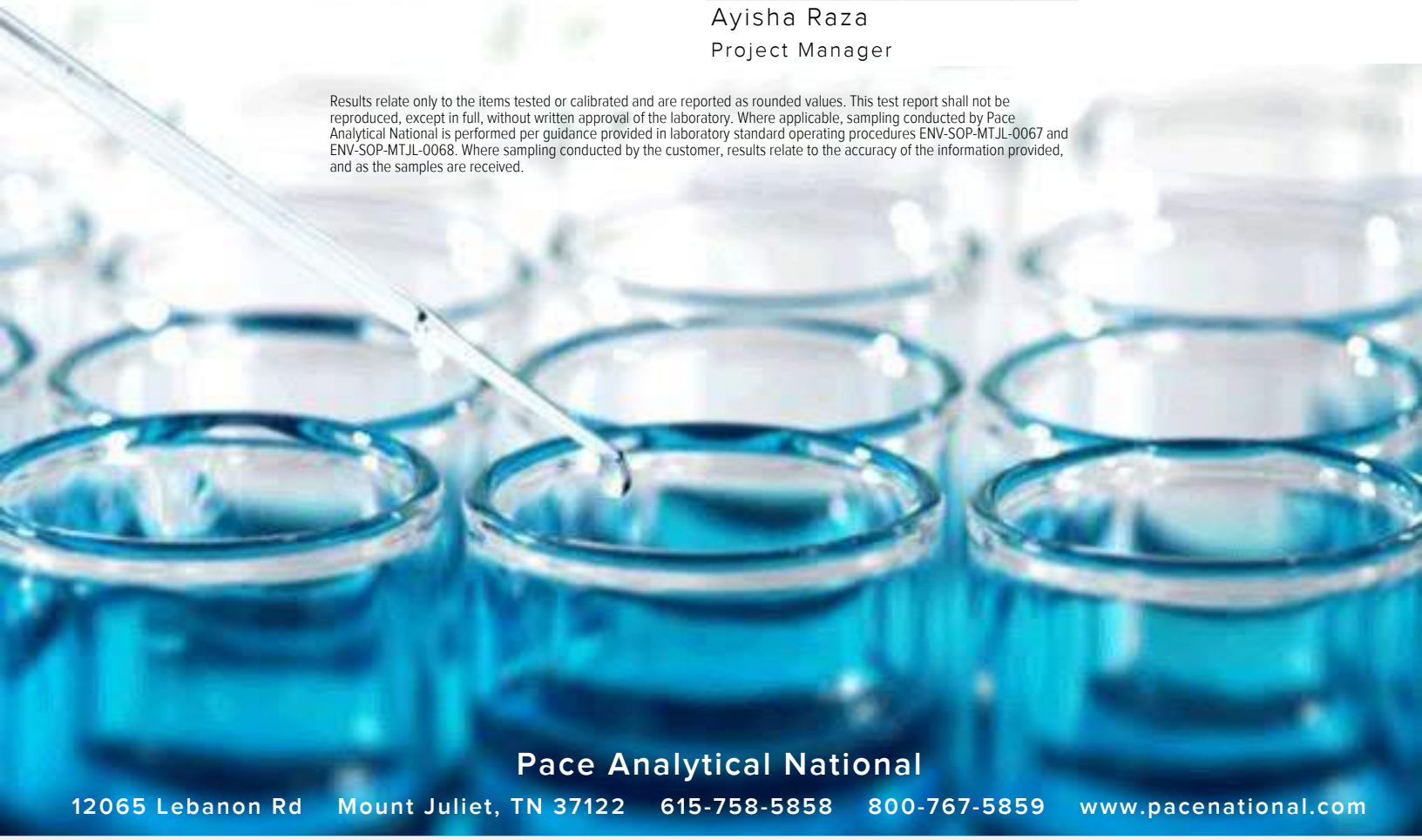
Report To: Brett Dennis
5847 50th St.
Suite 1
Lubbock, TX 79424

Entire Report Reviewed By:



Ayisha Raza
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

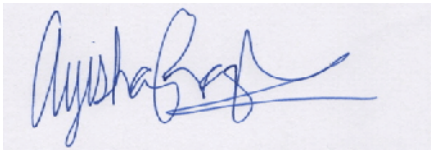
SAMPLE SUMMARY

EFF-1 (02262021) L1321006-01 Air

			Collected by	Collected date/time	Received date/time
			Brett Dennis	02/26/21 13:00	02/27/21 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1627104	400	02/28/21 22:29	02/28/21 22:29	CAW	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Ayisha Raza
Project Manager

Volatile Organic Compounds (MS) by Method M18-Mod

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	80.0	256	2900	9260		400	WG1627104
Toluene	108-88-3	92.10	200	753	5490	20700		400	WG1627104
Ethylbenzene	100-41-4	106	80.0	347	564	2450		400	WG1627104
m&p-Xylene	1330-20-7	106	160	694	7840	34000		400	WG1627104
o-Xylene	95-47-6	106	80.0	347	3020	13100		400	WG1627104
TPH (GC/MS) Low Fraction	8006-61-9	101	80000	330000	1880000	7770000		400	WG1627104
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*109*				WG1627104

Method Blank (MB)

(MB) R3625955-3 02/28/21 10:37

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
Toluene	U		0.0870	0.500
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*94.2*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3625955-1 02/28/21 09:22 • (LCSD) R3625955-2 02/28/21 10:01

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	3.75	3.66	3.68	97.6	98.1	70.0-130			0.545	25
Toluene	3.75	3.73	3.74	99.5	99.7	70.0-130			0.268	25
Ethylbenzene	3.75	3.70	3.79	98.7	101	70.0-130			2.40	25
m&p-Xylene	7.50	7.68	7.92	102	106	70.0-130			3.08	25
o-Xylene	3.75	3.80	3.87	101	103	70.0-130			1.83	25
TPH (GC/MS) Low Fraction	203	214	219	105	108	70.0-130			2.31	25
(S) 1,4-Bromofluorobenzene				*100*	*100*	*60.0-140*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
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Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
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Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

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* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN, 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

Pace Analytical National 1313 Point Mallard Parkway SE Suite B Decatur, AL, 35601

Alabama	40160
ANSI National Accreditation Board	L2239

Pace Analytical National 660 Bercut Dr. Ste. C Sacramento, CA, 95811

California	2961	Oregon	CA300002
Minnesota	006-999-465	Washington	C926
North Dakota	R-214		

Pace Analytical National 6000 South Eastern Avenue Ste 9A Las Vegas, NV, 89119

Nevada	NV009412021-1

Pace Analytical National 1606 E. Brazos Street Suite D Victoria, TX, 77901

Texas	T104704328-20-18

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

H029

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Pace
Address: 12065 Lebanon Rd
Mt. Juliet, TN 37122

Office Location: Lubbock
Phone: (800) 767-5859
Project Manager: Brett Dennis
Contact:
Sampler's Name: Brett Dennis
SRS #: 2009-084
Sampler's Signature:

Project Number: AR217009
Project Name: DCP Sec. 31 (SRS# 2009-084)

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: tedlar bag	BTEX (EPA Method 8021)	TPH 8015 extended	Lab Sample ID
A	2/26/2021	13:00		X	EFF-1 (02262021)			1	X	X	132100-01

NFE

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:
	2/26/2021	16:10			
			NPappas	2-27-21	915

NOTES: Bill directly to Plains Pipeline

e-mail results to:
brett.dennis@terracon.com
algroves@paalp.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 _____

Sample Receipt Checklist

COC Seal Present/Intact:	Y X N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres.Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
[illegible] 0.5 mR/hr:	X N		

4876 1078 3738

1 Total

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 820-1069-1
Laboratory Sample Delivery Group: AR217009
Client Project/Site: DCP Sec. 31

For:
Terracon Consulting Eng & Scientists
5827 50th St
Suite 1
Lubbock, Texas 79424

Attn: Brett Dennis

JKramer

Authorized for release by:
6/23/2021 1:03:50 PM

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

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 EQC 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. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· EQC 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 EQC: Nicki Smith (Environmental Chemistry) and Zachary Smith (Water Microbiology).

Jessica Kramer
Project Manager
6/23/2021 1:03:50 PM

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Laboratory Job ID: 820-1069-1
SDG: AR217009

Table of Contents

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-1069-1
SDG: AR217009

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

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: DCP Sec. 31

Job ID: 820-1069-1
SDG: AR217009

Job ID: 820-1069-1

Laboratory: Eurofins Xenco, Lubbock

Narrative

Job Narrative
820-1069-1

Receipt
The samples were received on 6/18/2021 10:35 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.7°C

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: MW-4 (820-1069-3), MW-5 (820-1069-4), (CCV 880-4464/2), (LCS 880-4464/3), (LCSD 880-4464/4), (MB 880-4464/8), (820-1069-A-1 MS) and (820-1069-A-1 MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: MW-6 (820-1069-5), DUP-1 (820-1069-6) and (CCV 880-4464/20). Evidence of matrix interference is present; 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.

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-1069-1
SDG: AR217009

Client Sample ID: MW-2

Lab Sample ID: 820-1069-1
Matrix: Water
Date Collected: 06/17/21 09:04
Date Received: 06/18/21 10:35

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			06/22/21 13:53	1
Toluene	<0.00200	U	0.00200		mg/L			06/22/21 13:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			06/22/21 13:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			06/22/21 13:53	1
o-Xylene	<0.00200	U	0.00200		mg/L			06/22/21 13:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			06/22/21 13:53	1
Total BTEX	<0.00400	U	0.00400		mg/L			06/22/21 13:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*		*06/22/21 13:53*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*		*06/22/21 13:53*	*1*

Client Sample ID: MW-3

Lab Sample ID: 820-1069-2
Matrix: Water
Date Collected: 06/17/21 11:22
Date Received: 06/18/21 10:35

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			06/22/21 14:18	1
Toluene	<0.00200	U	0.00200		mg/L			06/22/21 14:18	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			06/22/21 14:18	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			06/22/21 14:18	1
o-Xylene	<0.00200	U	0.00200		mg/L			06/22/21 14:18	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			06/22/21 14:18	1
Total BTEX	<0.00400	U	0.00400		mg/L			06/22/21 14:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*06/22/21 14:18*	*1*
1,4-Difluorobenzene (Surr)	*130*		*70 - 130*		*06/22/21 14:18*	*1*

Client Sample ID: MW-4

Lab Sample ID: 820-1069-3
Matrix: Water
Date Collected: 06/17/21 10:30
Date Received: 06/18/21 10:35

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			06/22/21 14:43	1
Toluene	<0.00200	U	0.00200		mg/L			06/22/21 14:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			06/22/21 14:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			06/22/21 14:43	1
o-Xylene	<0.00200	U	0.00200		mg/L			06/22/21 14:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			06/22/21 14:43	1
Total BTEX	<0.00400	U	0.00400		mg/L			06/22/21 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*06/22/21 14:43*	*1*
1,4-Difluorobenzene (Surr)	*136*	*S1+*	*70 - 130*		*06/22/21 14:43*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-1069-1
SDG: AR217009

Client Sample ID: MW-5

Lab Sample ID: 820-1069-4
Matrix: Water
Date Collected: 06/17/21 12:05
Date Received: 06/18/21 10:35

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			06/22/21 15:08	1
Toluene	<0.00200	U	0.00200		mg/L			06/22/21 15:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			06/22/21 15:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			06/22/21 15:08	1
o-Xylene	<0.00200	U	0.00200		mg/L			06/22/21 15:08	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			06/22/21 15:08	1
Total BTEX	<0.00400	U	0.00400		mg/L			06/22/21 15:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*		*06/22/21 15:08*	*1*
1,4-Difluorobenzene (Surr)	*135*	*S1+*	*70 - 130*		*06/22/21 15:08*	*1*

Client Sample ID: MW-6

Lab Sample ID: 820-1069-5
Matrix: Water
Date Collected: 06/17/21 09:52
Date Received: 06/18/21 10:35

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			06/22/21 15:33	1
Toluene	<0.00200	U	0.00200		mg/L			06/22/21 15:33	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			06/22/21 15:33	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			06/22/21 15:33	1
o-Xylene	<0.00200	U	0.00200		mg/L			06/22/21 15:33	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			06/22/21 15:33	1
Total BTEX	<0.00400	U	0.00400		mg/L			06/22/21 15:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*06/22/21 15:33*	*1*
1,4-Difluorobenzene (Surr)	*139*	*S1+*	*70 - 130*		*06/22/21 15:33*	*1*

Client Sample ID: DUP-1

Lab Sample ID: 820-1069-6
Matrix: Water
Date Collected: 06/17/21 00:00
Date Received: 06/18/21 10:35

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			06/22/21 15:58	1
Toluene	<0.00200	U	0.00200		mg/L			06/22/21 15:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			06/22/21 15:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			06/22/21 15:58	1
o-Xylene	<0.00200	U	0.00200		mg/L			06/22/21 15:58	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			06/22/21 15:58	1
Total BTEX	<0.00400	U	0.00400		mg/L			06/22/21 15:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*06/22/21 15:58*	*1*
1,4-Difluorobenzene (Surr)	*146*	*S1+*	*70 - 130*		*06/22/21 15:58*	*1*

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-1069-1
SDG: AR217009

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)										
820-1069-1	MW-2	104	100										
820-1069-1 MS	MW-2	84	146 S1+										
820-1069-1 MSD	MW-2	86	149 S1+										
820-1069-2	MW-3	102	130										
820-1069-3	MW-4	97	136 S1+										
820-1069-4	MW-5	92	135 S1+										
820-1069-5	MW-6	94	139 S1+										
820-1069-6	DUP-1	94	146 S1+										
LCS 880-4464/3	Lab Control Sample	87	130										
LCSD 880-4464/4	Lab Control Sample Dup	92	149 S1+										
MB 880-4464/8	Method Blank	62 S1-	111										

Surrogate Legend

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

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-1069-1
SDG: AR217009

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-4464/8
Matrix: Water
Analysis Batch: 4464

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			06/22/21 13:28	1
Toluene	<0.00200	U	0.00200		mg/L			06/22/21 13:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			06/22/21 13:28	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			06/22/21 13:28	1
o-Xylene	<0.00200	U	0.00200		mg/L			06/22/21 13:28	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			06/22/21 13:28	1
Total BTEX	<0.00400	U	0.00400		mg/L			06/22/21 13:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*62*	*S1-*	*70 - 130*		*06/22/21 13:28*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*		*06/22/21 13:28*	*1*

Lab Sample ID: LCS 880-4464/3
Matrix: Water
Analysis Batch: 4464

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	0.1076		mg/L		108	70 - 130		
Toluene			0.100	0.09715		mg/L		97	70 - 130		
Ethylbenzene			0.100	0.09730		mg/L		97	70 - 130		
m-Xylene & p-Xylene			0.200	0.2005		mg/L		100	70 - 130		
o-Xylene			0.100	0.09818		mg/L		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*
1,4-Difluorobenzene (Surr)	*130*		*70 - 130*

Lab Sample ID: LCSD 880-4464/4
Matrix: Water
Analysis Batch: 4464

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	0.1192		mg/L		119	70 - 130	10	20
Toluene			0.100	0.1089		mg/L		109	70 - 130	11	20
Ethylbenzene			0.100	0.1061		mg/L		106	70 - 130	9	20
m-Xylene & p-Xylene			0.200	0.2185		mg/L		109	70 - 130	9	20
o-Xylene			0.100	0.1065		mg/L		106	70 - 130	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*149*	*S1+*	*70 - 130*

Lab Sample ID: 820-1069-1 MS
Matrix: Water
Analysis Batch: 4464

Client Sample ID: MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00200	U	0.100	0.1187		mg/L		119	70 - 130		

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-1069-1
SDG: AR217009

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

Lab Sample ID: 820-1069-1 MS
Matrix: Water
Analysis Batch: 4464

Client Sample ID: MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00200	U	0.100	0.1198		mg/L		120	70 - 130
Ethylbenzene	<0.00200	U	0.100	0.1059		mg/L		106	70 - 130
m-Xylene & p-Xylene	<0.00400	U	0.200	0.2186		mg/L		109	70 - 130
o-Xylene	<0.00200	U	0.100	0.1073		mg/L		107	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*
1,4-Difluorobenzene (Surr)	*146*	*S1+*	*70 - 130*

Lab Sample ID: 820-1069-1 MSD
Matrix: Water
Analysis Batch: 4464

Client Sample ID: MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.1163		mg/L		116	70 - 130	2	25
Toluene	<0.00200	U	0.100	0.1198		mg/L		120	70 - 130	0	25
Ethylbenzene	<0.00200	U	0.100	0.1055		mg/L		105	70 - 130	0	25
m-Xylene & p-Xylene	<0.00400	U	0.200	0.2187		mg/L		109	70 - 130	0	25
o-Xylene	<0.00200	U	0.100	0.1077		mg/L		108	70 - 130	0	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*
1,4-Difluorobenzene (Surr)	*149*	*S1+*	*70 - 130*

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-1069-1
SDG: AR217009

GC VOA

Analysis Batch: 4464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-1069-1	MW-2	Total/NA	Water	8021B	
820-1069-2	MW-3	Total/NA	Water	8021B	
820-1069-3	MW-4	Total/NA	Water	8021B	
820-1069-4	MW-5	Total/NA	Water	8021B	
820-1069-5	MW-6	Total/NA	Water	8021B	
820-1069-6	DUP-1	Total/NA	Water	8021B	
MB 880-4464/8	Method Blank	Total/NA	Water	8021B	
LCS 880-4464/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-4464/4	Lab Control Sample Dup	Total/NA	Water	8021B	
820-1069-1 MS	MW-2	Total/NA	Water	8021B	
820-1069-1 MSD	MW-2	Total/NA	Water	8021B	

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-1069-1
SDG: AR217009

Client Sample ID: MW-2
Date Collected: 06/17/21 09:04
Date Received: 06/18/21 10:35

Lab Sample ID: 820-1069-1
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	4464	06/22/21 13:53	MR	XEN MID

Client Sample ID: MW-3
Date Collected: 06/17/21 11:22
Date Received: 06/18/21 10:35

Lab Sample ID: 820-1069-2
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	4464	06/22/21 14:18	MR	XEN MID

Client Sample ID: MW-4
Date Collected: 06/17/21 10:30
Date Received: 06/18/21 10:35

Lab Sample ID: 820-1069-3
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	4464	06/22/21 14:43	MR	XEN MID

Client Sample ID: MW-5
Date Collected: 06/17/21 12:05
Date Received: 06/18/21 10:35

Lab Sample ID: 820-1069-4
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	4464	06/22/21 15:08	MR	XEN MID

Client Sample ID: MW-6
Date Collected: 06/17/21 09:52
Date Received: 06/18/21 10:35

Lab Sample ID: 820-1069-5
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	4464	06/22/21 15:33	MR	XEN MID

Client Sample ID: DUP-1
Date Collected: 06/17/21 00:00
Date Received: 06/18/21 10:35

Lab Sample ID: 820-1069-6
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	4464	06/22/21 15:58	MR	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-1069-1
SDG: AR217009

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-21

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
8021B		Water	Total BTEX

Method Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-1069-1
SDG: AR217009

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	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.

Laboratory References:

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

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec. 31

Job ID: 820-1069-1
SDG: AR217009

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
820-1069-1	MW-2	Water	06/17/21 09:04	06/18/21 10:35	
820-1069-2	MW-3	Water	06/17/21 11:22	06/18/21 10:35	
820-1069-3	MW-4	Water	06/17/21 10:30	06/18/21 10:35	
820-1069-4	MW-5	Water	06/17/21 12:05	06/18/21 10:35	
820-1069-5	MW-6	Water	06/17/21 09:52	06/18/21 10:35	
820-1069-6	DUP-1	Water	06/17/21 00:00	06/18/21 10:35	


820-1069 Chain of Custody

Loc: 820
1069

CHAIN OF CUSTODY RECORD

Terracon

Xenco
6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Contact:
Project Manager: Brett Dennis
SRS #: 2009-084
Sampler's Name: Aaron Adams
Sampler's Signature

Project Number: AR217009
Project Name: DCP Sec. 31

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 4.7/4.CC

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)							Lab Sample ID
GW	6/17/2021	9:04		X	MW-2			3				X							820-1069-1
GW	6/17/2021	11:22		X	MW-3			3				X							2
GW	6/17/2021	10:30		X	MW-4			3				X							3
GW	6/17/2021	12:05		X	MW-5			3				X							4
GW	6/17/2021	9:52		X	MW-6			3				X							5
GW	6/17/2021	-		X	Dup-1			3				X							6

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:
	6/18/21	10:35		6/18/21	10:35

NOTES: Bill directly to Plains Pipeline

e-mail results to:
brett.dennis@terracon.com
erin.loyd@terracon.com
algroves@paalp.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 Xenco, 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: 820-1458 1
Client Contact: Shipping/Receiving	Phone	E-Mail: jessica.kramer@eurofinset.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Texas		Job #: 820-1069-1
Address: 1211 W Florida Ave	Due Date Requested: 6/24/2021			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701	PO #:			
Phone: 432-704-5440(Tel)	WO #:			
Email:	Project #: 82000284			
Project Name: DCP Sec. 31-AR217009--Terracon	SSOW#:			
Site:				

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	8021B/5030B BTEX	Special Instructions/Note:
MW-2 (820-1069-1)	6/17/21	09 04 Mountain		Water		X	
MW-3 (820-1069-2)	6/17/21	11 22 Mountain		Water		X	
MW-4 (820-1069-3)	6/17/21	10 30 Mountain		Water		X	
MW-5 (820-1069-4)	6/17/21	12 05 Mountain		Water		X	
MW-6 (820-1069-5)	6/17/21	09 52 Mountain		Water		X	
DUP-1 (820-1069-6)	6/17/21	Mountain		Water		X	

Note: Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method, analyte & accreditation compliance upon our 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 Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco 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: 6/18/21 13:48	Company	Received by:		Date/Time: 6-21-21 12:00am	Company
Relinquished by:		Date/Time:	Company	Received by:		Date/Time:	Company
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: 11/01/2020

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-1069-1
SDG Number: AR217009

Login Number: 1069
List Number: 1
Creator: Turner, Michael

List Source: Eurofins Xenco, 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: 820-1069-1
SDG Number: AR217009

Login Number: 1069
List Number: 2
Creator: Copeland, Tatiana

List Source: Eurofins Xenco, Midland
List Creation: 06/21/21 11:55 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	

ANALYTICAL REPORT

July 28, 2021

Revised Report

Plains All American Pipeline - Terracon

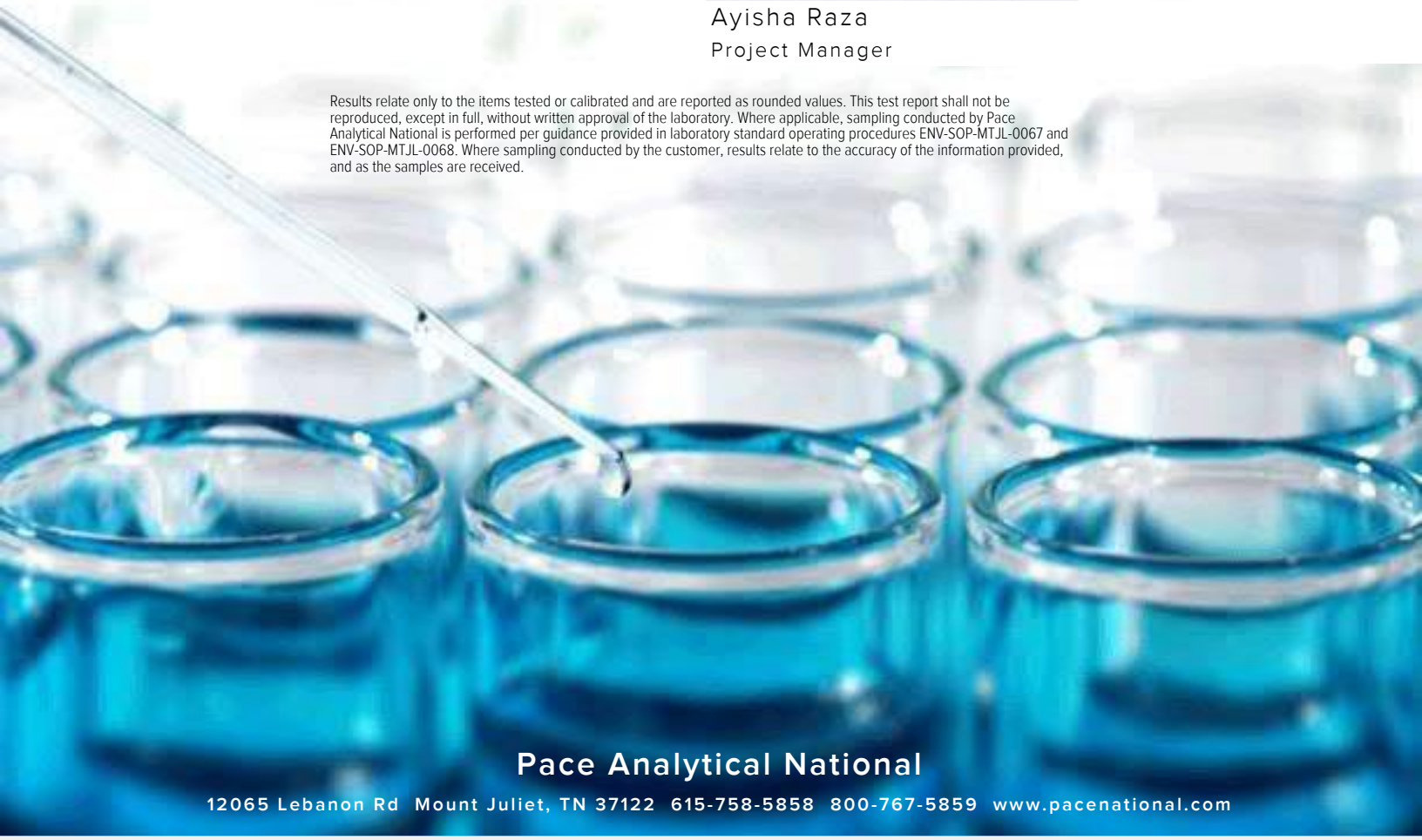
Sample Delivery Group:	L1345069
Samples Received:	04/28/2021
Project Number:	AR217009
Description:	DCP Sec. 31 (SRS# 2009-084)

Report To: Kimble Thrash
5847 50th St.
Suite 1
Lubbock, TX 79424

Entire Report Reviewed By:

Ayisha Raza
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

SAMPLE SUMMARY

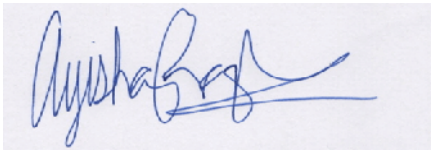
EFF-1 (04272021) L1345069-01 Air

Collected by: Aaron Adams
Collected date/time: 04/27/21 12:10
Received date/time: 04/28/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1661298	1	04/29/21 21:30	04/29/21 21:30	GLN	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Ayisha Raza
Project Manager

Report Revision History

Level II Report - Version 1: 05/13/21 00:07

Sample Delivery Group (SDG) Narrative

Analysis was performed from an improper container.

Lab Sample ID	Project Sample ID	Method
L1345069-01	EFF-1 (04272021)	TO-15

Sample received in tedlar bag.

Lab Sample ID	Project Sample ID	Method
L1345069-01	EFF-1 (04272021)	TO-15

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	0.200	0.639	1.40	4.47		1	WG1661298
Ethylbenzene	100-41-4	106	0.200	0.867	0.633	2.74		1	WG1661298
Toluene	108-88-3	92.10	0.500	1.88	4.78	18.0		1	WG1661298
m&p-Xylene	1330-20-7	106	0.400	1.73	6.99	30.3		1	WG1661298
o-Xylene	95-47-6	106	0.200	0.867	3.53	15.3		1	WG1661298
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG1661298
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*103*				WG1661298

Method Blank (MB)

(MB) R3649419-3 04/29/21 09:48

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
Toluene	U		0.0870	0.500
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	59.0	J	39.7	200
(S) 1,4-Bromofluorobenzene	*95.5*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3649419-1 04/29/21 08:49 • (LCSD) R3649419-2 04/29/21 09:20

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	3.75	4.09	4.21	109	112	70.0-130			2.89	25
Toluene	3.75	4.02	4.17	107	111	70.0-130			3.66	25
Ethylbenzene	3.75	4.03	4.13	107	110	70.0-130			2.45	25
m&p-Xylene	7.50	8.11	8.19	108	109	70.0-130			0.982	25
o-Xylene	3.75	4.05	4.16	108	111	70.0-130			2.68	25
TPH (GC/MS) Low Fraction	203	246	251	121	124	70.0-130			2.01	25
(S) 1,4-Bromofluorobenzene				*99.6*	*101*	*60.0-140*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

M187

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Pace
Address: 12065 Lebanon Rd
Mt. Juliet, TN 37122

Office Location: Lubbock
Phone: (800) 767-5859
Contact:

Project Manager: Brett Dennis
SRS #: 2009-084

Sampler's Name: Aaron Adams
Sampler's Signature:

Project Number: AR217009

Project Name: DCP Sec. 31 (SRS# 2009-084)

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: tedlar bag	BTEX (EPA Method 8021)	TPH 8015 extended	Lab Sample ID
A	4/27/2021	1210		X	EFF-1 (04272021)			1	X	X	-01

NFE

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 1

U345069

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

TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date: 4-27-2021	Time: 17:24	Received by (Signature)	Date:	Time: 1515
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date: 4.28.21	Time: 0900

NOTES: Bill directly to Plains Pipeline

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

OK

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 _____

Count: 1 bag

Amb

ANALYTICAL REPORT

June 07, 2021

Plains All American Pipeline - Terracon

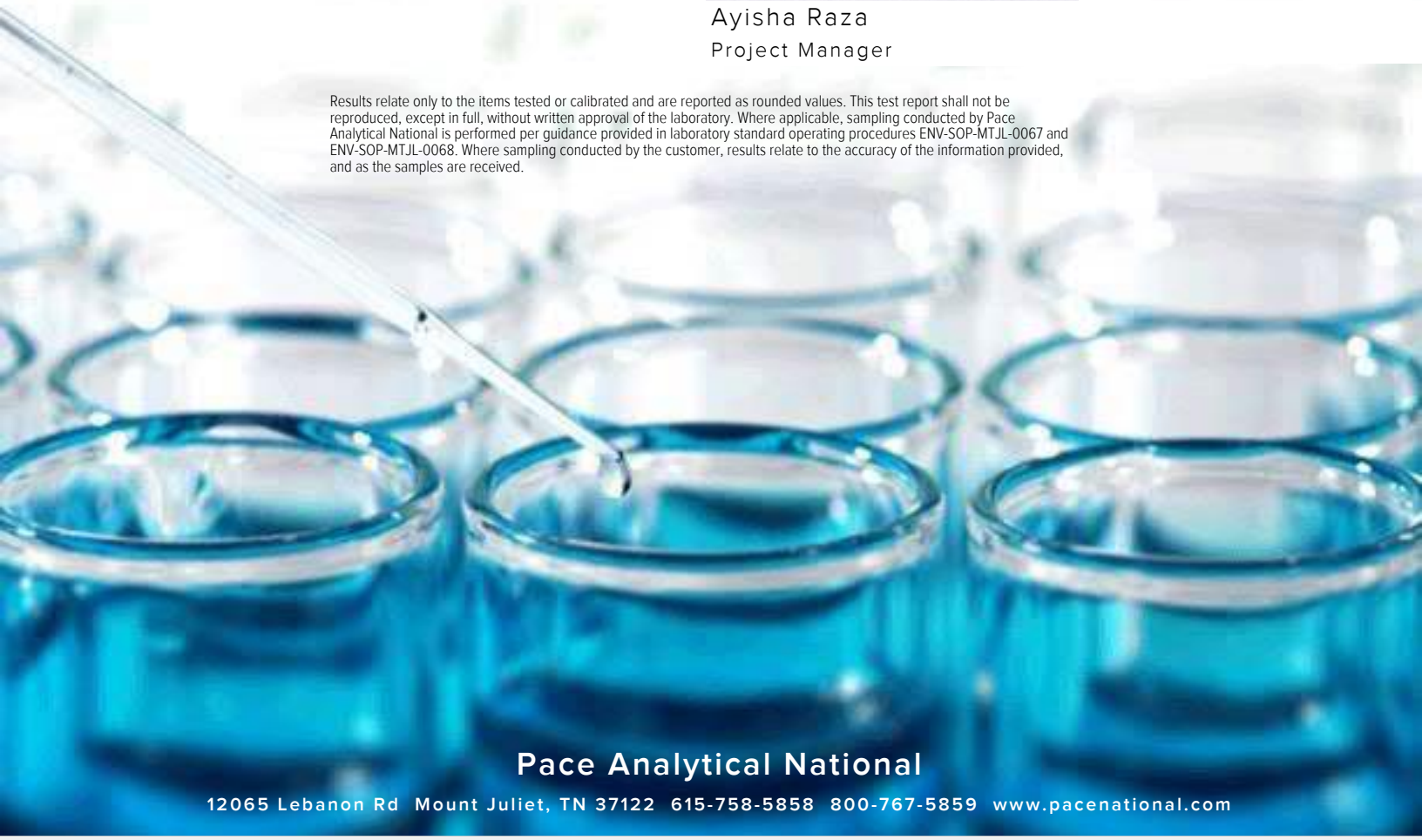
Sample Delivery Group:	L1359586
Samples Received:	05/29/2021
Project Number:	AR217009
Description:	DCP Sec. 31 (SRS# 2009-084)

Report To: Brett Dennis
5847 50th St.
Suite 1
Lubbock, TX 79424

Entire Report Reviewed By:

Ayisha Raza
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

SAMPLE SUMMARY

EFF-1 (05272021) L1359586-01 Air

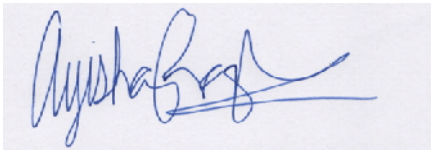
Collected by: Aaron Adams
Collected date/time: 05/27/21 07:55
Received date/time: 05/29/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1679834	2000	05/29/21 15:20	05/29/21 15:20	FKG	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Ayisha Raza
Project Manager

Volatile Organic Compounds (MS) by Method M18-Mod

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	400	1280	ND	ND		2000	WG1679834
Toluene	108-88-3	92.10	1000	3770	7400	27900		2000	WG1679834
Ethylbenzene	100-41-4	106	400	1730	1250	5420		2000	WG1679834
m&p-Xylene	1330-20-7	106	800	3470	10000	43400		2000	WG1679834
o-Xylene	95-47-6	106	400	1730	3820	16600		2000	WG1679834
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1679834
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	1550000	6400000		2000	WG1679834
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*93.1*				WG1679834

Method Blank (MB)

(MB) R3660993-2 05/29/21 10:48

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
MTBE	U		0.0647	0.200
Toluene	U		0.0870	0.500
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*95.2*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3660993-1 05/29/21 10:10 • (LCSD) R3660993-3 05/29/21 12:11

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
MTBE	3.75	4.27	4.30	114	115	70.0-130			0.700	25
Benzene	3.75	4.36	4.31	116	115	70.0-130			1.15	25
Toluene	3.75	4.44	4.41	118	118	70.0-130			0.678	25
Ethylbenzene	3.75	4.38	4.28	117	114	70.0-130			2.31	25
m&p-Xylene	7.50	8.96	8.82	119	118	70.0-130			1.57	25
o-Xylene	3.75	4.39	4.34	117	116	70.0-130			1.15	25
TPH (GC/MS) Low Fraction	203	244	241	120	119	70.0-130			1.24	25
(S) 1,4-Bromofluorobenzene				*96.8*	*97.4*	*60.0-140*				

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RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

CHAIN OF CUSTODY RECORD

Terracon

Office Location: Lubbock
Project Manager: Brett Dennis
Sampler's Name: Aaron Adams

Laboratory: Pace
Address: 12065 Lebanon Rd
Mt. Juliet, TN 37122
Phone: (800) 767-5859
Contact:
SRS #: 2009-084
Sampler's Signature:

ANALYSIS REQUESTED

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

Page 1 of 1

B145
4359586

Project Number: AR217009
Project Name: DCP Sec. 31 (SRS# 2009-084)

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: tedlar bag	BTEX (EPA Method 8021)	TPH 8015 extended	Lab Sample ID
A	5/27/2021	7:55		X	EFF-1 (05272021)			1	X	X	-01

NFE

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
	5-28-2021	14:24			
					5-29-21 0930

NOTES: Bill directly to Plains Pipeline

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

OK

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 _____

1 tedlar AMB

ANALYTICAL REPORT

July 09, 2021

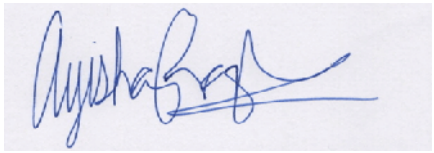
Plains All American Pipeline - Terracon

Sample Delivery Group:	L1372014
Samples Received:	06/29/2021
Project Number:	AR217009
Description:	DCP Sec. 31

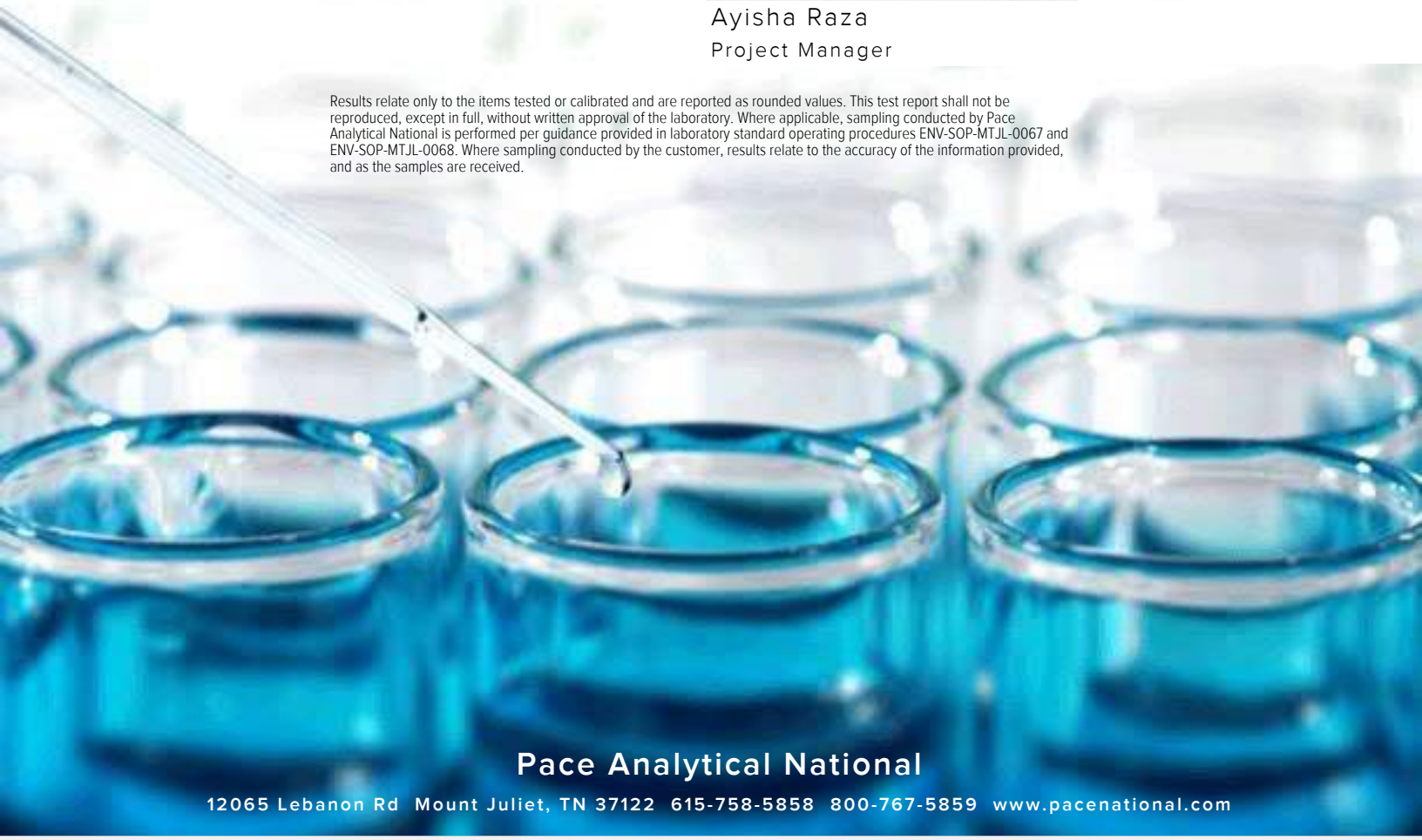
Report To:

Brett Dennis
5847 50th St.
Suite 1
Lubbock, TX 79424

Entire Report Reviewed By:



Ayisha Raza
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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SAMPLE SUMMARY

EFF-1 (06282021) L1372014-01 Air

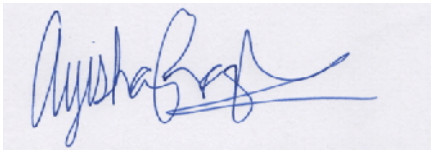
Collected by: Aaron Adams
Collected date/time: 06/28/21 12:05
Received date/time: 06/29/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1697863	80	06/30/21 23:54	06/30/21 23:54	GLN	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1698509	1000	07/01/21 17:43	07/01/21 17:43	GLN	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Ayisha Raza
Project Manager

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	100	238	132	314		80	WG1697863
Allyl chloride	107-05-1	76.53	16.0	50.1	ND	ND		80	WG1697863
Benzene	71-43-2	78.10	16.0	51.1	930	2970		80	WG1697863
Benzyl Chloride	100-44-7	127	16.0	83.1	ND	ND		80	WG1697863
Bromodichloromethane	75-27-4	164	16.0	107	ND	ND		80	WG1697863
Bromoform	75-25-2	253	48.0	497	ND	ND		80	WG1697863
Bromomethane	74-83-9	94.90	16.0	62.1	ND	ND		80	WG1697863
1,3-Butadiene	106-99-0	54.10	160	354	ND	ND		80	WG1697863
Carbon disulfide	75-15-0	76.10	16.0	49.8	ND	ND		80	WG1697863
Carbon tetrachloride	56-23-5	154	16.0	101	ND	ND		80	WG1697863
Chlorobenzene	108-90-7	113	16.0	73.9	ND	ND		80	WG1697863
Chloroethane	75-00-3	64.50	16.0	42.2	ND	ND		80	WG1697863
Chloroform	67-66-3	119	16.0	77.9	ND	ND		80	WG1697863
Chloromethane	74-87-3	50.50	16.0	33.0	ND	ND		80	WG1697863
2-Chlorotoluene	95-49-8	126	16.0	82.5	82.3	424		80	WG1697863
Cyclohexane	110-82-7	84.20	200	689	71300	246000		1000	WG1698509
Dibromochloromethane	124-48-1	208	16.0	136	ND	ND		80	WG1697863
1,2-Dibromoethane	106-93-4	188	16.0	123	ND	ND		80	WG1697863
1,2-Dichlorobenzene	95-50-1	147	16.0	96.2	ND	ND		80	WG1697863
1,3-Dichlorobenzene	541-73-1	147	16.0	96.2	ND	ND		80	WG1697863
1,4-Dichlorobenzene	106-46-7	147	16.0	96.2	ND	ND		80	WG1697863
1,2-Dichloroethane	107-06-2	99	16.0	64.8	ND	ND		80	WG1697863
1,1-Dichloroethane	75-34-3	98	16.0	64.1	ND	ND		80	WG1697863
1,1-Dichloroethene	75-35-4	96.90	16.0	63.4	ND	ND		80	WG1697863
cis-1,2-Dichloroethene	156-59-2	96.90	16.0	63.4	ND	ND		80	WG1697863
trans-1,2-Dichloroethene	156-60-5	96.90	16.0	63.4	ND	ND		80	WG1697863
1,2-Dichloropropane	78-87-5	113	16.0	73.9	ND	ND		80	WG1697863
cis-1,3-Dichloropropene	10061-01-5	111	16.0	72.6	ND	ND		80	WG1697863
trans-1,3-Dichloropropene	10061-02-6	111	16.0	72.6	ND	ND		80	WG1697863
1,4-Dioxane	123-91-1	88.10	16.0	57.7	ND	ND		80	WG1697863
Ethanol	64-17-5	46.10	100	189	592	1120		80	WG1697863
Ethylbenzene	100-41-4	106	16.0	69.4	188	815		80	WG1697863
4-Ethyltoluene	622-96-8	120	16.0	78.5	1540	7560		80	WG1697863
Trichlorofluoromethane	75-69-4	137.40	16.0	89.9	ND	ND		80	WG1697863
Dichlorodifluoromethane	75-71-8	120.92	16.0	79.1	ND	ND		80	WG1697863
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	16.0	123	ND	ND		80	WG1697863
1,2-Dichlorotetrafluoroethane	76-14-2	171	16.0	112	ND	ND		80	WG1697863
Heptane	142-82-5	100	200	818	48800	200000		1000	WG1698509
Hexachloro-1,3-butadiene	87-68-3	261	50.4	538	ND	ND		80	WG1697863
n-Hexane	110-54-3	86.20	630	2220	83300	294000		1000	WG1698509
Isopropylbenzene	98-82-8	120.20	16.0	78.7	80.5	396		80	WG1697863
Methylene Chloride	75-09-2	84.90	16.0	55.6	ND	ND		80	WG1697863
Methyl Butyl Ketone	591-78-6	100	100	409	ND	ND		80	WG1697863
2-Butanone (MEK)	78-93-3	72.10	100	295	ND	ND		80	WG1697863
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	100	409	ND	ND		80	WG1697863
Methyl methacrylate	80-62-6	100.12	16.0	65.5	ND	ND		80	WG1697863
MTBE	1634-04-4	88.10	16.0	57.7	ND	ND		80	WG1697863
Naphthalene	91-20-3	128	50.4	264	ND	ND		80	WG1697863
2-Propanol	67-63-0	60.10	100	246	1350	3320		80	WG1697863
Propene	115-07-1	42.10	100	172	101	174		80	WG1697863
Styrene	100-42-5	104	16.0	68.1	ND	ND		80	WG1697863
1,1,2,2-Tetrachloroethane	79-34-5	168	16.0	110	ND	ND		80	WG1697863
Tetrachloroethylene	127-18-4	166	16.0	109	ND	ND		80	WG1697863
Tetrahydrofuran	109-99-9	72.10	16.0	47.2	ND	ND		80	WG1697863
Toluene	108-88-3	92.10	40.0	151	1590	5990		80	WG1697863
1,2,4-Trichlorobenzene	120-82-1	181	50.4	373	ND	ND		80	WG1697863

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	16.0	87.0	ND	ND		80	WG1697863
1,1,2-Trichloroethane	79-00-5	133	16.0	87.0	ND	ND		80	WG1697863
Trichloroethylene	79-01-6	131	16.0	85.7	ND	ND		80	WG1697863
1,2,4-Trimethylbenzene	95-63-6	120	16.0	78.5	920	4520		80	WG1697863
1,3,5-Trimethylbenzene	108-67-8	120	16.0	78.5	792	3890		80	WG1697863
2,2,4-Trimethylpentane	540-84-1	114.22	16.0	74.7	ND	ND		80	WG1697863
Vinyl chloride	75-01-4	62.50	16.0	40.9	ND	ND		80	WG1697863
Vinyl Bromide	593-60-2	106.95	16.0	70.0	ND	ND		80	WG1697863
Vinyl acetate	108-05-4	86.10	16.0	56.3	ND	ND		80	WG1697863
m&p-Xylene	1330-20-7	106	32.0	139	2300	9970		80	WG1697863
o-Xylene	95-47-6	106	16.0	69.4	834	3620		80	WG1697863
TPH (GC/MS) Low Fraction	8006-61-9	101	200000	826000	842000	3480000		1000	WG1698509
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*142*		J1		WG1697863
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.2*				WG1698509

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3674265-3 06/30/21 11:48

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.584	1.25
Allyl Chloride	U		0.114	0.200
Benzene	U		0.0715	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0702	0.200
Bromoform	U		0.0732	0.600
Bromomethane	U		0.0982	0.200
1,3-Butadiene	U		0.104	2.00
Carbon disulfide	U		0.102	0.200
Carbon tetrachloride	U		0.0732	0.200
Chlorobenzene	U		0.0832	0.200
Chloroethane	U		0.0996	0.200
Chloroform	U		0.0717	0.200
Chloromethane	U		0.103	0.200
2-Chlorotoluene	U		0.0828	0.200
Dibromochloromethane	U		0.0727	0.200
1,2-Dibromoethane	U		0.0721	0.200
1,2-Dichlorobenzene	U		0.128	0.200
1,3-Dichlorobenzene	U		0.182	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0700	0.200
1,1-Dichloroethane	U		0.0723	0.200
1,1-Dichloroethene	U		0.0762	0.200
cis-1,2-Dichloroethene	U		0.0784	0.200
trans-1,2-Dichloroethene	U		0.0673	0.200
1,2-Dichloropropane	U		0.0760	0.200
cis-1,3-Dichloropropene	U		0.0689	0.200
trans-1,3-Dichloropropene	U		0.0728	0.200
1,4-Dioxane	U		0.0833	0.200
Ethylbenzene	U		0.0835	0.200
4-Ethyltoluene	U		0.0783	0.200
Trichlorofluoromethane	U		0.0819	0.200
Dichlorodifluoromethane	U		0.137	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0793	0.200
1,2-Dichlorotetrafluoroethane	U		0.0890	0.200
Hexachloro-1,3-butadiene	U		0.105	0.630
Isopropylbenzene	U		0.0777	0.200
Methylene Chloride	U		0.0979	0.200
Methyl Butyl Ketone	U		0.133	1.25
2-Butanone (MEK)	U		0.0814	1.25

Method Blank (MB)

(MB) R3674265-3 06/30/21 11:48

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
4-Methyl-2-pentanone (MIBK)	U		0.0765	1.25
Methyl Methacrylate	U		0.0876	0.200
MTBE	U		0.0647	0.200
Naphthalene	U		0.350	0.630
2-Propanol	U		0.264	1.25
Propene	U		0.0932	1.25
Styrene	U		0.0788	0.200
1,1,2,2-Tetrachloroethane	U		0.0743	0.200
Tetrachloroethylene	U		0.0814	0.200
Tetrahydrofuran	U		0.0734	0.200
Toluene	U		0.0870	0.500
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0736	0.200
1,1,2-Trichloroethane	U		0.0775	0.200
Trichloroethylene	U		0.0680	0.200
1,2,4-Trimethylbenzene	U		0.0764	0.200
1,3,5-Trimethylbenzene	U		0.0779	0.200
2,2,4-Trimethylpentane	U		0.133	0.200
Vinyl chloride	U		0.0949	0.200
Vinyl Bromide	U		0.0852	0.200
Vinyl acetate	U		0.116	0.200
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
Ethanol	U		0.265	1.25
(S) 1,4-Bromofluorobenzene	*98.0*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3674265-1 06/30/21 08:44 • (LCSD) R3674265-2 06/30/21 09:25

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.01	2.95	80.3	78.7	55.0-148			2.01	25
Propene	3.75	3.00	2.98	80.0	79.5	64.0-144			0.669	25
Dichlorodifluoromethane	3.75	3.47	3.48	92.5	92.8	64.0-139			0.288	25
1,2-Dichlorotetrafluoroethane	3.75	3.27	3.26	87.2	86.9	70.0-130			0.306	25
Chloromethane	3.75	3.02	3.02	80.5	80.5	70.0-130			0.000	25
Vinyl chloride	3.75	3.20	3.18	85.3	84.8	70.0-130			0.627	25
1,3-Butadiene	3.75	3.07	3.02	81.9	80.5	70.0-130			1.64	25
Bromomethane	3.75	3.29	3.28	87.7	87.5	70.0-130			0.304	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3674265-1 06/30/21 08:44 • (LCSD) R3674265-2 06/30/21 09:25

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloroethane	3.75	3.13	3.15	83.5	84.0	70.0-130			0.637	25
Trichlorofluoromethane	3.75	3.46	3.45	92.3	92.0	70.0-130			0.289	25
1,1,2-Trichlorotrifluoroethane	3.75	3.29	3.31	87.7	88.3	70.0-130			0.606	25
1,1-Dichloroethene	3.75	3.18	3.18	84.8	84.8	70.0-130			0.000	25
1,1-Dichloroethane	3.75	3.13	3.09	83.5	82.4	70.0-130			1.29	25
Acetone	3.75	3.09	3.09	82.4	82.4	70.0-130			0.000	25
2-Propanol	3.75	2.99	3.03	79.7	80.8	70.0-139			1.33	25
Carbon disulfide	3.75	3.11	3.14	82.9	83.7	70.0-130			0.960	25
Methylene Chloride	3.75	2.97	2.97	79.2	79.2	70.0-130			0.000	25
MTBE	3.75	3.22	3.25	85.9	86.7	70.0-130			0.927	25
trans-1,2-Dichloroethene	3.75	3.14	3.13	83.7	83.5	70.0-130			0.319	25
Vinyl acetate	3.75	2.89	2.92	77.1	77.9	70.0-130			1.03	25
Methyl Ethyl Ketone	3.75	3.22	3.29	85.9	87.7	70.0-130			2.15	25
cis-1,2-Dichloroethene	3.75	3.09	3.07	82.4	81.9	70.0-130			0.649	25
Chloroform	3.75	3.27	3.26	87.2	86.9	70.0-130			0.306	25
1,1,1-Trichloroethane	3.75	3.44	3.43	91.7	91.5	70.0-130			0.291	25
Carbon tetrachloride	3.75	3.44	3.49	91.7	93.1	70.0-130			1.44	25
Benzene	3.75	3.18	3.16	84.8	84.3	70.0-130			0.631	25
1,2-Dichloroethane	3.75	3.38	3.36	90.1	89.6	70.0-130			0.593	25
Trichloroethylene	3.75	3.22	3.25	85.9	86.7	70.0-130			0.927	25
1,2-Dichloropropane	3.75	2.96	2.99	78.9	79.7	70.0-130			1.01	25
1,4-Dioxane	3.75	3.26	3.24	86.9	86.4	70.0-140			0.615	25
Bromodichloromethane	3.75	3.33	3.33	88.8	88.8	70.0-130			0.000	25
cis-1,3-Dichloropropene	3.75	3.23	3.24	86.1	86.4	70.0-130			0.309	25
4-Methyl-2-pentanone (MIBK)	3.75	3.12	3.09	83.2	82.4	70.0-139			0.966	25
Toluene	3.75	3.29	3.28	87.7	87.5	70.0-130			0.304	25
trans-1,3-Dichloropropene	3.75	3.35	3.36	89.3	89.6	70.0-130			0.298	25
1,1,2-Trichloroethane	3.75	3.22	3.23	85.9	86.1	70.0-130			0.310	25
Tetrachloroethylene	3.75	3.40	3.39	90.7	90.4	70.0-130			0.295	25
Methyl Butyl Ketone	3.75	3.30	3.20	88.0	85.3	70.0-149			3.08	25
Dibromochloromethane	3.75	3.48	3.45	92.8	92.0	70.0-130			0.866	25
1,2-Dibromoethane	3.75	3.41	3.38	90.9	90.1	70.0-130			0.884	25
Chlorobenzene	3.75	3.38	3.41	90.1	90.9	70.0-130			0.884	25
Ethylbenzene	3.75	3.28	3.30	87.5	88.0	70.0-130			0.608	25
m&p-Xylene	7.50	6.63	6.69	88.4	89.2	70.0-130			0.901	25
o-Xylene	3.75	3.26	3.29	86.9	87.7	70.0-130			0.916	25
Styrene	3.75	3.36	3.37	89.6	89.9	70.0-130			0.297	25
Bromoform	3.75	3.38	3.45	90.1	92.0	70.0-130			2.05	25
1,1,2,2-Tetrachloroethane	3.75	3.10	3.12	82.7	83.2	70.0-130			0.643	25
4-Ethyltoluene	3.75	3.33	3.43	88.8	91.5	70.0-130			2.96	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3674265-1 06/30/21 08:44 • (LCSD) R3674265-2 06/30/21 09:25

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,3,5-Trimethylbenzene	3.75	3.34	3.34	89.1	89.1	70.0-130			0.000	25
1,2,4-Trimethylbenzene	3.75	3.35	3.41	89.3	90.9	70.0-130			1.78	25
1,3-Dichlorobenzene	3.75	3.45	3.48	92.0	92.8	70.0-130			0.866	25
1,4-Dichlorobenzene	3.75	3.54	3.60	94.4	96.0	70.0-130			1.68	25
Benzyl Chloride	3.75	3.54	3.54	94.4	94.4	70.0-152			0.000	25
1,2-Dichlorobenzene	3.75	3.44	3.45	91.7	92.0	70.0-130			0.290	25
1,2,4-Trichlorobenzene	3.75	3.76	3.87	100	103	70.0-160			2.88	25
Hexachloro-1,3-butadiene	3.75	3.62	3.69	96.5	98.4	70.0-151			1.92	25
Naphthalene	3.75	3.64	3.71	97.1	98.9	70.0-159			1.90	25
Allyl Chloride	3.75	3.23	3.19	86.1	85.1	70.0-130			1.25	25
2-Chlorotoluene	3.75	3.34	3.37	89.1	89.9	70.0-130			0.894	25
Methyl Methacrylate	3.75	3.23	3.21	86.1	85.6	70.0-130			0.621	25
Tetrahydrofuran	3.75	2.88	2.84	76.8	75.7	70.0-137			1.40	25
2,2,4-Trimethylpentane	3.75	3.04	2.95	81.1	78.7	70.0-130			3.01	25
Vinyl Bromide	3.75	3.25	3.28	86.7	87.5	70.0-130			0.919	25
Isopropylbenzene	3.75	3.29	3.35	87.7	89.3	70.0-130			1.81	25
(S) 1,4-Bromofluorobenzene				*101*	*102*	*60.0-140*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3674816-3 07/01/21 10:38

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Cyclohexane	U		0.0753	0.200
Heptane	U		0.104	0.200
n-Hexane	U		0.206	0.630
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*85.9*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3674816-1 07/01/21 09:03 • (LCSD) R3674816-2 07/01/21 09:55

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
n-Hexane	3.75	3.73	3.86	99.5	103	70.0-130			3.43	25
Cyclohexane	3.75	3.80	3.90	101	104	70.0-130			2.60	25
Heptane	3.75	3.86	3.82	103	102	70.0-130			1.04	25
TPH (GC/MS) Low Fraction	203	207	208	102	102	70.0-130			0.482	25
(S) 1,4-Bromofluorobenzene				*102*	*98.2*	*60.0-140*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

C105

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: ESC
Address: 12065 Lebanon Rd
Mt. Juliet, TN 37122

Phone: (800) 767-5859
Contact:
SRS #: 2009-084

Office Location: Lubbock
Project Manager: Brett Dennis
Sampler's Name: Aaron Adams
Sampler's Signature:

Project Number: AR217009
Project Name: DCP Sec. 31

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 1

UB7 2014

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: tedlar bag	BTEX (EPA Method 8021)	TPH 8015 extended	Lab Sample ID
A	6/28/2021	1205		X	EFF-1 (06282021)			X	X	X	-01

NFE

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
	6-28-21	1710			
					0900

NOTES: Bill directly to Plains Pipeline

OK

e-mail results to:
brett.dennis@terracon.com
erin.loyd@terracon.com
algroves@paalp.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 _____

DMB

Sample Receipt Checklist

			If Applicable	
COC Seal Present/Intact:	Y	N		
COC Signed/Accurate:	Y	N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y	N	Pres.Correct/Check:	Y N
Correct bottles used:	Y	N		
Sufficient volume sent:	Y	N		

5117 4435 3961

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 820-1876-1
Client Project/Site: DCP Sec 31

For:
Terracon Consulting Eng & Scientists
5827 50th St
Suite 1
Lubbock, Texas 79424

Attn: Brett Dennis

Kramer

Authorized for release by:
9/16/2021 8:24:28 PM

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

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 EQC 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. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· EQC 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 EQC: Nicki Smith (Environmental Chemistry) and Zachary Smith (Water Microbiology).

Jessica Kramer
Project Manager
9/16/2021 8:24:28 PM

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Laboratory Job ID: 820-1876-1

Table of Contents

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists Job ID: 820-1876-1
Project/Site: DCP Sec 31

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: DCP Sec 31

Job ID: 820-1876-1

Job ID: 820-1876-1

Laboratory: Eurofins Xenco, Lubbock

Narrative

Job Narrative
820-1876-1

Receipt
The samples were received on 9/10/2021 4:35 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 15.5°C

GC VOA
Method 8021B: 4-Bromofluorobenzene Surrogate recovery for the following samples were outside control limits: MW-2 (820-1876-1), MW-3 (820-1876-2), MW-4 (820-1876-3), MW-5 (820-1876-4), MW-6 (820-1876-5), (CCV 880-7869/2), (CCV 880-7869/20), (CCV 880-7869/33), (LCS 880-7869/3), (LCSD 880-7869/4), (MB 880-7869/8), (890-1238-A-1), (890-1238-A-1 MS) and (890-1238-A-1 MSD). Evidence of matrix interferences is not obvious.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 880-7966 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Job ID: 820-1876-1
Project/Site: DCP Sec 31

Client Sample ID: MW-2
Lab Sample ID: 820-1876-1
Date Collected: 09/10/21 08:45
Matrix: Water
Date Received: 09/10/21 16:35

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			09/14/21 22:14	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			09/14/21 22:14	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			09/14/21 22:14	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			09/14/21 22:14	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			09/14/21 22:14	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			09/14/21 22:14	1
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			09/14/21 22:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*138*	*S1+*	*70 - 130*		*09/14/21 22:14*	*1*
1,4-Difluorobenzene (Surr)	*121*		*70 - 130*		*09/14/21 22:14*	*1*

Client Sample ID: MW-3
Lab Sample ID: 820-1876-2
Date Collected: 09/10/21 12:03
Matrix: Water
Date Received: 09/10/21 16:35

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			09/14/21 22:42	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			09/14/21 22:42	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			09/14/21 22:42	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			09/14/21 22:42	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			09/14/21 22:42	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			09/14/21 22:42	1
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			09/14/21 22:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*142*	*S1+*	*70 - 130*		*09/14/21 22:42*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*		*09/14/21 22:42*	*1*

Client Sample ID: MW-4
Lab Sample ID: 820-1876-3
Date Collected: 09/10/21 11:10
Matrix: Water
Date Received: 09/10/21 16:35

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			09/14/21 23:10	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			09/14/21 23:10	1
Ethylbenzene	**0.000747**	**J**	0.00200	0.000657	mg/L			09/14/21 23:10	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			09/14/21 23:10	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			09/14/21 23:10	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			09/14/21 23:10	1
Total BTEX	**0.000747**	**J**	0.00400	0.000657	mg/L			09/14/21 23:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*		*09/14/21 23:10*	*1*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*		*09/14/21 23:10*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-1876-1

Client Sample ID: MW-5

Lab Sample ID: 820-1876-4

Date Collected: 09/10/21 12:47
Matrix: Water
Date Received: 09/10/21 16:35

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			09/14/21 23:37	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			09/14/21 23:37	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			09/14/21 23:37	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			09/14/21 23:37	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			09/14/21 23:37	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			09/14/21 23:37	1
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			09/14/21 23:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*135*	*S1+*	*70 - 130*		*09/14/21 23:37*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*		*09/14/21 23:37*	*1*

Client Sample ID: MW-6

Lab Sample ID: 820-1876-5

Date Collected: 09/10/21 10:30
Matrix: Water
Date Received: 09/10/21 16:35

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			09/15/21 00:05	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			09/15/21 00:05	1
Ethylbenzene	**0.000824**	**J**	0.00200	0.000657	mg/L			09/15/21 00:05	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			09/15/21 00:05	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			09/15/21 00:05	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			09/15/21 00:05	1
Total BTEX	**0.000824**	**J**	0.00400	0.000657	mg/L			09/15/21 00:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*141*	*S1+*	*70 - 130*		*09/15/21 00:05*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*		*09/15/21 00:05*	*1*

Client Sample ID: Dup-1

Lab Sample ID: 820-1876-6

Date Collected: 09/10/21 00:00
Matrix: Water
Date Received: 09/10/21 16:35

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			09/16/21 15:13	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			09/16/21 15:13	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			09/16/21 15:13	1
m-Xylene & p-Xylene	**0.00135**	**J**	0.00400	0.000629	mg/L			09/16/21 15:13	1
o-Xylene	<0.000642	U F1	0.00200	0.000642	mg/L			09/16/21 15:13	1
Xylenes, Total	**0.00135**	**J**	0.00400	0.000642	mg/L			09/16/21 15:13	1
Total BTEX	**0.00135**	**J**	0.00400	0.000657	mg/L			09/16/21 15:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*184*	*S1+*	*70 - 130*		*09/16/21 15:13*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*		*09/16/21 15:13*	*1*

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-1876-1

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)										
820-1876-1	MW-2	138 S1+	121										
820-1876-2	MW-3	142 S1+	113										
820-1876-3	MW-4	131 S1+	112										
820-1876-4	MW-5	135 S1+	115										
820-1876-5	MW-6	141 S1+	113										
820-1876-6	Dup-1	184 S1+	105										
820-1876-6 MS	Dup-1	155 S1+	105										
820-1876-6 MSD	Dup-1	157 S1+	115										
890-1238-A-1 MS	Matrix Spike	134 S1+	111										
890-1238-A-1 MSD	Matrix Spike Duplicate	149 S1+	116										
LCS 880-7869/3	Lab Control Sample	130	103										
LCS 880-7966/3	Lab Control Sample	132 S1+	95										
LCSD 880-7869/4	Lab Control Sample Dup	120	100										
LCSD 880-7966/4	Lab Control Sample Dup	117	87										
MB 880-7869/8	Method Blank	84	103										
MB 880-7966/8	Method Blank	92	108										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-1876-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-7869/8
Matrix: Water
Analysis Batch: 7869

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			09/14/21 13:45	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			09/14/21 13:45	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			09/14/21 13:45	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			09/14/21 13:45	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			09/14/21 13:45	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			09/14/21 13:45	1
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			09/14/21 13:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*		*09/14/21 13:45*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*		*09/14/21 13:45*	*1*

Lab Sample ID: LCS 880-7869/3
Matrix: Water
Analysis Batch: 7869

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	0.1036		mg/L		104	70 - 130		
Toluene			0.100	0.1158		mg/L		116	70 - 130		
Ethylbenzene			0.100	0.1145		mg/L		115	70 - 130		
m-Xylene & p-Xylene			0.200	0.2312		mg/L		116	70 - 130		
o-Xylene			0.100	0.1179		mg/L		118	70 - 130		

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

Lab Sample ID: LCSD 880-7869/4
Matrix: Water
Analysis Batch: 7869

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	0.1082		mg/L		108	70 - 130	4	20
Toluene			0.100	0.1141		mg/L		114	70 - 130	2	20
Ethylbenzene			0.100	0.1149		mg/L		115	70 - 130	0	20
m-Xylene & p-Xylene			0.200	0.2324		mg/L		116	70 - 130	1	20
o-Xylene			0.100	0.1185		mg/L		119	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-1238-A-1 MS
Matrix: Water
Analysis Batch: 7869

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	0.1032		mg/L		103	70 - 130		

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-1876-1

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

Lab Sample ID: 890-1238-A-1 MS
Matrix: Water
Analysis Batch: 7869

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
Toluene	<0.000367	U	0.100	0.09788		mg/L		98	70 - 130
Ethylbenzene	<0.000657	U	0.100	0.1069		mg/L		107	70 - 130
m-Xylene & p-Xylene	<0.000629	U	0.200	0.2179		mg/L		109	70 - 130
o-Xylene	<0.000642	U F1	0.100	0.1137		mg/L		114	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*134*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 890-1238-A-1 MSD
Matrix: Water
Analysis Batch: 7869

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	0.1186		mg/L		119	70 - 130	14	25
Toluene	<0.000367	U	0.100	0.1257		mg/L		126	70 - 130	25	25
Ethylbenzene	<0.000657	U	0.100	0.1246		mg/L		125	70 - 130	15	25
m-Xylene & p-Xylene	<0.000629	U	0.200	0.2535		mg/L		127	70 - 130	15	25
o-Xylene	<0.000642	U F1	0.100	0.1321	F1	mg/L		132	70 - 130	15	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*149*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*

Lab Sample ID: MB 880-7966/8
Matrix: Water
Analysis Batch: 7966

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			09/16/21 14:47	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			09/16/21 14:47	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			09/16/21 14:47	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			09/16/21 14:47	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			09/16/21 14:47	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			09/16/21 14:47	1
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			09/16/21 14:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*		*09/16/21 14:47*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*		*09/16/21 14:47*	*1*

Lab Sample ID: LCS 880-7966/3
Matrix: Water
Analysis Batch: 7966

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	0.09930		mg/L		99	70 - 130
Toluene	0.100	0.09648		mg/L		96	70 - 130

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-1876-1

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

Lab Sample ID: LCS 880-7966/3
Matrix: Water
Analysis Batch: 7966

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	0.100	0.1016		mg/L		102	70 - 130
m-Xylene & p-Xylene	0.200	0.2063		mg/L		103	70 - 130
o-Xylene	0.100	0.1066		mg/L		107	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*132*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 880-7966/4
Matrix: Water
Analysis Batch: 7966

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	0.1002		mg/L		100	70 - 130	1	20
Toluene	0.100	0.1062		mg/L		106	70 - 130	10	20
Ethylbenzene	0.100	0.1044		mg/L		104	70 - 130	3	20
m-Xylene & p-Xylene	0.200	0.2128		mg/L		106	70 - 130	3	20
o-Xylene	0.100	0.1090		mg/L		109	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*

Lab Sample ID: 820-1876-6 MS
Matrix: Water
Analysis Batch: 7966

Client Sample ID: Dup-1
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	0.1112		mg/L		111	70 - 130
Toluene	<0.000367	U	0.100	0.1164		mg/L		116	70 - 130
Ethylbenzene	<0.000657	U	0.100	0.1147		mg/L		115	70 - 130
m-Xylene & p-Xylene	0.00135	J	0.200	0.2345		mg/L		117	70 - 130
o-Xylene	<0.000642	U F1	0.100	0.1223		mg/L		122	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*155*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 820-1876-6 MSD
Matrix: Water
Analysis Batch: 7966

Client Sample ID: Dup-1
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	0.1208		mg/L		121	70 - 130	8	25
Toluene	<0.000367	U	0.100	0.1229		mg/L		123	70 - 130	5	25
Ethylbenzene	<0.000657	U	0.100	0.1226		mg/L		123	70 - 130	7	25
m-Xylene & p-Xylene	0.00135	J	0.200	0.2508		mg/L		125	70 - 130	7	25
o-Xylene	<0.000642	U F1	0.100	0.1307	F1	mg/L		131	70 - 130	7	25

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-1876-1

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	157	S1+	70 - 130
1,4-Difluorobenzene (Surr)	115		70 - 130

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-1876-1

GC VOA

Analysis Batch: 7869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-1876-1	MW-2	Total/NA	Water	8021B	
820-1876-2	MW-3	Total/NA	Water	8021B	
820-1876-3	MW-4	Total/NA	Water	8021B	
820-1876-4	MW-5	Total/NA	Water	8021B	
820-1876-5	MW-6	Total/NA	Water	8021B	
MB 880-7869/8	Method Blank	Total/NA	Water	8021B	
LCS 880-7869/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-7869/4	Lab Control Sample Dup	Total/NA	Water	8021B	
890-1238-A-1 MS	Matrix Spike	Total/NA	Water	8021B	
890-1238-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8021B	

Analysis Batch: 7966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-1876-6	Dup-1	Total/NA	Water	8021B	
MB 880-7966/8	Method Blank	Total/NA	Water	8021B	
LCS 880-7966/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-7966/4	Lab Control Sample Dup	Total/NA	Water	8021B	
820-1876-6 MS	Dup-1	Total/NA	Water	8021B	
820-1876-6 MSD	Dup-1	Total/NA	Water	8021B	

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-1876-1

Client Sample ID: MW-2
Date Collected: 09/10/21 08:45
Date Received: 09/10/21 16:35

Lab Sample ID: 820-1876-1
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	7869	09/14/21 22:14	KL	XEN MID

Client Sample ID: MW-3
Date Collected: 09/10/21 12:03
Date Received: 09/10/21 16:35

Lab Sample ID: 820-1876-2
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	7869	09/14/21 22:42	KL	XEN MID

Client Sample ID: MW-4
Date Collected: 09/10/21 11:10
Date Received: 09/10/21 16:35

Lab Sample ID: 820-1876-3
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	7869	09/14/21 23:10	KL	XEN MID

Client Sample ID: MW-5
Date Collected: 09/10/21 12:47
Date Received: 09/10/21 16:35

Lab Sample ID: 820-1876-4
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	7869	09/14/21 23:37	KL	XEN MID

Client Sample ID: MW-6
Date Collected: 09/10/21 10:30
Date Received: 09/10/21 16:35

Lab Sample ID: 820-1876-5
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	7869	09/15/21 00:05	KL	XEN MID

Client Sample ID: Dup-1
Date Collected: 09/10/21 00:00
Date Received: 09/10/21 16:35

Lab Sample ID: 820-1876-6
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	7966	09/16/21 15:13	MR	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Job ID: 820-1876-1
Project/Site: DCP Sec 31

Laboratory: Eurofins Xenco, 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
8021B		Water	Total BTEX

Method Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-1876-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	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.

Laboratory References:

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

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-1876-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-1876-1	MW-2	Water	09/10/21 08:45	09/10/21 16:35
820-1876-2	MW-3	Water	09/10/21 12:03	09/10/21 16:35
820-1876-3	MW-4	Water	09/10/21 11:10	09/10/21 16:35
820-1876-4	MW-5	Water	09/10/21 12:47	09/10/21 16:35
820-1876-5	MW-6	Water	09/10/21 10:30	09/10/21 16:35
820-1876-6	Dup-1	Water	09/10/21 00:00	09/10/21 16:35

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Contact:
Project Manager: Brett Dennis
SRS #: 2009-084
Sampler's Name: Aaron Adams
Sampler's Signature

Project Number: AR207009
Project Name: DCP Sec. 31

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 15.5 / 15.46

Page 1 of 1

Loc: 820
1876

820-1876 Chain of Custody

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)								ID
GW	9/10/2021	8:45		X	MW-2			3				X								
GW	9/10/2021	12:03		X	MW-3			3				X								
GW	9/10/2021	11:10		X	MW-4			3				X								
GW	9/10/2021	12:47		X	MW-5			3				X								
GW	9/10/2021	10:30		X	MW-6			3				X								
GW	9/10/2021	-		X	Dup-1			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
[signature]	9/10/21	16:35	Ashley J. Ruppler	9/10/21	16:35

NOTES: Bill directly to Plains Pipeline

e-mail results to:
brett.dennis@terracon.com
erin.loyd@terracon.com
algroves@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 Xenco, 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: 820-2044 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jessica.kramer@eurofinset.com	State of Origin: Texas	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Texas		Job #: 820-1676-1
Address: 1211 W Florida Ave	Due Date Requested: 9/16/2021			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: PLAINS Water	Project #: 82000286			
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=soil, O=waste/oil, BT=Tissue, A=Air)	8021B/8030B BTEX	Special Instructions/Note:
MW-2 (820-1676-1)	9/10/21	08:45 Central		Water	X	
MW-3 (820-1676-2)	9/10/21	12:03 Central		Water	X	
MW-4 (820-1676-3)	9/10/21	11:10 Central		Water	X	
MW-5 (820-1676-4)	9/10/21	12:47 Central		Water	X	
MW-6 (820-1676-5)	9/10/21	10:30 Central		Water	X	
Dup-1 (820-1676-6)	9/10/21	Central		Water	X	

Note: Since laboratory accreditations are subject to change Eurofins Xenco 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 Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco 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: Ashleigh Knapp	Date/Time: 9/13/21 17:00	Company	Received by:	Date/Time: 9/14/21 1222	Company	
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

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-1876-1
SDG Number:

Login Number: 1876
List Number: 1
Creator: Ruggles, Ashley

List Source: Eurofins Xenco, Lubbock

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

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-1876-1
SDG Number:

Login Number: 1876
List Number: 2
Creator: Phillips, Kerianna

List Source: Eurofins Xenco, Midland
List Creation: 09/14/21 12:19 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?	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	

ANALYTICAL REPORT

August 02, 2021

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1383914
Samples Received:	07/29/2021
Project Number:	AR217009
Description:	DCP Sec. 31 (SRS# 2009-084)

Report To: Brett Dennis
5847 50th St.
Suite 1
Lubbock, TX 79424

Entire Report Reviewed By:

Brittnie L Boyd
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

SAMPLE SUMMARY

EFF-1 (07272021) L1383914-01 Air

Collected by: Aaron Adams
Collected date/time: 07/27/21 10:55
Received date/time: 07/29/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1713890	2000	07/29/21 17:27	07/29/21 17:27	MBF	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brittnie L Boyd
Project Manager

Volatile Organic Compounds (MS) by Method M18-Mod

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	400	1280	2120	6770		2000	WG1713890
Toluene	108-88-3	92.10	1000	3770	2910	11000		2000	WG1713890
Ethylbenzene	100-41-4	106	400	1730	ND	ND		2000	WG1713890
m&p-Xylene	1330-20-7	106	800	3470	3640	15800		2000	WG1713890
o-Xylene	95-47-6	106	400	1730	1400	6070		2000	WG1713890
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1713890
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	1030000	4250000		2000	WG1713890
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.5*				WG1713890

Method Blank (MB)

(MB) R3685756-3 07/29/21 10:17

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
MTBE	U		0.0647	0.200
Toluene	U		0.0870	0.500
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*96.5*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3685756-1 07/29/21 08:58 • (LCSD) R3685756-2 07/29/21 09:38

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
MTBE	3.75	3.57	3.60	95.2	96.0	70.0-130			0.837	25
Benzene	3.75	3.69	3.71	98.4	98.9	70.0-130			0.541	25
Toluene	3.75	3.63	3.64	96.8	97.1	70.0-130			0.275	25
Ethylbenzene	3.75	3.69	3.67	98.4	97.9	70.0-130			0.543	25
m&p-Xylene	7.50	7.34	7.33	97.9	97.7	70.0-130			0.136	25
o-Xylene	3.75	3.60	3.64	96.0	97.1	70.0-130			1.10	25
TPH (GC/MS) Low Fraction	203	206	206	101	101	70.0-130			0.000	25
(S) 1,4-Bromofluorobenzene				*97.9*	*99.8*	*60.0-140*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

C190

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Pace
Address: 12065 Lebanon Rd
Mt. Juliet, TN 37122

Office Location: Lubbock
Phone: (800) 767-5859
Project Manager: Brett Dennis
Contact:
Sampler's Name: Aaron Adams
SRS #: 2009-084
Sampler's Signature:

Project Number: AR217009
Project Name: DCP Sec. 31 (SRS# 2009-084)

ANALYSIS REQUESTED

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

Page 1 of 1

L138 3914

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: tedlar bag				BTEX (EPA Method 8021)	TPH 8015 extended						Lab Sample ID
A	7/27/2021	10:55		X	EFF-1 (07272021)			1				X	X						-01

NFE

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:
	7-27-21	17:20			
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date: 7/29	Time: 0900

NOTES: Bill directly to Plains Pipeline

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

OK

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 _____

Sample Receipt Checklist

COC Seal Present/Intact: Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
RAD Screen <0.5 mR/hr: Y N

If Applicable
VOA Zero Headspace: Y N
Pres.Correct/Check: Y N

AMB

ANALYTICAL REPORT

September 01, 2021

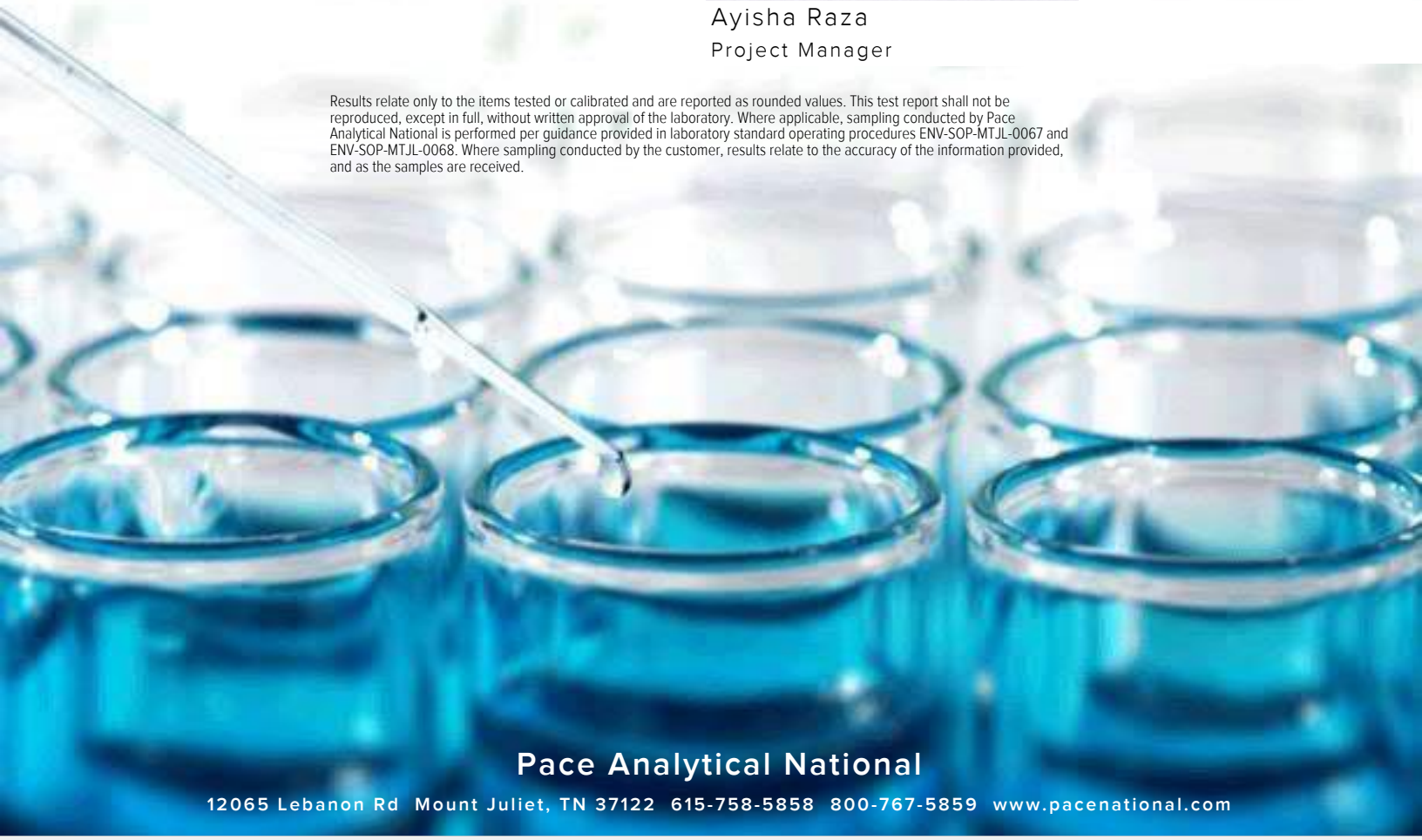
Plains All American Pipeline - Terracon

Sample Delivery Group:	L1395214
Samples Received:	08/26/2021
Project Number:	AR217009
Description:	DCP Sec. 31 (SRS# 2009-084)

Report To: Brett Dennis
5847 50th St.
Suite 1
Lubbock, TX 79424

Entire Report Reviewed By:

Ayisha Raza
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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SAMPLE SUMMARY

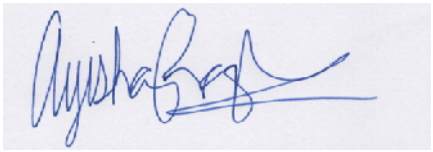
EFF-1 (08252021) L1395214-01 Air

Collected by: Brett Dennis
Collected date/time: 08/25/21 11:20
Received date/time: 08/26/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1730160	80	08/26/21 23:19	08/26/21 23:19	CEP	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method M18-Mod	WG1730751	400	08/27/21 16:59	08/27/21 16:59	CAW	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Ayisha Raza
Project Manager

Volatile Organic Compounds (MS) by Method M18-Mod

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	16.0	51.1	ND	ND		80	WG1730160
Toluene	108-88-3	92.10	40.0	151	2600	9790		80	WG1730160
Ethylbenzene	100-41-4	106	16.0	69.4	322	1400		80	WG1730160
m&p-Xylene	1330-20-7	106	32.0	139	3860	16700		80	WG1730160
o-Xylene	95-47-6	106	16.0	69.4	1490	6460		80	WG1730160
Methyl tert-butyl ether	1634-04-4	88.10	16.0	57.7	ND	ND		80	WG1730160
TPH (GC/MS) Low Fraction	8006-61-9	101	80000	330000	1470000	6070000		400	WG1730751
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*155*		J1		WG1730160
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*105*				WG1730751

Method Blank (MB)

(MB) R3697257-3 08/26/21 10:37

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
MTBE	U		0.0647	0.200
Toluene	U		0.0870	0.500
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
(S) 1,4-Bromofluorobenzene	*97.1*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3697257-1 08/26/21 09:13 • (LCSD) R3697257-2 08/26/21 09:56

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
MTBE	3.75	3.99	4.06	106	108	70.0-130			1.74	25
Benzene	3.75	4.00	4.08	107	109	70.0-130			1.98	25
Toluene	3.75	4.00	4.06	107	108	70.0-130			1.49	25
Ethylbenzene	3.75	4.09	4.16	109	111	70.0-130			1.70	25
m&p-Xylene	7.50	8.24	8.32	110	111	70.0-130			0.966	25
o-Xylene	3.75	4.01	4.09	107	109	70.0-130			1.98	25
(S) 1,4-Bromofluorobenzene				*99.0*	*99.0*	*60.0-140*				

Method Blank (MB)

(MB) R3697389-3 08/27/21 10:58

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*95.8*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3697389-1 08/27/21 09:38 • (LCSD) R3697389-2 08/27/21 10:19

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/MS) Low Fraction	203	255	251	126	124	70.0-130			1.58	25
(S) 1,4-Bromofluorobenzene				*99.9*	*99.8*	*60.0-140*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

F223

CHAIN OF CUSTODY RECORD

Terracon

Office Location: Lubbock
Project Manager: Brett Dennis
Sampler's Name: Brett Dennis

Laboratory: Pace
Address: 12065 Lebanon Rd
Mt. Juliet, TN 37122
Phone: (800) 767-5859
Contact:
SRS #: 2009-084
Sampler's Signature

Project Number: AR217009
Project Name: DCP Sec. 31 (SRS# 2009-084)

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C)
Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: tedlar bag	BTEX (EPA Method 8021)	TPH 8015 extended	Lab Sample ID
A	8/25/2021	11:20		X	EFF-1 (08252021)			1	X	X	4395214 -01

Sample Receipt Checklist

		If Applicable	
COC Seal Present/Intact:	Y N	VOA Zero Headspace:	Y N
COC Signed/Accurate:	Y N	Pres.Correct/Check:	Y N
Bottles arrive intact:	Y N		
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RAD Screen <0.5 mR/hr:	Y N		

NFE

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
1		8/25/21	16:36			
2						
3						
4				N. Scott	8/26/21	0930

NOTES: Bill directly to Plains Pipeline

e-mail results to:
brett.dennis@terracon.com
algroves@paalp.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 _____

2829 7635 8741

ANALYTICAL REPORT

October 05, 2021

Plains All American Pipeline - Terracon

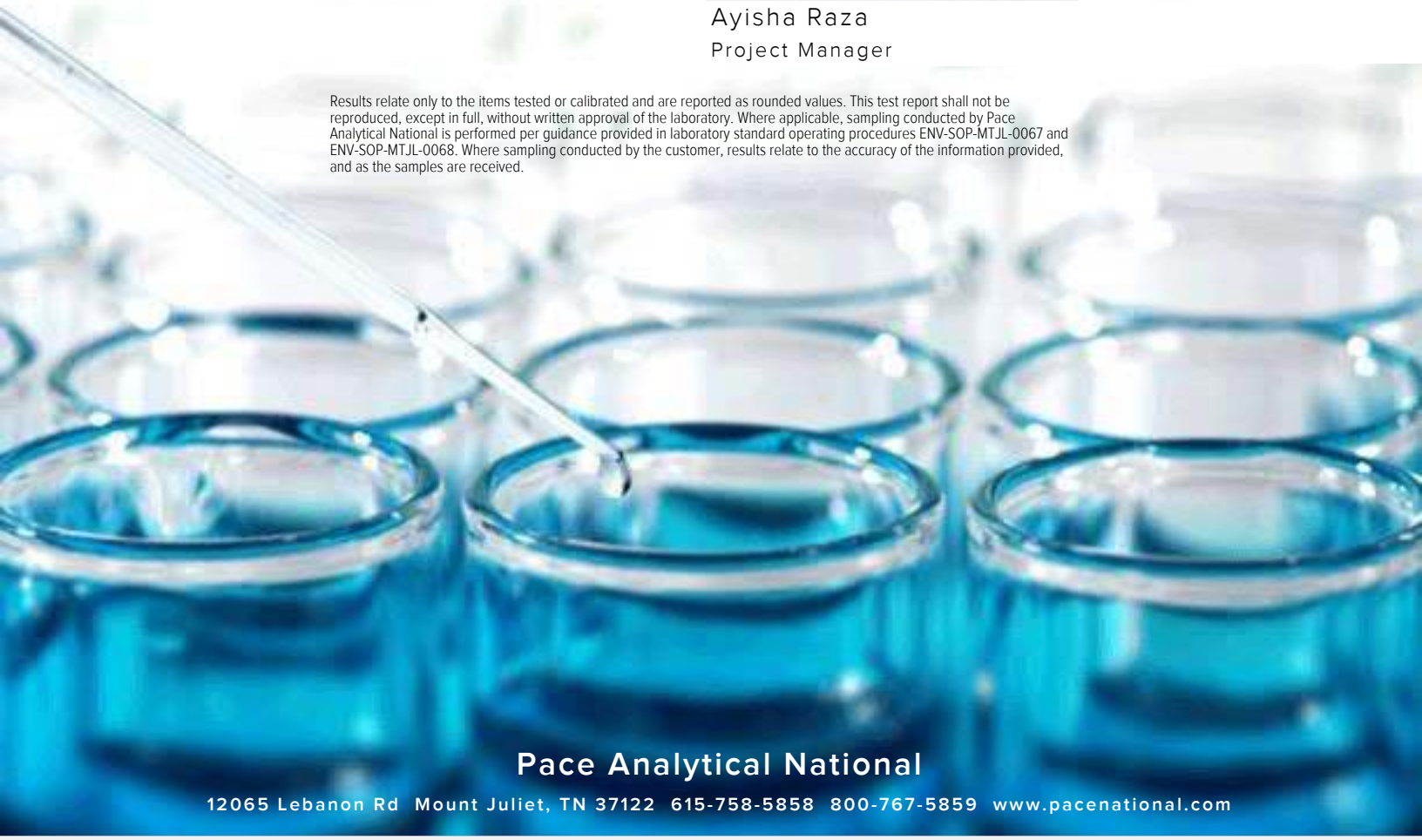
Sample Delivery Group:	L1411747
Samples Received:	10/01/2021
Project Number:	AR217009
Description:	DCP Sec. 31 (SRS# 2009-084)

Report To: Brett Dennis
5847 50th St.
Suite 1
Lubbock, TX 79424

Entire Report Reviewed By:

Ayisha Raza
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

SAMPLE SUMMARY

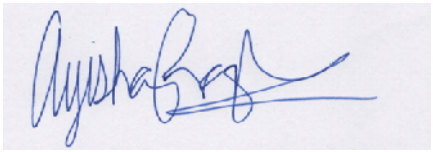
EFF-1 SEC. 31 L1411747-01 Air

			Collected by	Collected date/time	Received date/time
			Aaron Adams	09/30/21 16:13	10/01/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1749970	2000	10/01/21 21:18	10/01/21 21:18	CEP	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Ayisha Raza
Project Manager

Volatile Organic Compounds (MS) by Method M18-Mod

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	400	1280	ND	ND		2000	WG1749970
Toluene	108-88-3	92.10	1000	3770	4780	18000		2000	WG1749970
Ethylbenzene	100-41-4	106	400	1730	807	3500		2000	WG1749970
m&p-Xylene	1330-20-7	106	800	3470	6850	29700		2000	WG1749970
o-Xylene	95-47-6	106	400	1730	2440	10600		2000	WG1749970
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1749970
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	1750000	7230000		2000	WG1749970
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*93.0*				WG1749970

Method Blank (MB)

(MB) R3711626-3 10/01/21 11:49

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
MTBE	U		0.0647	0.200
Toluene	U		0.0870	0.500
m&p-Xylene	0.149	J	0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*87.0*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3711626-1 10/01/21 10:23 • (LCSD) R3711626-2 10/01/21 11:07

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
MTBE	3.75	4.04	3.96	108	106	70.0-130			2.00	25
Benzene	3.75	3.90	3.99	104	106	70.0-130			2.28	25
Toluene	3.75	4.04	4.03	108	107	70.0-130			0.248	25
Ethylbenzene	3.75	4.27	4.21	114	112	70.0-130			1.42	25
m&p-Xylene	7.50	8.91	8.64	119	115	70.0-130			3.08	25
o-Xylene	3.75	4.39	4.33	117	115	70.0-130			1.38	25
TPH (GC/MS) Low Fraction	203	246	244	121	120	70.0-130			0.816	25
(S) 1,4-Bromofluorobenzene				*93.0*	*92.8*	*60.0-140*				

Guide to Reading and Understanding Your Laboratory Report

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Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
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Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

D155

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: ESC
Address: 12065 Lebanon Rd
Mt. Juliet, TN 37122

Office Location: Lubbock
Phone: (800) 767-5859
Project Manager: Brett Dennis
Contact:
Sampler's Name: Aaron Adams
SRS #: 2009-084
Sampler's Signature:

Project Number: AR217009
Project Name: DCP Sec. 31

ANALYSIS REQUESTED

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

Page 1 of 1

L1411747

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: tedlar bag	BTEX (EPA Method 8021)	TPH (EPA Method 8015) Extended	Lab Sample ID
A	9/30/2021	16:13		X	EFF-1 Sec. 31			X	X	X	-01

NFE

TURNAROUND TIME: [X] Normal [ ] 48-Hour Rush [ ] 24-Hour Rush

TRRP Laboratory Review Checklist: [ ] Yes [ ] No

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
	9-30-21	18:55			
				10/1/21	0900

NOTES: Bill directly to Plains Pipeline

e-mail results to:
1. CJBRYANT@PAALP.COM
2. ALGROVES@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 _____

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres.Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
[illegible] 0.5 mR/hr:	Y N		

Amt.

2844 0049 7540

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 820-2844-1
Laboratory Sample Delivery Group: AR217009
Client Project/Site: DCP Sec 31

For:
Terracon Consulting Eng & Scientists
5827 50th St
Suite 1
Lubbock, Texas 79424

Attn: Brett Dennis

Jkramer

Authorized for release by:
12/14/2021 4:52:27 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.

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 EQC 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. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· EQC 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 EQC: Nicki Smith (Environmental Chemistry) and Jacqueline Gartner (Water Microbiology).

Jessica Kramer
Project Manager
12/14/2021 4:52:27 PM

Table of Contents

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2844-1
SDG: AR217009

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: DCP Sec 31

Job ID: 820-2844-1
SDG: AR217009

Job ID: 820-2844-1

Laboratory: Eurofins Xenco, Lubbock

Narrative

Job Narrative
820-2844-1

Receipt
The samples were received on 12/10/2021 8:46 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.4°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: DCP Sec 31

Job ID: 820-2844-1
SDG: AR217009

Client Sample ID: MW-2

Lab Sample ID: 820-2844-1
Matrix: Water
Date Collected: 12/09/21 09:51
Date Received: 12/10/21 08:46

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			12/14/21 07:49	1
Toluene	<0.00200	U	0.00200		mg/L			12/14/21 07:49	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			12/14/21 07:49	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/14/21 07:49	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/14/21 07:49	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/14/21 07:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*262*	*S1+*	*70 - 130*		*12/14/21 07:49*	*1*
1,4-Difluorobenzene (Surr)	*182*	*S1+*	*70 - 130*		*12/14/21 07:49*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			12/14/21 16:08	1

Client Sample ID: MW-6

Lab Sample ID: 820-2844-2
Matrix: Water
Date Collected: 12/09/21 10:42
Date Received: 12/10/21 08:46

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			12/14/21 08:16	1
Toluene	<0.00200	U	0.00200		mg/L			12/14/21 08:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			12/14/21 08:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/14/21 08:16	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/14/21 08:16	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/14/21 08:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*235*	*S1+*	*70 - 130*		*12/14/21 08:16*	*1*
1,4-Difluorobenzene (Surr)	*171*	*S1+*	*70 - 130*		*12/14/21 08:16*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			12/14/21 16:08	1

Client Sample ID: MW-4

Lab Sample ID: 820-2844-3
Matrix: Water
Date Collected: 12/09/21 11:21
Date Received: 12/10/21 08:46

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			12/14/21 08:43	1
Toluene	<0.00200	U	0.00200		mg/L			12/14/21 08:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			12/14/21 08:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/14/21 08:43	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/14/21 08:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/14/21 08:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*268*	*S1+*	*70 - 130*		*12/14/21 08:43*	*1*
1,4-Difluorobenzene (Surr)	*193*	*S1+*	*70 - 130*		*12/14/21 08:43*	*1*

Eurofins Xenco, Lubbock

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2844-1
SDG: AR217009

Client Sample ID: MW-4
Date Collected: 12/09/21 11:21
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2844-3
Matrix: Water

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			12/14/21 16:08	1

Client Sample ID: MW-3
Date Collected: 12/09/21 12:03
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2844-4
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			12/14/21 09:10	1
Toluene	<0.00200	U	0.00200		mg/L			12/14/21 09:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			12/14/21 09:10	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/14/21 09:10	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/14/21 09:10	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/14/21 09:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*279*	*S1+*	*70 - 130*		*12/14/21 09:10*	*1*
1,4-Difluorobenzene (Surr)	*202*	*S1+*	*70 - 130*		*12/14/21 09:10*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			12/14/21 16:08	1

Client Sample ID: MW-5
Date Collected: 12/09/21 13:15
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2844-5
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			12/14/21 09:36	1
Toluene	<0.00200	U	0.00200		mg/L			12/14/21 09:36	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			12/14/21 09:36	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/14/21 09:36	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/14/21 09:36	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/14/21 09:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*269*	*S1+*	*70 - 130*		*12/14/21 09:36*	*1*
1,4-Difluorobenzene (Surr)	*190*	*S1+*	*70 - 130*		*12/14/21 09:36*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			12/14/21 16:08	1

Client Sample ID: Dup-1
Date Collected: 12/09/21 00:00
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2844-6
Matrix: Water

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			12/14/21 10:02	1
Toluene	<0.00200	U	0.00200		mg/L			12/14/21 10:02	1

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2844-1
SDG: AR217009

Client Sample ID: Dup-1
Date Collected: 12/09/21 00:00
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2844-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	<0.00200	U	0.00200		mg/L			12/14/21 10:02	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/14/21 10:02	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/14/21 10:02	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/14/21 10:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*281*	*S1+*	*70 - 130*		*12/14/21 10:02*	*1*
1,4-Difluorobenzene (Surr)	*202*	*S1+*	*70 - 130*		*12/14/21 10:02*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/L			12/14/21 16:08	1

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2844-1
SDG: AR217009

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)
820-2844-1	MW-2	262 S1+	182 S1+
820-2844-2	MW-6	235 S1+	171 S1+
820-2844-3	MW-4	268 S1+	193 S1+
820-2844-4	MW-3	279 S1+	202 S1+
820-2844-5	MW-5	269 S1+	190 S1+
820-2844-6	Dup-1	281 S1+	202 S1+
880-9241-A-1 MS	Matrix Spike	221 S1+	163 S1+
880-9241-A-1 MSD	Matrix Spike Duplicate	225 S1+	172 S1+
LCS 880-14591/34	Lab Control Sample	187 S1+	123
LCSD 880-14591/35	Lab Control Sample Dup	187 S1+	115
MB 880-14524/5-A	Method Blank	106	149 S1+
MB 880-14591/39	Method Blank	129	175 S1+

Surrogate Legend

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

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2844-1
SDG: AR217009

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-14524/5-A
Matrix: Water
Analysis Batch: 14591

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 14524

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L		12/13/21 07:35	12/13/21 11:04	1
Toluene	<0.00200	U	0.00200		mg/L		12/13/21 07:35	12/13/21 11:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/L		12/13/21 07:35	12/13/21 11:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L		12/13/21 07:35	12/13/21 11:04	1
o-Xylene	<0.00200	U	0.00200		mg/L		12/13/21 07:35	12/13/21 11:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/L		12/13/21 07:35	12/13/21 11:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*12/13/21 07:35*	*12/13/21 11:04*	*1*
1,4-Difluorobenzene (Surr)	*149*	*S1+*	*70 - 130*	*12/13/21 07:35*	*12/13/21 11:04*	*1*

Lab Sample ID: MB 880-14591/39
Matrix: Water
Analysis Batch: 14591

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/L			12/14/21 01:16	1
Toluene	<0.00200	U	0.00200		mg/L			12/14/21 01:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			12/14/21 01:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/14/21 01:16	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/14/21 01:16	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/14/21 01:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*		*12/14/21 01:16*	*1*
1,4-Difluorobenzene (Surr)	*175*	*S1+*	*70 - 130*		*12/14/21 01:16*	*1*

Lab Sample ID: LCS 880-14591/34
Matrix: Water
Analysis Batch: 14591

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1098		mg/L		110	70 - 130
Toluene	0.100	0.1093		mg/L		109	70 - 130
Ethylbenzene	0.100	0.1092		mg/L		109	70 - 130
m-Xylene & p-Xylene	0.200	0.2343		mg/L		117	70 - 130
o-Xylene	0.100	0.1150		mg/L		115	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*187*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*

Lab Sample ID: LCSD 880-14591/35
Matrix: Water
Analysis Batch: 14591

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	0.1118		mg/L		112	70 - 130	2	20

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2844-1
SDG: AR217009

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

Lab Sample ID: LCSD 880-14591/35
Matrix: Water
Analysis Batch: 14591

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	0.1049		mg/L		105	70 - 130	4	20
Ethylbenzene			0.100	0.1064		mg/L		106	70 - 130	3	20
m-Xylene & p-Xylene			0.200	0.2255		mg/L		113	70 - 130	4	20
o-Xylene			0.100	0.1131		mg/L		113	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*187*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*

Lab Sample ID: 880-9241-A-1 MS
Matrix: Water
Analysis Batch: 14591

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

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*221*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*163*	*S1+*	*70 - 130*

Lab Sample ID: 880-9241-A-1 MSD
Matrix: Water
Analysis Batch: 14591

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	<0.00200	U	0.100	0.1432		mg/L					
Toluene	<0.00200	U	0.100	0.1358		mg/L					
Ethylbenzene	<0.00200	U	0.100	0.1408		mg/L					
m-Xylene & p-Xylene	<0.00400	U	0.200	0.3041		mg/L					
o-Xylene	<0.00200	U	0.100	0.1513		mg/L					

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*225*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*172*	*S1+*	*70 - 130*

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2844-1
SDG: AR217009

GC VOA

Prep Batch: 14524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-14524/5-A	Method Blank	Total/NA	Water	5035	

Analysis Batch: 14591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-2844-1	MW-2	Total/NA	Water	8021B	
820-2844-2	MW-6	Total/NA	Water	8021B	
820-2844-3	MW-4	Total/NA	Water	8021B	
820-2844-4	MW-3	Total/NA	Water	8021B	
820-2844-5	MW-5	Total/NA	Water	8021B	
820-2844-6	Dup-1	Total/NA	Water	8021B	
MB 880-14524/5-A	Method Blank	Total/NA	Water	8021B	14524
MB 880-14591/39	Method Blank	Total/NA	Water	8021B	
LCS 880-14591/34	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-14591/35	Lab Control Sample Dup	Total/NA	Water	8021B	
880-9241-A-1 MS	Matrix Spike	Total/NA	Water	8021B	
880-9241-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8021B	

Analysis Batch: 14793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-2844-1	MW-2	Total/NA	Water	Total BTEX	
820-2844-2	MW-6	Total/NA	Water	Total BTEX	
820-2844-3	MW-4	Total/NA	Water	Total BTEX	
820-2844-4	MW-3	Total/NA	Water	Total BTEX	
820-2844-5	MW-5	Total/NA	Water	Total BTEX	
820-2844-6	Dup-1	Total/NA	Water	Total BTEX	

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2844-1
SDG: AR217009

Client Sample ID: MW-2
Date Collected: 12/09/21 09:51
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2844-1
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	14591	12/14/21 07:49	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			14793	12/14/21 16:08	AJ	XEN MID

Client Sample ID: MW-6
Date Collected: 12/09/21 10:42
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2844-2
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	14591	12/14/21 08:16	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			14793	12/14/21 16:08	AJ	XEN MID

Client Sample ID: MW-4
Date Collected: 12/09/21 11:21
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2844-3
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	14591	12/14/21 08:43	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			14793	12/14/21 16:08	AJ	XEN MID

Client Sample ID: MW-3
Date Collected: 12/09/21 12:03
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2844-4
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	14591	12/14/21 09:10	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			14793	12/14/21 16:08	AJ	XEN MID

Client Sample ID: MW-5
Date Collected: 12/09/21 13:15
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2844-5
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	14591	12/14/21 09:36	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			14793	12/14/21 16:08	AJ	XEN MID

Client Sample ID: Dup-1
Date Collected: 12/09/21 00:00
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2844-6
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	14591	12/14/21 10:02	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			14793	12/14/21 16:08	AJ	XEN MID

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

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2844-1
SDG: AR217009

Laboratory: Eurofins Xenco, 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: DCP Sec 31

Job ID: 820-2844-1
SDG: AR217009

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 Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2844-1
SDG: AR217009

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-2844-1	MW-2	Water	12/09/21 09:51	12/10/21 08:46
820-2844-2	MW-6	Water	12/09/21 10:42	12/10/21 08:46
820-2844-3	MW-4	Water	12/09/21 11:21	12/10/21 08:46
820-2844-4	MW-3	Water	12/09/21 12:03	12/10/21 08:46
820-2844-5	MW-5	Water	12/09/21 13:15	12/10/21 08:46
820-2844-6	Dup-1	Water	12/09/21 00:00	12/10/21 08:46

Loc: 820
2844

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Contact:
Project Manager: Brett Dennis
SRS #: 2009-084
Sampler's Name: Aaron Adams
Sampler's Signature:

ANALYSIS REQUESTED

LAB USE C
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 4.5/4.4 IR-4

Project Number: AR217009
Project Name: DCP Sec. 31

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)	Lab Sample ID
GW	12/9/2021	9:51		X	MW-2			3				X	
GW	12/9/2021	10:42		X	MW-6			3				X	
GW	12/9/2021	11:21		X	MW-4			3				X	
GW	12/9/2021	12:03		X	MW-3			3				X	
GW	12/9/2021	13:15		X	MW-5			3				X	
GW	12/9/2021			X	Dup-1			3				X	

820-2844 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:
	12-10-2021	08:21		12/10/21	08:21
	12/10/2021	08:46	Teddy Randall Le	12/10/2	08:46

NOTES: Bill directly to Plains Pipeline

e-mail results to:
1. CJBRYANT@PAALP.COM
2. ALGROVES@PAALP.COM
3. BRETT.DENNIS@TERRACON.COM
4. ERIN.LOYD@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: 820-2844-1
SDG Number: AR217009

Login Number: 2844
List Number: 1
Creator: Lee, Randell

List Source: Eurofins Xenco, 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.	N/A	
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: 820-2844-1
SDG Number: AR217009

Login Number: 2844
List Number: 2
Creator: Lowe, Katie

List Source: Eurofins Xenco, Midland
List Creation: 12/13/21 07:54 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 Xenco, Lubbock
6701 Aberdeen Ave.
Suite 8
Lubbock, TX 79424
Tel: (806)794-1296

Laboratory Job ID: 820-2845-1
Laboratory Sample Delivery Group: AR217009
Client Project/Site: DCP Sec 31

For:
Terracon Consulting Eng & Scientists
5827 50th St
Suite 1
Lubbock, Texas 79424

Attn: Brett Dennis

Jkramer

Authorized for release by:
12/17/2021 1:59:11 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.

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 EQC 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. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.

· EQC 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 EQC: Nicki Smith (Environmental Chemistry) and Jacqueline Gartner (Water Microbiology).

Jessica Kramer
Project Manager
12/17/2021 1:59:11 PM

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Laboratory Job ID: 820-2845-1
SDG: AR217009

Table of Contents

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2845-1
SDG: AR217009

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
*3	ISTD response or retention time outside acceptable limits.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: DCP Sec 31

Job ID: 820-2845-1
SDG: AR217009

Job ID: 820-2845-1

Laboratory: Eurofins Xenco, Lubbock

Narrative

Job Narrative
820-2845-1

Receipt
The samples were received on 12/10/2021 8:46 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.4°C

GC/MS Semi VOA
Method 8270D_SIM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 860-34187 and analytical batch 860-34198 recovered outside control limits for the following analytes: Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Chrysene, Dibenz(a,h)anthracene and Indeno[1,2,3-cd]pyrene.

Method 8270D_SIM: The laboratory's SOP allows one of the base/neutral surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: MW-4 (820-2845-3). These results have been reported and qualified.

Method 8270D_SIM: The laboratory control sample duplicate (LCSD) recovered outside control limit for Benzo[k]fluoranthene. The laboratory control sample (LCS) passed. Therefore, the samples 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: DCP Sec 31

Job ID: 820-2845-1
SDG: AR217009

Client Sample ID: MW-2

Date Collected: 12/09/21 09:51
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2845-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.000184	U	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
2-Methylnaphthalene	<0.000184	U	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Acenaphthene	<0.000184	U	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Acenaphthylene	<0.000184	U	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Anthracene	<0.000184	U	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Benzo[a]anthracene	<0.000184	U *1	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Benzo[a]pyrene	<0.000184	U *3 *1	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Benzo[b]fluoranthene	**0.000272**	***3 *1**	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Benzo[g,h,i]perylene	**0.000232**	***3 *1**	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Benzo[k]fluoranthene	<0.000184	U *- *3 *1	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Chrysene	<0.000184	U *1	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Dibenz(a,h)anthracene	<0.000184	U *3 *1	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Dibenzofuran	<0.000184	U	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Fluoranthene	<0.000184	U	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Fluorene	<0.000184	U	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Indeno[1,2,3-cd]pyrene	<0.000184	U *3 *1	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Naphthalene	<0.00368	U	0.00368		mg/L		12/14/21 12:02	12/16/21 12:24	1
Phenanthrene	<0.000184	U	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1
Pyrene	<0.000184	U	0.000184		mg/L		12/14/21 12:02	12/16/21 12:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*128*		*54 - 146*	*12/14/21 12:02*	*12/16/21 12:24*	*1*
Nitrobenzene-d5	*113*		*46 - 151*	*12/14/21 12:02*	*12/16/21 12:24*	*1*
p-Terphenyl-d14	*53*		*51 - 139*	*12/14/21 12:02*	*12/16/21 12:24*	*1*

Client Sample ID: MW-6

Date Collected: 12/09/21 10:42
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2845-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.000188	U	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
2-Methylnaphthalene	<0.000188	U	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Acenaphthene	<0.000188	U	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Acenaphthylene	<0.000188	U	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Anthracene	<0.000188	U	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Benzo[a]anthracene	<0.000188	U *1	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Benzo[a]pyrene	<0.000188	U *1	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Benzo[b]fluoranthene	<0.000188	U *1	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Benzo[g,h,i]perylene	<0.000188	U *1	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Benzo[k]fluoranthene	<0.000188	U *- *1	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Chrysene	<0.000188	U *1	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Dibenz(a,h)anthracene	<0.000188	U *1	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Dibenzofuran	<0.000188	U	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Fluoranthene	<0.000188	U	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Fluorene	<0.000188	U	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Indeno[1,2,3-cd]pyrene	<0.000188	U *1	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Naphthalene	<0.00376	U	0.00376		mg/L		12/14/21 12:05	12/14/21 19:38	1
Phenanthrene	<0.000188	U	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1
Pyrene	<0.000188	U	0.000188		mg/L		12/14/21 12:05	12/14/21 19:38	1

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2845-1
SDG: AR217009

Client Sample ID: MW-6

Date Collected: 12/09/21 10:42
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2845-2
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	123		54 - 146	12/14/21 12:05	12/14/21 19:38	1
Nitrobenzene-d5	113		46 - 151	12/14/21 12:05	12/14/21 19:38	1
p-Terphenyl-d14	55		51 - 139	12/14/21 12:05	12/14/21 19:38	1

Client Sample ID: MW-4

Date Collected: 12/09/21 11:21
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2845-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.000183	U	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
2-Methylnaphthalene	<0.000183	U	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Acenaphthene	<0.000183	U	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Acenaphthylene	<0.000183	U	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Anthracene	<0.000183	U	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Benzo[a]anthracene	<0.000183	U *1	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Benzo[a]pyrene	<0.000183	U *1	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Benzo[b]fluoranthene	<0.000183	U *1	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Benzo[g,h,i]perylene	<0.000183	U *1	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Benzo[k]fluoranthene	<0.000183	U *- *1	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Chrysene	<0.000183	U *1	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Dibenz(a,h)anthracene	<0.000183	U *1	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Dibenzofuran	<0.000183	U	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Fluoranthene	<0.000183	U	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Fluorene	<0.000183	U	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Indeno[1,2,3-cd]pyrene	<0.000183	U *1	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Naphthalene	<0.00366	U	0.00366		mg/L		12/14/21 12:08	12/14/21 19:57	1
Phenanthrene	<0.000183	U	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1
Pyrene	<0.000183	U	0.000183		mg/L		12/14/21 12:08	12/14/21 19:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	114		54 - 146	12/14/21 12:08	12/14/21 19:57	1
Nitrobenzene-d5	108		46 - 151	12/14/21 12:08	12/14/21 19:57	1
p-Terphenyl-d14	44	S1-	51 - 139	12/14/21 12:08	12/14/21 19:57	1

Client Sample ID: MW-3

Date Collected: 12/09/21 12:03
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2845-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.000186	U	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
2-Methylnaphthalene	<0.000186	U	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
Acenaphthene	<0.000186	U	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
Acenaphthylene	<0.000186	U	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
Anthracene	<0.000186	U	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
Benzo[a]anthracene	<0.000186	U *1	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
Benzo[a]pyrene	<0.000186	U *1	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
Benzo[b]fluoranthene	<0.000186	U *1	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
Benzo[g,h,i]perylene	<0.000186	U *1	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
Benzo[k]fluoranthene	<0.000186	U *- *1	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2845-1
SDG: AR217009

Client Sample ID: MW-3

Date Collected: 12/09/21 12:03
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2845-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	<0.000186	U *1	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
Dibenz(a,h)anthracene	<0.000186	U *1	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
Dibenzofuran	<0.000186	U	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
Fluoranthene	<0.000186	U	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
Fluorene	<0.000186	U	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
Indeno[1,2,3-cd]pyrene	<0.000186	U *1	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
Naphthalene	<0.00373	U	0.00373		mg/L		12/14/21 12:11	12/14/21 20:17	1
Phenanthrene	<0.000186	U	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1
Pyrene	<0.000186	U	0.000186		mg/L		12/14/21 12:11	12/14/21 20:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*119*		*54 - 146*	*12/14/21 12:11*	*12/14/21 20:17*	*1*
Nitrobenzene-d5	*114*		*46 - 151*	*12/14/21 12:11*	*12/14/21 20:17*	*1*
p-Terphenyl-d14	*53*		*51 - 139*	*12/14/21 12:11*	*12/14/21 20:17*	*1*

Client Sample ID: MW-5

Date Collected: 12/09/21 13:15
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2845-5
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.000189	U	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
2-Methylnaphthalene	<0.000189	U	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Acenaphthene	<0.000189	U	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Acenaphthylene	<0.000189	U	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Anthracene	<0.000189	U	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Benzo[a]anthracene	<0.000189	U *1	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Benzo[a]pyrene	<0.000189	U *1	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Benzo[b]fluoranthene	<0.000189	U *1	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Benzo[g,h,i]perylene	<0.000189	U *1	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Benzo[k]fluoranthene	<0.000189	U *- *1	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Chrysene	<0.000189	U *1	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Dibenz(a,h)anthracene	<0.000189	U *1	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Dibenzofuran	<0.000189	U	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Fluoranthene	<0.000189	U	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Fluorene	<0.000189	U	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Indeno[1,2,3-cd]pyrene	<0.000189	U *1	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Naphthalene	<0.00378	U	0.00378		mg/L		12/14/21 12:14	12/14/21 20:36	1
Phenanthrene	<0.000189	U	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1
Pyrene	<0.000189	U	0.000189		mg/L		12/14/21 12:14	12/14/21 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*122*		*54 - 146*	*12/14/21 12:14*	*12/14/21 20:36*	*1*
Nitrobenzene-d5	*115*		*46 - 151*	*12/14/21 12:14*	*12/14/21 20:36*	*1*
p-Terphenyl-d14	*54*		*51 - 139*	*12/14/21 12:14*	*12/14/21 20:36*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2845-1
SDG: AR217009

Client Sample ID: Dup-1
Date Collected: 12/09/21 00:00
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2845-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.000190	U	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
2-Methylnaphthalene	<0.000190	U	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Acenaphthene	<0.000190	U	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Acenaphthylene	<0.000190	U	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Anthracene	<0.000190	U	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Benzo[a]anthracene	<0.000190	U *1	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Benzo[a]pyrene	<0.000190	U *3 *1	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Benzo[b]fluoranthene	**0.000265**	***3 *1**	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Benzo[g,h,i]perylene	<0.000190	U *3 *1	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Benzo[k]fluoranthene	<0.000190	U *- *3 *1	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Chrysene	<0.000190	U *1	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Dibenz(a,h)anthracene	<0.000190	U *3 *1	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Dibenzofuran	<0.000190	U	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Fluoranthene	<0.000190	U	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Fluorene	<0.000190	U	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Indeno[1,2,3-cd]pyrene	<0.000190	U *3 *1	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Naphthalene	<0.00380	U	0.00380		mg/L		12/14/21 12:17	12/16/21 12:41	1
Phenanthrene	<0.000190	U	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1
Pyrene	<0.000190	U	0.000190		mg/L		12/14/21 12:17	12/16/21 12:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*117*		*54 - 146*	*12/14/21 12:17*	*12/16/21 12:41*	*1*
Nitrobenzene-d5	*112*		*46 - 151*	*12/14/21 12:17*	*12/16/21 12:41*	*1*
p-Terphenyl-d14	*58*		*51 - 139*	*12/14/21 12:17*	*12/16/21 12:41*	*1*

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2845-1
SDG: AR217009

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)						
820-2845-1	MW-2	128	113	53						
820-2845-2	MW-6	123	113	55						
820-2845-3	MW-4	114	108	44 S1-						
820-2845-4	MW-3	119	114	53						
820-2845-5	MW-5	122	115	54						
820-2845-6	Dup-1	117	112	58						
LCS 860-34187/2-A	Lab Control Sample	128	126	90						
LCSD 860-34187/3-A	Lab Control Sample Dup	121	121	83						
MB 860-34187/1-A	Method Blank	142	132	104						

Surrogate Legend

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

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2845-1
SDG: AR217009

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

Lab Sample ID: MB 860-34187/1-A
Matrix: Water
Analysis Batch: 34198

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 34187

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
2-Methylnaphthalene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Acenaphthene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Acenaphthylene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Anthracene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Benzo[a]anthracene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Benzo[a]pyrene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Benzo[b]fluoranthene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Benzo[g,h,i]perylene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Benzo[k]fluoranthene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Chrysene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Dibenz(a,h)anthracene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Dibenzofuran	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Fluoranthene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Fluorene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Indeno[1,2,3-cd]pyrene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Naphthalene	<0.00364	U	0.00364		mg/L		12/14/21 11:50	12/14/21 17:41	1
Phenanthrene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1
Pyrene	<0.000182	U	0.000182		mg/L		12/14/21 11:50	12/14/21 17:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*142*		*54 - 146*	*12/14/21 11:50*	*12/14/21 17:41*	*1*
Nitrobenzene-d5	*132*		*46 - 151*	*12/14/21 11:50*	*12/14/21 17:41*	*1*
p-Terphenyl-d14	*104*		*51 - 139*	*12/14/21 11:50*	*12/14/21 17:41*	*1*

Lab Sample ID: LCS 860-34187/2-A
Matrix: Water
Analysis Batch: 34198

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34187

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	0.0182	0.02116		mg/L		116	75 - 149
2-Methylnaphthalene	0.0182	0.02034		mg/L		112	74 - 148
Acenaphthene	0.0182	0.02121		mg/L		117	73 - 145
Acenaphthylene	0.0182	0.02195		mg/L		121	78 - 143
Anthracene	0.0182	0.02350		mg/L		129	77 - 157
Benzo[a]anthracene	0.0182	0.02324		mg/L		128	71 - 142
Benzo[a]pyrene	0.0182	0.02214		mg/L		122	76 - 160
Benzo[b]fluoranthene	0.0182	0.02221		mg/L		122	78 - 158
Benzo[g,h,i]perylene	0.0182	0.02091		mg/L		115	74 - 158
Benzo[k]fluoranthene	0.0182	0.02104		mg/L		116	79 - 148
Chrysene	0.0182	0.02147		mg/L		118	70 - 160
Dibenz(a,h)anthracene	0.0182	0.02216		mg/L		122	76 - 149
Dibenzofuran	0.0182	0.02171		mg/L		119	77 - 141
Fluoranthene	0.0182	0.02440		mg/L		134	67 - 152
Fluorene	0.0182	0.02274		mg/L		125	56 - 173
Indeno[1,2,3-cd]pyrene	0.0182	0.02070		mg/L		114	72 - 152
Naphthalene	0.0182	0.02105		mg/L		116	70 - 151
Phenanthrene	0.0182	0.02278		mg/L		125	74 - 165

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2845-1
SDG: AR217009

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

Lab Sample ID: LCS 860-34187/2-A
Matrix: Water
Analysis Batch: 34198

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 34187

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Pyrene			0.0182	0.02281		mg/L		125	66 - 148		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*128*		*54 - 146*
Nitrobenzene-d5	*126*		*46 - 151*
p-Terphenyl-d14	*90*		*51 - 139*

Lab Sample ID: LCSD 860-34187/3-A
Matrix: Water
Analysis Batch: 34198

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 34187

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene			0.0182	0.02244		mg/L		123	75 - 149	6	30
2-Methylnaphthalene			0.0182	0.02178		mg/L		120	74 - 148	7	30
Acenaphthene			0.0182	0.02177		mg/L		120	73 - 145	3	30
Acenaphthylene			0.0182	0.02220		mg/L		122	78 - 143	1	30
Anthracene			0.0182	0.02154		mg/L		118	77 - 157	9	30
Benzo[a]anthracene			0.0182	0.01598	*1	mg/L		88	71 - 142	37	30
Benzo[a]pyrene			0.0182	0.01461	*1	mg/L		80	76 - 160	41	30
Benzo[b]fluoranthene			0.0182	0.01480	*1	mg/L		81	78 - 158	40	30
Benzo[g,h,i]perylene			0.0182	0.01351	*1	mg/L		74	74 - 158	43	30
Benzo[k]fluoranthene			0.0182	0.01381	*- *1	mg/L		76	79 - 148	42	30
Chrysene			0.0182	0.01463	*1	mg/L		80	70 - 160	38	30
Dibenz(a,h)anthracene			0.0182	0.01412	*1	mg/L		78	76 - 149	44	30
Dibenzofuran			0.0182	0.02191		mg/L		121	77 - 141	1	30
Fluoranthene			0.0182	0.02075		mg/L		114	67 - 152	16	30
Fluorene			0.0182	0.02230		mg/L		123	56 - 173	2	30
Indeno[1,2,3-cd]pyrene			0.0182	0.01351	*1	mg/L		74	72 - 152	42	30
Naphthalene			0.0182	0.02163		mg/L		119	70 - 151	3	30
Phenanthrene			0.0182	0.02141		mg/L		118	74 - 165	6	30
Pyrene			0.0182	0.01934		mg/L		106	66 - 148	16	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*121*		*54 - 146*
Nitrobenzene-d5	*121*		*46 - 151*
p-Terphenyl-d14	*83*		*51 - 139*

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2845-1
SDG: AR217009

GC/MS Semi VOA

Prep Batch: 34187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-2845-1	MW-2	Total/NA	Water	3511	
820-2845-2	MW-6	Total/NA	Water	3511	
820-2845-3	MW-4	Total/NA	Water	3511	
820-2845-4	MW-3	Total/NA	Water	3511	
820-2845-5	MW-5	Total/NA	Water	3511	
820-2845-6	Dup-1	Total/NA	Water	3511	
MB 860-34187/1-A	Method Blank	Total/NA	Water	3511	
LCS 860-34187/2-A	Lab Control Sample	Total/NA	Water	3511	
LCSD 860-34187/3-A	Lab Control Sample Dup	Total/NA	Water	3511	

Analysis Batch: 34198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-2845-2	MW-6	Total/NA	Water	8270D SIM	34187
820-2845-3	MW-4	Total/NA	Water	8270D SIM	34187
820-2845-4	MW-3	Total/NA	Water	8270D SIM	34187
820-2845-5	MW-5	Total/NA	Water	8270D SIM	34187
MB 860-34187/1-A	Method Blank	Total/NA	Water	8270D SIM	34187
LCS 860-34187/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	34187
LCSD 860-34187/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	34187

Analysis Batch: 34522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-2845-1	MW-2	Total/NA	Water	8270D SIM	34187
820-2845-6	Dup-1	Total/NA	Water	8270D SIM	34187

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2845-1
SDG: AR217009

Client Sample ID: MW-2
Date Collected: 12/09/21 09:51
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2845-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3511			54.4 mL	2.0 mL	34187	12/14/21 12:02	MG	XEN STF
Total/NA	Analysis	8270D SIM		1			34522	12/16/21 12:24	T1S	XEN STF

Client Sample ID: MW-6
Date Collected: 12/09/21 10:42
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2845-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3511			53.3 mL	2.0 mL	34187	12/14/21 12:05	MG	XEN STF
Total/NA	Analysis	8270D SIM		1			34198	12/14/21 19:38	LPL	XEN STF

Client Sample ID: MW-4
Date Collected: 12/09/21 11:21
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2845-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3511			54.7 mL	2.0 mL	34187	12/14/21 12:08	MG	XEN STF
Total/NA	Analysis	8270D SIM		1			34198	12/14/21 19:57	LPL	XEN STF

Client Sample ID: MW-3
Date Collected: 12/09/21 12:03
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2845-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3511			53.7 mL	2.0 mL	34187	12/14/21 12:11	MG	XEN STF
Total/NA	Analysis	8270D SIM		1			34198	12/14/21 20:17	LPL	XEN STF

Client Sample ID: MW-5
Date Collected: 12/09/21 13:15
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2845-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3511			52.9 mL	2.0 mL	34187	12/14/21 12:14	MG	XEN STF
Total/NA	Analysis	8270D SIM		1			34198	12/14/21 20:36	LPL	XEN STF

Client Sample ID: Dup-1
Date Collected: 12/09/21 00:00
Date Received: 12/10/21 08:46

Lab Sample ID: 820-2845-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3511			52.7 mL	2.0 mL	34187	12/14/21 12:17	MG	XEN STF
Total/NA	Analysis	8270D SIM		1			34522	12/16/21 12:41	T1S	XEN STF

Laboratory References:

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

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2845-1
SDG: AR217009

Laboratory: Eurofins Xenco, Stafford

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	1-Methylnaphthalene
8270D SIM	3511	Water	2-Methylnaphthalene
8270D SIM	3511	Water	Dibenzofuran

Method Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2845-1
SDG: AR217009

Method	Method Description	Protocol	Laboratory
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	XEN STF
3511	Microextraction of Organic Compounds	SW846	XEN STF

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP Sec 31

Job ID: 820-2845-1
SDG: AR217009

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-2845-1	MW-2	Water	12/09/21 09:51	12/10/21 08:46
820-2845-2	MW-6	Water	12/09/21 10:42	12/10/21 08:46
820-2845-3	MW-4	Water	12/09/21 11:21	12/10/21 08:46
820-2845-4	MW-3	Water	12/09/21 12:03	12/10/21 08:46
820-2845-5	MW-5	Water	12/09/21 13:15	12/10/21 08:46
820-2845-6	Dup-1	Water	12/09/21 00:00	12/10/21 08:46

Loc: 820
2845

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Contact:
Project Manager: Brett Dennis
SRS #: 2009-084
Sampler's Name: Aaron Adams
Sampler's Signature:

ANALYSIS REQUESTED

LAB USE O
DUE DATE
TEMP OF COOLER WHEN RECEIVED (°C): 4, 9, 4.4 IR-4

Page 1 of 1

Project Number: AR217009
Project Name: DCP Sec. 31

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 60 ml VOA				PAHs (EPA Method 8270 SIM)						Lab Sample ID
GW	12/9/2021	9:51		X	MW-2			2				X						
GW	12/9/2021	10:42		X	MW-6			2				X						
GW	12/9/2021	11:21		X	MW-4			2				X						
GW	12/9/2021	12:03		X	MW-3			2				X						
GW	12/9/2021	13:15		X	MW-5			2				X						
GW	12/9/2021			X	Dup-1			2				X						

820-2845 Chain of Custody

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

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
	12-10-2021	08:21		12/10/21	08:21
	12/10/2021	08.46		12/10/21	0846

NOTES: Bill directly to Plains Pipeline

e-mail results to:
1. CJBRYANT@PAALP.COM
2. ALGROVES@PAALP.COM
3. BRETT.DENNIS@TERRACON.COM
4. ERIN.LOYD@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 Xenco, 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: 820-2752.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jessica.kramer@eurofinset.com	State of Origin: Texas	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP Texas		Job #: 820-2845-1
Address: 4145 Greenbriar Dr	Due Date Requested: 12/16/2021			
City: Stafford	TAT Requested (days):			
State, Zip: TX, 77477				
Phone: 281-240-4200(Tel)	PO #:			
Email:	WO #:			
Project Name: DCP Sec. 31	Project #: 82000284			
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)	82700D_SIM3611	Special Instructions/Note:
MW-2 (820-2845-1)	12/9/21	09:51 Central		Water	X	
MW-6 (820-2845-2)	12/9/21	10:42 Central		Water	X	Temp 2.4 IR ID HOU-272 C/F +0.0 Corrected Temp: 2.4
MW-4 (820-2845-3)	12/9/21	11:21 Central		Water	X	
MW-3 (820-2845-4)	12/9/21	12:03 Central		Water	X	
MW-5 (820-2845-5)	12/9/21	13:16 Central		Water	X	
Dup-1 (820-2845-6)	12/9/21	Central		Water	X	

Note: Since laboratory accreditations are subject to change, Eurofins Xenco 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 Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Xenco 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
Teddy Randell Lee	12/10/21 17:00				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
			YCRO	12/11/21 1345	EX
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

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-2845-1
SDG Number: AR217009

Login Number: 2845
List Number: 1
Creator: Lee, Randell

List Source: Eurofins Xenco, 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.	N/A	
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: 820-2845-1
SDG Number: AR217009

Login Number: 2845
List Number: 2
Creator: Rubio, Yuri

List Source: Eurofins Xenco, Stafford
List Creation: 12/11/21 02:45 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	2.4
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	

ANALYTICAL REPORT

November 01, 2021

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1423939
Samples Received:	10/29/2021
Project Number:	AR217009
Description:	DCP Sec. 31

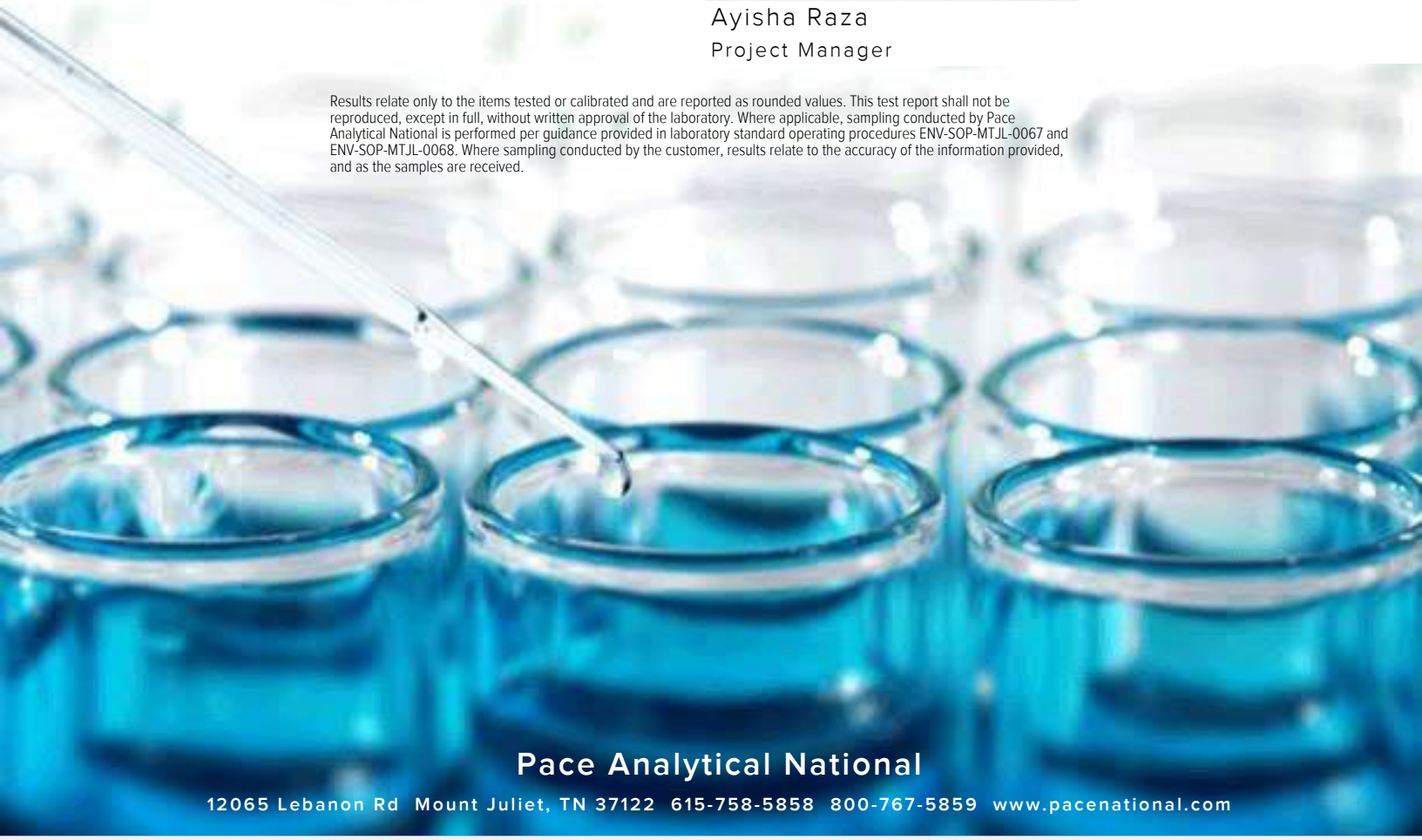
Report To:

Brett Dennis
5847 50th St.
Suite 1
Lubbock, TX 79424

Entire Report Reviewed By:

Ayisha Raza
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

SAMPLE SUMMARY

EFF-1 (10282021) L1423939-01 Air

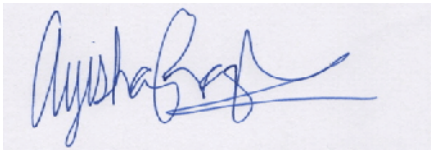
Collected by: Aaron Adams
Collected date/time: 10/28/21 10:15
Received date/time: 10/29/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1765786	2000	10/30/21 00:50	10/30/21 00:50	FKG	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Ayisha Raza
Project Manager

Volatile Organic Compounds (MS) by Method M18-Mod

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	400	1280	1650	5270		2000	WG1765786
Toluene	108-88-3	92.10	1000	3770	2130	8020		2000	WG1765786
Ethylbenzene	100-41-4	106	400	1730	ND	ND		2000	WG1765786
m&p-Xylene	1330-20-7	106	800	3470	2620	11400		2000	WG1765786
o-Xylene	95-47-6	106	400	1730	893	3870		2000	WG1765786
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1765786
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	756000	3120000		2000	WG1765786
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.9*				WG1765786

Sample Narrative:

L1423939-01 WG1765786: Lowest possible dilution due to sample matrix.

Method Blank (MB)

(MB) R3723323-3 10/29/21 10:46

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
MTBE	U		0.0647	0.200
Toluene	U		0.0870	0.500
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*96.7*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3723323-1 10/29/21 09:25 • (LCSD) R3723323-2 10/29/21 10:06

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
MTBE	3.75	4.54	4.57	121	122	70.0-130			0.659	25
Benzene	3.75	4.56	4.59	122	122	70.0-130			0.656	25
Toluene	3.75	4.58	4.61	122	123	70.0-130			0.653	25
Ethylbenzene	3.75	4.75	4.77	127	127	70.0-130			0.420	25
m&p-Xylene	7.50	9.50	9.53	127	127	70.0-130			0.315	25
o-Xylene	3.75	4.58	4.62	122	123	70.0-130			0.870	25
TPH (GC/MS) Low Fraction	203	243	245	120	121	70.0-130			0.820	25
(S) 1,4-Bromofluorobenzene				*98.7*	*99.0*	*60.0-140*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Terracon

CHAIN OF CUSTODY RECORD

Office Location: Lubbock
Project Manager: Brett Dennis
Sampler's Name: Aaron Adams

Laboratory: ESC
Address: 12065 Lebanon Rd
Mt. Juliet, TN 37122
Phone: (800) 767-5859
Contact:
SRS #: 2009-084
Sampler's Signature:

Project Number: AR217009
Project Name: DCP Sec. 31

ANALYSIS REQUESTED

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

Page 1 of 1

J060

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: tedlar bag	BTEX (EPA Method 8021)	TPH (EPA Method 8015) Extended	Lab Sample ID
A	10/28/2021	10:15		X	EFF-1 (10282021)			X	X	X	L1423939 - 01

NFE

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:
	10-29-21	3:45	T. Robertson	10/29/21	900

NOTES: Bill directly to Plains Pipeline

e-mail results to:
1. CJBRYANT@PAALP.COM
2. ALGROVES@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

cht=1 TBE

2854 7732 4252

ANALYTICAL REPORT

December 03, 2021

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1436389
Samples Received:	12/01/2021
Project Number:	AR217009
Description:	DCP Sec. 31 (SRS# 2009-084)

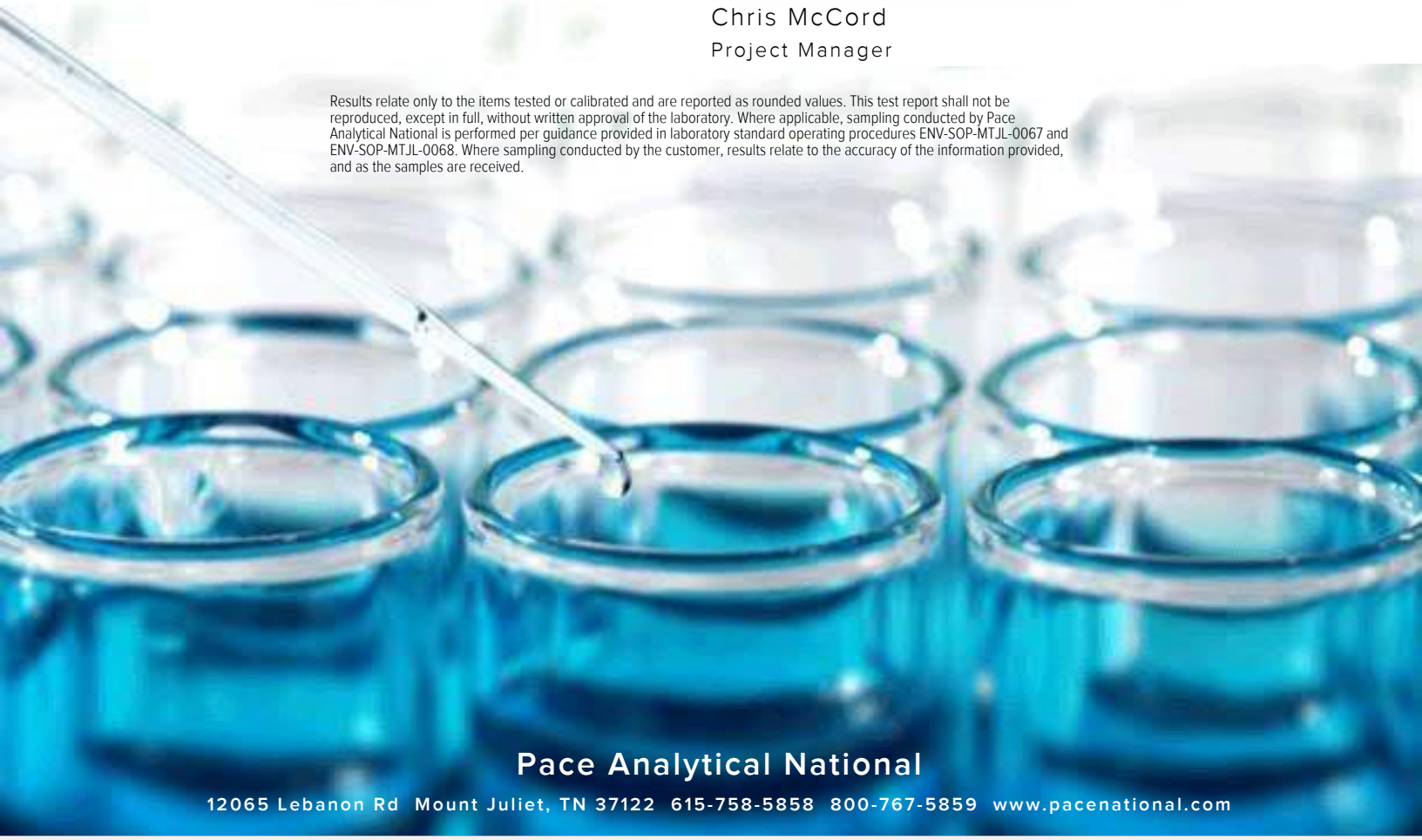
Report To:

Brett Dennis
5847 50th St.
Suite 1
Lubbock, TX 79424

Entire Report Reviewed By:

Chris McCord
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

SAMPLE SUMMARY

EFF-1 (11302021) L1436389-01 Air

Collected by: Brett Dennis
Collected date/time: 11/30/21 12:40
Received date/time: 12/01/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1783045	80	12/02/21 13:46	12/02/21 13:46	FKG	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method M18-Mod	WG1783670	800	12/02/21 19:11	12/02/21 19:11	DAH	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Project Manager

Volatile Organic Compounds (MS) by Method M18-Mod

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	16.0	51.1	1460	4660		80	WG1783045
Toluene	108-88-3	92.10	40.0	151	2560	9640		80	WG1783045
Ethylbenzene	100-41-4	106	16.0	69.4	385	1670		80	WG1783045
m&p-Xylene	1330-20-7	106	32.0	139	3580	15500		80	WG1783045
o-Xylene	95-47-6	106	16.0	69.4	1240	5380		80	WG1783045
TPH (GC/MS) Low Fraction	8006-61-9	101	160000	661000	1130000	4670000		800	WG1783670
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*131*				WG1783045
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.8*				WG1783670

Method Blank (MB)

(MB) R3736321-3 12/02/21 10:13

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
Toluene	U		0.0870	0.500
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
(S) 1,4-Bromofluorobenzene	*90.6*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3736321-1 12/02/21 08:50 • (LCSD) R3736321-2 12/02/21 09:32

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	3.75	4.42	4.50	118	120	70.0-130			1.79	25
Toluene	3.75	4.62	4.58	123	122	70.0-130			0.870	25
Ethylbenzene	3.75	4.53	4.49	121	120	70.0-130			0.887	25
m&p-Xylene	7.50	9.08	9.09	121	121	70.0-130			0.110	25
o-Xylene	3.75	4.45	4.50	119	120	70.0-130			1.12	25
(S) 1,4-Bromofluorobenzene				*91.8*	*92.1*	*60.0-140*				

Method Blank (MB)

(MB) R3736663-3 12/02/21 10:13

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*90.6*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3736663-1 12/02/21 08:50 • (LCSD) R3736663-2 12/02/21 09:32

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/MS) Low Fraction	203	254	255	125	126	70.0-130			0.393	25
(S) 1,4-Bromofluorobenzene				*91.8*	*92.1*	*60.0-140*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

H160

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Pace
Address: 12065 Lebanon Rd
Mt. Juliet, TN 37122

Office Location: Lubbock
Phone: (800) 767-5859
Contact:

Project Manager: Brett Dennis
SRS #: 2009-084

Sampler's Name: Brett Dennis
Sampler's Signature

Project Number: AR217009
Project Name: DCP Sec. 31 (SRS# 2009-084)

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 1

L1436389

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: tedlar bag				BTEX (EPA Method 8021)	TPH 8015 extended						Lab Sample ID
A	11/30/2021	12:40		X	EFF-1 (11302021)			1				X	X						.01

NFE

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:
	11/30/21	16:20	T. Roberson	12/1/21	10 am

NOTES: Bill directly to Plains Pipeline

e-mail results to:
brett.dennis@terracon.com
algroves@paalp.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 _____

2868 5542 1156

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres.Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
PAS #	Y N		

ANALYTICAL REPORT

December 30, 2021

Plains All American Pipeline - Terracon

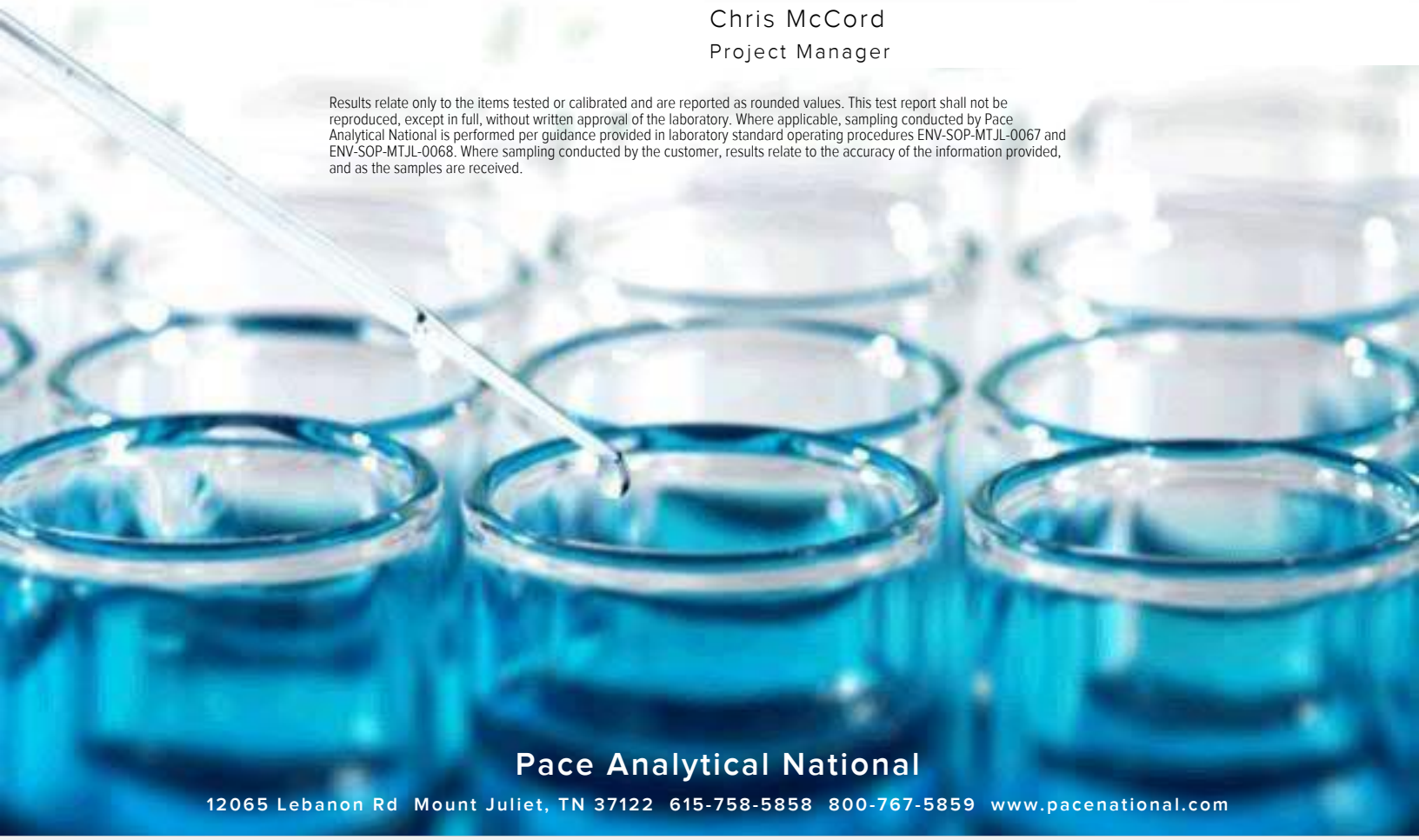
Sample Delivery Group:	L1444522
Samples Received:	12/21/2021
Project Number:	AR217009
Description:	DCP Sec. 31

Report To: Brett Dennis
5847 50th St.
Suite 1
Lubbock, TX 79424

Entire Report Reviewed By:

Chris McCord
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

SAMPLE SUMMARY

EFF-1 (1222021) L1444522-01 Air

			Collected by	Collected date/time	Received date/time
			Aaron Adams	12/20/21 09:00	12/21/21 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1792997	4000	12/21/21 15:17	12/21/21 15:17	FKG	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Project Manager

Volatile Organic Compounds (MS) by Method M18-Mod

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	800	2560	ND	ND		4000	WG1792997
Toluene	108-88-3	92.10	2000	7530	149000	561000		4000	WG1792997
Ethylbenzene	100-41-4	106	800	3470	27500	119000		4000	WG1792997
m&p-Xylene	1330-20-7	106	1600	6940	67800	294000		4000	WG1792997
o-Xylene	95-47-6	106	800	3470	19500	84500		4000	WG1792997
TPH (GC/MS) Low Fraction	8006-61-9	101	800000	3300000	5260000	21700000		4000	WG1792997
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.1*				WG1792997

Method Blank (MB)

(MB) R3743611-3 12/21/21 10:22

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0715	0.200
Ethylbenzene	U		0.0835	0.200
Toluene	U		0.0870	0.500
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*94.4*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3743611-1 12/21/21 09:01 • (LCSD) R3743611-2 12/21/21 09:42

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	3.75	4.35	4.37	116	117	70.0-130			0.459	25
Toluene	3.75	4.37	4.42	117	118	70.0-130			1.14	25
Ethylbenzene	3.75	4.31	4.34	115	116	70.0-130			0.694	25
m&p-Xylene	7.50	8.68	8.75	116	117	70.0-130			0.803	25
o-Xylene	3.75	4.26	4.30	114	115	70.0-130			0.935	25
TPH (GC/MS) Low Fraction	203	241	243	119	120	70.0-130			0.826	25
(S) 1,4-Bromofluorobenzene				*95.8*	*94.6*	*60.0-140*				

Guide to Reading and Understanding Your Laboratory Report

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Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
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Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
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Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

E099

Terracon

CHAIN OF CUSTODY RECORD

Laboratory: ESC
Address: 12065 Lebanon Rd
Mt. Juliet, TN 37122

Phone: (800) 767-5859
Contact:
SRS #: 2009-084

Office Location: Lubbock
Project Manager: Brett Dennis
Sampler's Name: Aaron Adams
Sampler's Signature:

Project Number: AR217009
Project Name: DCP Sec. 31

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (oC)

Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: Cedar bag				BTEX (EPA Method 8021)	TPH (EPA Method 8015) Extended						Lab Sample ID
A	12/20/2021	9:00		X	EFF-1 (1222021)			X				X	X						644522-01

[redacted]

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

TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
[signature]	12/20/2021	10:00			
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
			[signature]	12/21/21	10:15

NOTES: Bill directly to Plains Pipeline

e-mail results to:
1. CJBRYANT@PAALP.COM
2. ALGROVES@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

8088 3753 6198

Amb.

Sample Receipt Checklist

			If Applicable
COC Seal Present/Intact:	Y	N	
COC Signed/Accurate:	Y	N	VOA Zero Headspace: Y N
Bottles arrive intact:	Y	N	Pres.Correct/Check: Y N
Correct bottles used:	Y	N	
Sufficient volume sent:	Y	N	

APPENDIX D

Terracon Standard of Care, Limitation, and Reliance

Standard of Care

Terracon's services will be performed in a manner consistent with generally-accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. Terracon makes no warranties, either express or implied, regarding the findings, conclusions or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, our client, as set forth in our proposal and were not intended to be in strict conformance with ASTM E1903-11.

Additional Scope Limitations

Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, non-detectable or not present during these services, and we cannot represent that the Site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this confirmation sampling. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations or exploratory services; the data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

Reliance

This report has been prepared for the exclusive use of Plains All American Pipeline LP; and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the express written authorization of Plains All American Pipeline LP and Terracon. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the Master Services Agreement (026450-04810-PMLP.2.17), dated August 3, 2011, between Terracon and Plains All American Pipeline LP. The limitation of liability defined in the Terms and Conditions is the aggregate limit of Terracon's liability to the client and all relying parties unless otherwise agreed in writing.

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 93406

CONDITIONS

Operator: PLAINS MARKETING L.P. 333 Clay Street Suite 1900 Houston, TX 77002	OGRID: 34053
	Action Number: 93406
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Review of 2021 ANNUAL GROUNDWATER MONITORING REPORT: Content satisfactory Contractor anticipated actions approved by OCD and are as follows; 1. Continue manual PSH recovery from monitoring well MW-1 2. Collect monthly effluent air samples of SVE emissions and analyze for TPH and BTEX 3. Continue gauging MW-2, MW-4, and MW-5 for the presence of PSH, purged, and sampling quarterly for BTEX in 2022 4. Sample MW-3 and MW-6 on a semiannual basis 5. Submit Annual Groundwater Monitoring Report to NMOCD no later than March 31, 2023.	8/3/2022