2021 Annual Groundwater Monitoring Report

Review of 2021 ANNUAL GROUNDWATER MONITORING REPORT: **Content satisfactory**
Contractor anticipated actions approved by NMOCD and are as follows;

1. Continue quarterly gauging, purging, and sampling from MW-2 through MW-8 for the presence of PSH and BTEX
2. Continue PSH recovery by SVE from monitoring well MW-1, with emission sampling events occurring monthly
3. Continue monthly manual PSH recovery, if applicable, from MW-1
4. Continue monthly recovery of hydrocarbon impacted groundwater from MW-5
5. Submit annual report to NMOCD no later than March 31, 2023.

Plains All American Pipeline, L.P.

DCP Plant to Lea Station 6-Inch #2

Plains SRS No. 2009-039

Lea County, New Mexico

NMOCD Reference No. 1RP-2136

NMOCD Incident No. nAPP2109730917

Terracon Project No. AR217008

March 25, 2022

Prepared for:

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

Prepared by:

Terracon Consultants, Inc.

Terracon

March 25, 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 #2
U/L "F", Sec. 31, T20S, R37E
Lea County, New Mexico
NMOCD Reference No. 1RP–2136
NMOCD Incident No. nAPP2109730917
Plains All American Pipeline, L.P. SRS No. 2009-039
Terracon Project No. AR217008

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 #2 release site is Unit Letter "F" (SE/NW), 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 32.531660° North latitude and 103.291110° 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 #2
Site Location	Latitude 32.531660° North, Longitude 103.291110° West
General Site Description	The site consists of seven 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 February 12, 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 to mitigate the release. Approximately 25 barrels (bbls) of crude oil were released from the pipeline, resulting in a surface stain measuring approximately 10 feet (ft.) in width and 12 ft. in length. Plains notified the New Mexico Oil Conservation Division (NMOCD) Hobbs District 1 Office of the release, and a "Release Notification and Corrective Action" (Form C-141) was submitted. The cause of the release was attributed to external corrosion of the pipeline.

On February 17, 2009, subsequent excavating of crude oil impacted soil commenced at the site. Approximately 2,700 cubic yards (cy) of impacted soil were excavated, stockpiled on-site, and on a plastic liner to mitigate the potential leaching of contaminants into the vadose zone. The final approximate dimensions of the excavation were 66 ft. in width, 80 ft. in length, and 15 ft. in depth. Upon completion of the excavating activities, confirmation soil samples were collected from the excavation and stockpiles. Review of laboratory analytical results indicated soil samples collected from the excavation and stockpiles were less than NMOCD regulatory standards.

On April 15, 2009, soil boring SB-1 was drilled at the release site to evaluate the vertical extent of soil impact. While advancing the soil boring, groundwater was encountered at approximately

76 ft. below ground surface (bgs). Temporary casing was installed in the soil boring so a groundwater sample could be collected for analysis. Prior to collecting the groundwater sample, a measurable thickness of phase separated hydrocarbon (PSH) was gauged on the groundwater. Plains immediately notified NMOCD representatives in the Hobbs District 1 Office and the NMOCD Environmental Bureau in Santa Fe of the impact to groundwater at the site. On April 16, 2009, soil boring SB-1 was converted and completed as a 4-inch monitoring well (MW-1).

On June 29, 2009, three additional monitoring wells (MW-2, MW-3, and MW-4), were drilled, completed, and developed, to evaluate the status of the groundwater at the site with NMOCD approval. Monitoring well MW-2, located up-gradient and approximately 135 ft. to the northwest of monitoring well MW-1, was advanced to a total depth of approximately 90 ft. bgs. Monitoring well MW-3, located cross-gradient and approximately 80 ft. to the southwest of monitoring well MW-1, was advanced to a total depth of approximately 90 ft. bgs. Monitoring well MW-4, located down-gradient and approximately 115 ft. to the southeast of monitoring well MW-1, was advanced to a total depth of approximately 88 ft. bgs. Subsequent gauging determined PSH was not present in monitoring wells MW-2, MW-3, or MW-4.

On August 25, 2009, a 20-millimeter polyurethane liner was installed in the base of the excavation. Monitoring well MW-1, located within the excavation, was extended to the top of the excavation using a 4-inch diameter PVC riser. The riser was fitted with a 40-millimeter boot, which was chemically welded to the 20-millimeter liner to ensure impermeability of the liner. The liner was cushioned by a 6-inch layer of sand above and below the liner to protect the liner from damage during backfilling activities. The excavation was backfilled with the stockpiled soil and compacted in 12-inch lifts. The disturbed areas were contoured to fit the surrounding topography and seeded with a New Mexico State Land Office (NMSLO)-approved seeding mixture. Supplemental seeding occurred on October 12, 2010.

On January 24, 2011, an additional monitoring well (MW-5) was installed to further monitor the down-gradient migration of the PSH plume. Monitoring well MW-5, located down-gradient and approximately 50 ft. to the southeast of monitoring well MW-1, was advanced to a total depth of approximately 95 ft. bgs. PSH was also not gauged in monitoring well MW-5. Laboratory analytical results of soil samples collected during the installation of monitoring well MW-5 indicated benzene, toluene, ethylbenzene, total xylene (BTEX), and total petroleum hydrocarbon (TPH) concentrations were less than NMOCD regulatory standards in all submitted soil samples.

On September 10, 2013, two additional monitoring wells (MW-6 and MW-7) were installed to further monitor the down-gradient migration of the dissolved-phase plume and to delineate the horizontal extent of PSH. Monitoring well MW-6, located cross-gradient and approximately 125 ft. to the east-southeast of monitoring well MW-1, was advanced to a total depth of approximately 95 ft. bgs. Monitoring well MW-7, located down-gradient and approximately 175 ft. to the southeast of monitoring well MW-1, was advanced to a total depth of approximately 100 ft. bgs. Laboratory analytical results from soil samples collected during the installation of monitoring wells

MW-6 and MW-7 indicated benzene, BTEX, and TPH concentrations were less than NMOCD regulatory standards in all submitted soil samples. PSH was also not gauged in monitoring well MW-6 or MW-7.

On October 18, 2016, Terracon assumed project management responsibilities and oversight of groundwater monitoring activities at the DCP Plant to Lea Station 6-Inch #2 project site. There is a total of seven monitoring wells (MW-1 through MW-7) at the site. Monitoring well MW-2 through MW-7 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.

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 frequency of recovery events persisted into 2021.

On August 18, 2020, an additional monitor well (MW-8) was installed according to the Work Plan dated November 25th, 2019. Monitor well MW-8 was installed using a truck-mounted air rotary drilling rig. For the location of monitor well MW-8, refer to Exhibit 2 in Appendix A. During the monitor well advancement, Terracon personnel observed sands and caliche overlaying fine sands.

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 an *Annual Groundwater Monitoring* Report by April 1st of each year. Quarterly groundwater monitoring activities 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 quarterly groundwater monitoring events on March 11-12, June 18, September 22, and December 15, 2021.

2.0 GROUNDWATER REMEDIATION PROGRAM

2.1 Groundwater Monitoring

Quarterly groundwater monitoring events were conducted on March 11-12 (1Q2021), June 18 (2Q2021), September 22 (3Q2021) and December 15, 2021 (4Q2021). 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 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. The groundwater samples collected were placed into a laboratory-prepared container. The containers were labeled and placed on ice in a cooler which was secured with a custody seal. The samples and completed Chain-of-Custody forms were transported to Xenco Laboratories Company in Lubbock, Texas for analysis of BTEX constituent concentrations. Laboratory analysis were performed under standard laboratory turnaround time of 5 to 7 working days. Purged water was placed into a polystyrene aboveground storage tank and disposed of at an NMOCD-approved disposal facility.

Groundwater elevation data collected during the respective quarterly monitoring events were used to construct groundwater gradient maps, which are included as Exhibits 3 through 6 in Appendix A. The groundwater flow direction was relatively consistent, ranging from 0.002 ft/ft during the 1st, 2nd, and 4th quarters to 0.0013 ft/ft during the 3rd quarter in a south-southeasterly direction. Groundwater elevation and PSH thickness data is summarized in Table 1 of Appendix B.

Due to its recent installation, monitor well MW-8 was subject to analysis of polycyclic aromatic hydrocarbons (PAHs) to adhere to requirements set forth by the NMOCD requiring each monitor well to exhibit two consecutive years of PAH concentrations below action levels established by New Mexico Administrative Code (NMAC) 20.6.2. However, all monitor wells sampled during the 4th quarter of 2020 were inadvertently analyzed for PAHs as well. Groundwater samples collected during the 4th quarter monitoring event did not get analyzed for PAHs in order to adhere to the NMOCD requirement of two consecutive years of PAH concentrations below NMOCD criteria. Therefore, analysis of PAH was conducted during the 1st quarter of 2022 and will be reported during in the 2022 Annual Groundwater Monitoring Report. A summary of PAH analysis can be found as Table 5 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 analytical results for groundwater samples collected are summarized in Table 2 of Appendix B and presented as Exhibits 7 through 10 in Appendix A. Copies of the certified laboratory reports and chain-of-custody form 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 0.04 ft. (1Q2021), 0.05 ft. (2Q2021), 0.04 ft. (3Q2021), and 0.04 ft. (4Q2021), were observed during the quarterly monitoring events.

4.1.2 Monitoring Wells MW-2, MW-3, MW-4, MW-6, MW-7, and MW-8

- Laboratory analytical results indicated BTEX concentrations were below the respective laboratory sample detections limits (SDLs) during each quarterly monitoring event with the exception of ethylbenzene and total xylenes being detected in monitor well MW-8 during the 2nd quarter monitoring event. The detected concentrations were below laboratory method quantitation limit (MQL).

4.1.3 Monitoring Well MW-5

- Laboratory analytical results indicated benzene concentrations exceeded the NMOCD regulatory standard during the 2nd quarter monitoring event. The detected benzene concentration was 0.253 mg/L. Benzene was not detected above the laboratory SDL in the other three monitoring events.
- Laboratory analytical results indicated concentrations of toluene and ethylbenzene during the 2nd quarter and total xylenes during the 2nd, and 3rd quarter were above the respective laboratory SDL but below the NMOCD regulatory standard.

5.0 CORRECTIVE ACTION

5.1 Product Recovery

An estimated 0.980 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 feet. An estimated 53 gallons of hydrocarbon impacted groundwater were recovered manually from monitoring well MW-1 for 2021. To date, an estimated 6,225 gallons (148.2 bbls) of PSH has been manually recovered from monitoring well MW-1 since recovery operations began in April 2009. Monitoring well MW-1 groundwater gauging and PSH recovery data is summarized in Tables 4a and 4b of Appendix B.

On July 18, 2012, a Mobile Dual-Phase Extraction (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 Sec. 31 (NMOCD Reference #1RP-2166), and the location of the unit

was alternated periodically. As of July 2017, an estimated 7,901 equivalent gallons (188 bbls) of PSH have been recovered from monitoring well MW-1 by MDPE. Recovered fluids were disposed of at an NMOCD-approved disposal facility.

On July 19, 2017, the MDPE unit was replaced with a Soil Vapor Extraction (SVE) unit that was permanently installed on monitoring well MW-1. Since August 2017, monthly emissions samples have been collected to ensure compliance with New Mexico Environment Department (NMED) Air Quality Bureau (AQB) Action Levels.

Effluent air samples are collected from the exhaust port of the SVE system during each monthly recovery event. Emission mass calculations resulted in a slight increase in average emissions of TPH from 5.432 tons/year in 2020 to 8.034 tons/year in 2021 and an average emission volume of 5.025 gal/day to 7.433 gal/day respectively. Effluent air samples collected in January, February, and November exceeded New Mexico Air Quality Bureau (AQB) criteria of 10 tons of TPH per year at 17.77, 11.78, 13.07, respectively. The dilution valve on the SVE system was adjusted after each of these occurrences to bring emissions into compliance. Monitoring well MW-1 SVE air emissions analytical results for BTEX and TPH is summarized in Table 3 of Appendix B.

5.2 Groundwater Recovery

For 2021, an estimated 55 gallons (1.31 bbls) of hydrocarbon impacted groundwater were recovered from monitoring well MW-5, by manual recovery. Since recovery operations began on January 22, 2016, an estimated 2,436.5 gallons (58.01 bbls) of hydrocarbon impacted groundwater have been manually recovered from monitoring well MW-5. Recovered fluids are disposed of at an NMOCD-approved disposal facility. Monitoring well MW-5 groundwater gauging and PSH recovery data is summarized in Table 4b of Appendix B.

6.0 SUMMARY OF FINDINGS

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

- Currently, there are eight groundwater monitoring wells (MW-1 through MW-8) located at the site.
- Groundwater samples collected during the 4th quarter monitoring event did not get analyzed for PAH. Therefore, analysis of PAH was conducted during the 1st quarter of 2022.
- Monitoring well MW-1 was not sampled during the 2021 reporting period due to the presence of PSH. Monthly air samples were collected from SVE system emissions.
- Monitoring well MW-2 through MW-8 were gauged, purged, and sampled during each quarterly event.
- Benzene, toluene, ethylbenzene and total xylene concentrations were not detected at concentrations above applicable laboratory SDLs in groundwater samples collected from

monitoring well MW-2, MW-3, MW-4, MW-6, MW-7, and MW-8 during each quarterly event with the exception of ethylbenzene and total xylenes being detected in monitor well MW-8 during the 2nd quarter monitoring event. The detected concentrations were below laboratory MQL.

- Concentrations of benzene detected in monitoring well MW-5 exceeded the NMOCD regulatory standard for the 2nd quarter monitoring event.
- Concentrations of toluene and ethylbenzene during the 2nd quarter and total xylenes during the 2nd, and 3rd quarter were above the respective laboratory SDL but below the NMOCD regulatory standard.
- The PSH thickness in monitoring well MW-1 was 0.84 ft. during the last recovery event conducted on December 20, 2021.
- The groundwater flow direction was relatively consistent to the southeast for each quarterly event. The groundwater gradient contour was calculated at 0.002 ft/ft. for three of the four monitoring events
- An estimated 0.980 gallons of PSH were recovered manually from monitoring well MW-1.
- Effluent air samples are collected from the exhaust port of the SVE system during each monthly recovery event. Emission mass calculations resulted in a slight increase in average emissions of TPH from 5.432 tons/year in 2020 to 8.034 tons/year in 2021 and an average emission volume of 5.025 gal/day to 7.433 gal/day respectively.
- Effluent air samples collected in January, February, and November exceeded New Mexico AQB criteria of 10 ton of TPH per year at 17.77, 11.78, 13.07 respectively. The dilution valve on the SVE system was adjusted after each of these occurrences in order to bring emissions into compliance.
- An estimated 55 gallons (1.31 bbls) of hydrocarbon impacted groundwater were recovered manually from monitoring well MW-5 for 2021.

7.0 ANTICIPATED ACTIONS

- Monitoring well MW-2 through MW-8 will continue to be gauged, purged, and sampled quarterly for the presence of PSH and BTEX in 2022.
- Analyze monitor wells MW-2 through MW-8 for PAHs in the 1st quarter monitoring event.
- PSH recovery by SVE will continue on monitoring well MW-1 with emission sampling events occurring monthly during 2022.
- Monthly manual PSH recovery, if applicable, will continue on monitoring well MW-1.
- Monthly recovery of hydrocarbon impacted groundwater will continue from monitoring well MW-5 in an effort to control the down-gradient migration of the dissolved-phase plume.
- 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
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APPENDIX A

Exhibit 1 – Topographic Map
Exhibit 2 – Site Diagram
Exhibit 3 – 1Q21 Groundwater Gradient Map (03/11/21)
Exhibit 4 – 2Q21 Groundwater Gradient Map (06/18/21)
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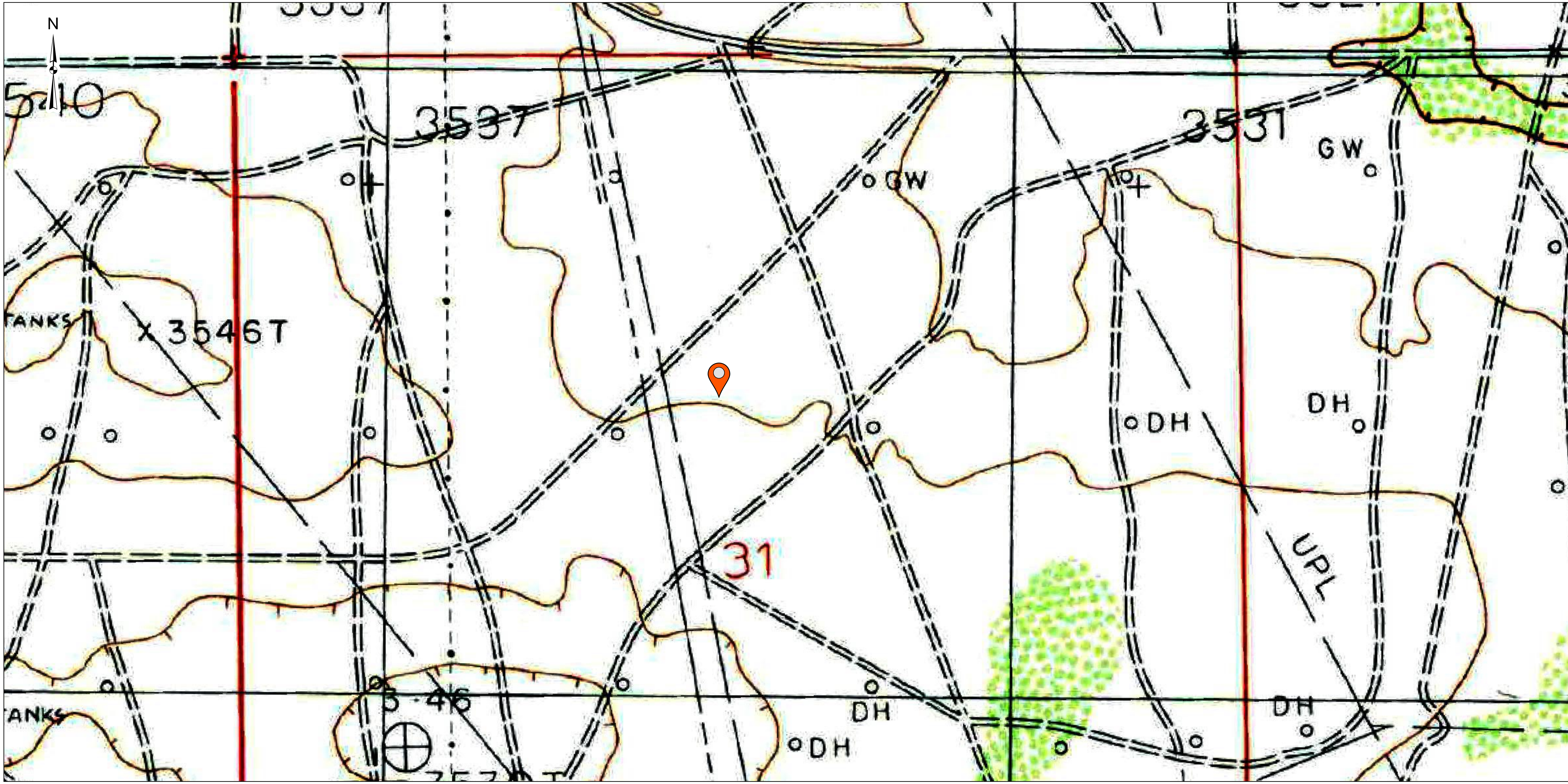
Exhibit 6 – 4Q21 Groundwater Gradient Map (12/15/21)
Exhibit 7 – 1Q21 Groundwater Contaminant Concentration Map (03/11-12/21)
Exhibit 8 – 2Q21 Groundwater Contaminant Concentration Map (06/18/21)
Exhibit 9 – 3Q21 Groundwater Contaminant Concentration Map (09/22/21)
Exhibit 10 – 4Q21 Groundwater Contaminant Concentration Map (12/15/21)



Legend:

Site Location

DATA SOURCES:
USGS Topoview - Monument South, NM 1985

Feet
0 390 780 1,560

Project No.:	AR217008
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" #2
Plains SRS # 2009-039
NMOCD Ref. # 1R-2136
Lea County, New Mexico
GPS: 32.531660, -103.291110

Exhibit

1

Legend:

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

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Feet
0 25 50 100

Project No.:	AR217008
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" #2
Plains SRS # 2009-039
NMOCD Ref. # 1R-2136
Lea County, New Mexico
GPS: 32.531660, -103.291110

Exhibit

2

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 with ArcGIS's kriging 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.:	AR217008
Date:	Apr 2021
Drawn By:	BAD
Reviewed By:	ELL

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1Q21 Groundwater Gradient Map

DCP Plant to Lea Station 6" #2
Plains SRS # 2009-039
NMOCD Ref. # 1RP-2136
Lea County, New Mexico
GPS: 32.531660, -103.291110

Exhibit

3

Legend:

- Monitor Well
- Recovery Well
- Groundwater Contour
- Groundwater Flow Direction

Notes:
- All groundwater elevations are measured in feet above mean sea level.
- Groundwater contours were interpolated with ArcGIS's kriging 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.:	AR217008
Date:	Jul 2021
Drawn By:	BAD
Reviewed By:	ELL

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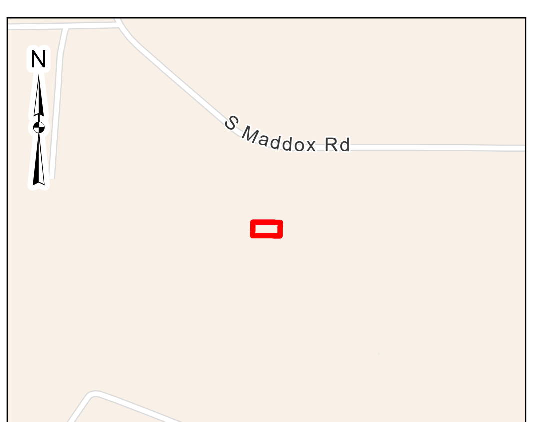
2Q21 Groundwater Gradient Map

DCP Plant to Lea Station 6" #2
Plains SRS # 2009-039
NMOCD Ref. # 1RP-2136
Lea County, New Mexico
GPS: 32.531660, -103.291110

Exhibit

4



Legend:

- Monitor Well
- Recovery Well
- Groundwater Contour
- Groundwater Flow Direction

Notes:
- All groundwater elevations are measured in feet above mean sea level.
- Groundwater contours were interpolated with ArcGIS's kriging algorithm.
- Motoring well MW-1 was not honored in the interpolation.
- Groundwater contour interval: 0.10 ft.
- Groundwater gradient: 0.0013 ft/ft

Feet
0 25 50 100

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	AR217008
Date:	Jan 2022
Drawn By:	BAD
Reviewed By:	ELL

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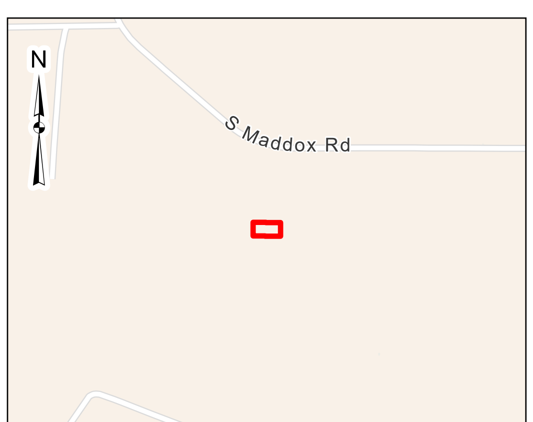
3Q21 Groundwater Gradient Map

DCP Plant to Lea Station 6" #2
Plains SRS # 2009-039
NMOCD Ref. # 1RP-2136
Lea County, New Mexico
GPS: 32.531660, -103.291110

Exhibit

5



Legend:

- Monitor Well
- Recovery Well
- Groundwater Contour
- Groundwater Flow Direction

Notes:
- All groundwater elevations are measured in feet above mean sea level.
- Groundwater contours were interpolated with ArcGIS's kriging 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.:	AR217008
Date:	Jan 2022
Drawn By:	BAD
Reviewed By:	ELL

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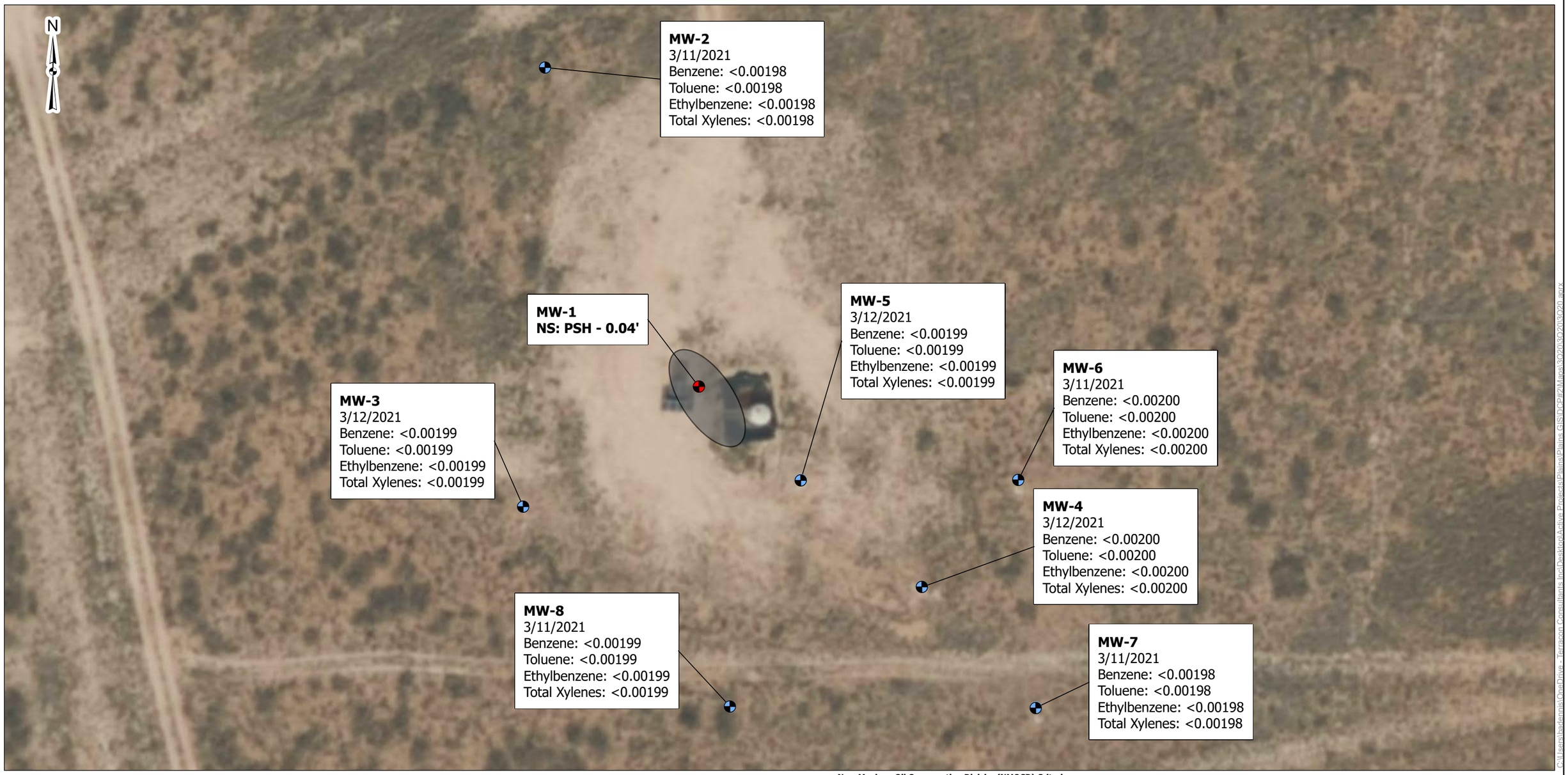
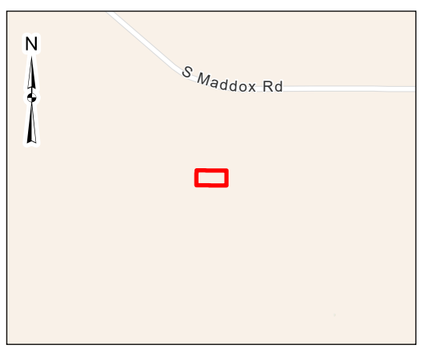
4Q21 Groundwater Gradient Map

DCP Plant to Lea Station 6" #2
Plains SRS # 2009-039
NMOCD Ref. # 1RP-2136
Lea County, New Mexico
GPS: 32.531660, -103.291110

Exhibit
6





Legend:

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

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

Feet
0 25 50 100

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	AR217008
Date:	Apr 2021
Drawn By:	BAD
Reviewed By:	ELL

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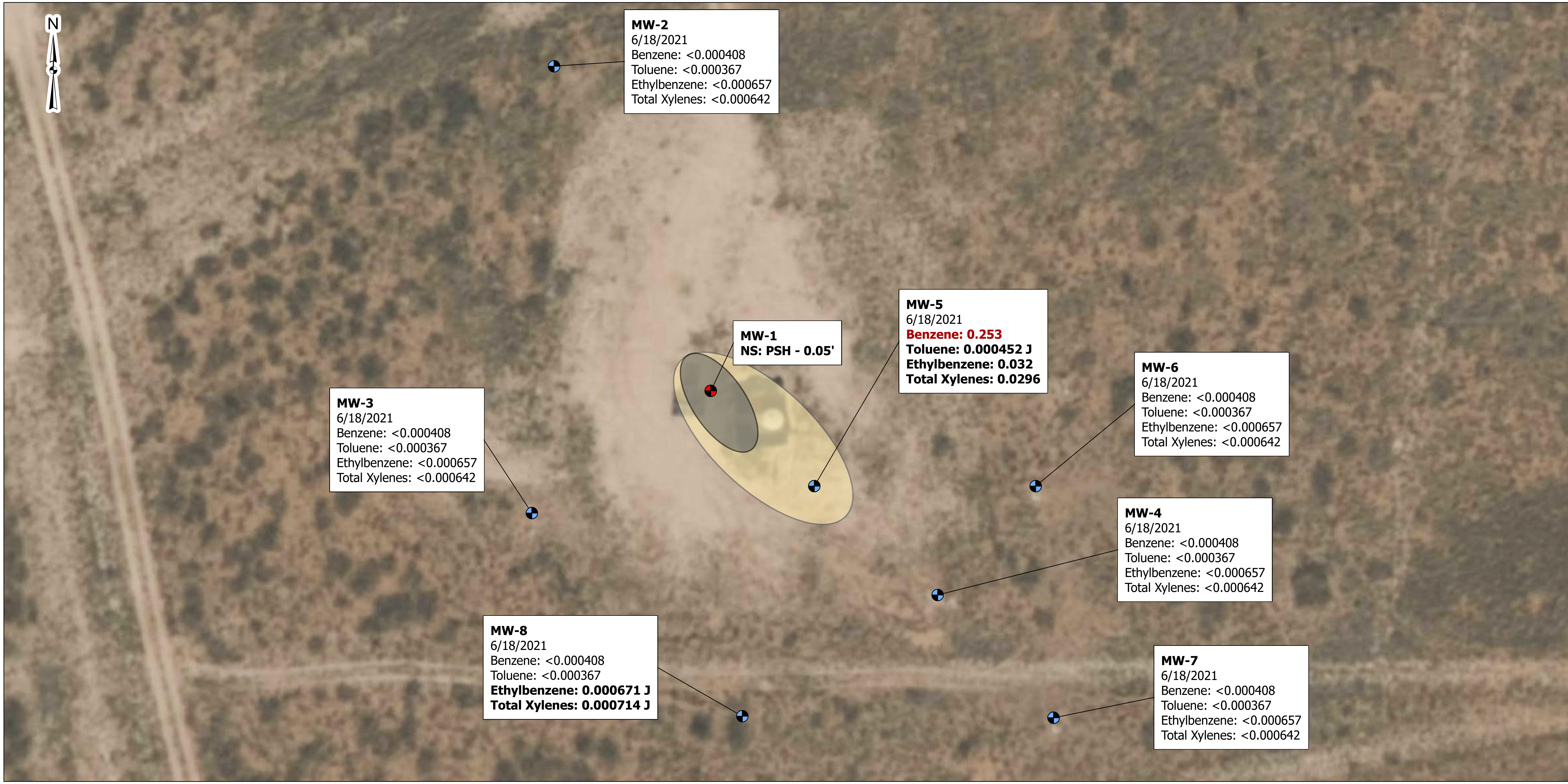
1Q21 Groundwater Concentration Map

DCP Plant to Lea Station 6" #2
Plains SRS # 2009-039
NMOCD Ref. # 1RP-2136
Lea County, New Mexico
GPS: 32.531660, -103.291110

Exhibit

7

C:\Users\bdavis\OneDrive - Terracon Consultants Inc\Desktop\Active Projects\Plains\Plains GIS\DCP\2021\Maps\3Q2020\3Q2020.aprx



Legend:

- Monitor Well
- Recovery Well
- Free Phase Plume
- Dissolved Phase Plume

New Mexico - Oil Conservation Division(NMOCD) Criteria:
B (Benzene) - 0.01mg/L
T (Toluene) - 0.75mg/L
E (Ethylbenzene) - 0.75mg/L
X (Total Xylenes) - 0.62mg/L
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PSH thicknesses are measured in tenths of feet.

Feet
0 25 50 100

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	AR217008
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" #2
Plains SRS # 2009-039
NMOCD Ref. # 1RP-2136
Lea County, New Mexico
GPS: 32.531660, -103.291110

Exhibit

8

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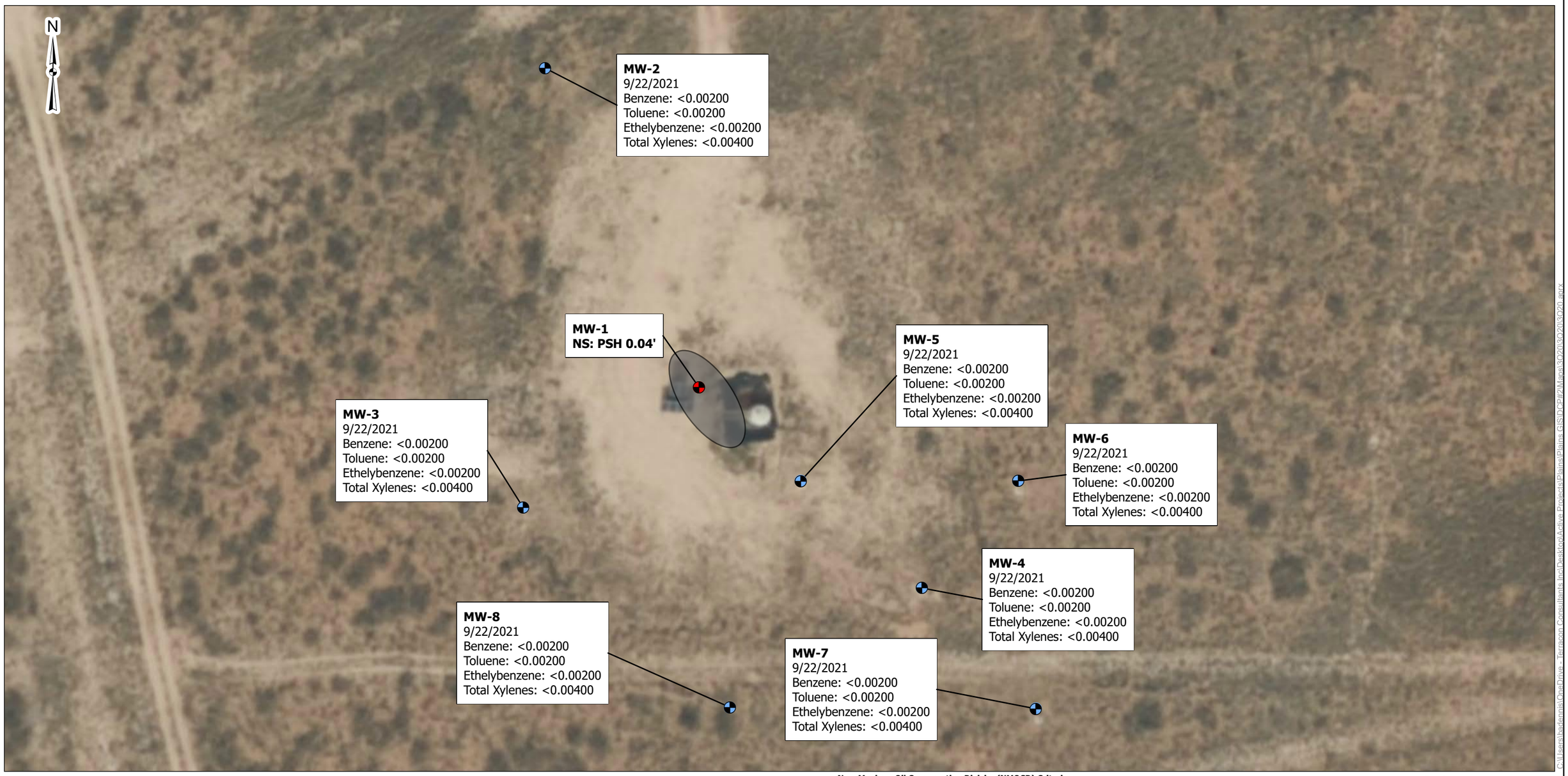

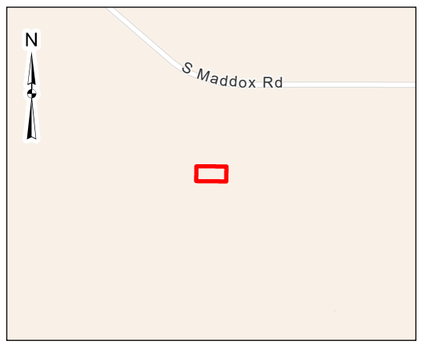

Legend:

- Monitor Well
- Recovery Well
- Free Phase Plume

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

Feet
0 25 50 100

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	AR217008
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" #2
Plains SRS # 2009-039
NMOCD Ref. # 1RP-2136
Lea County, New Mexico
GPS: 32.531660, -103.291110

Exhibit

9

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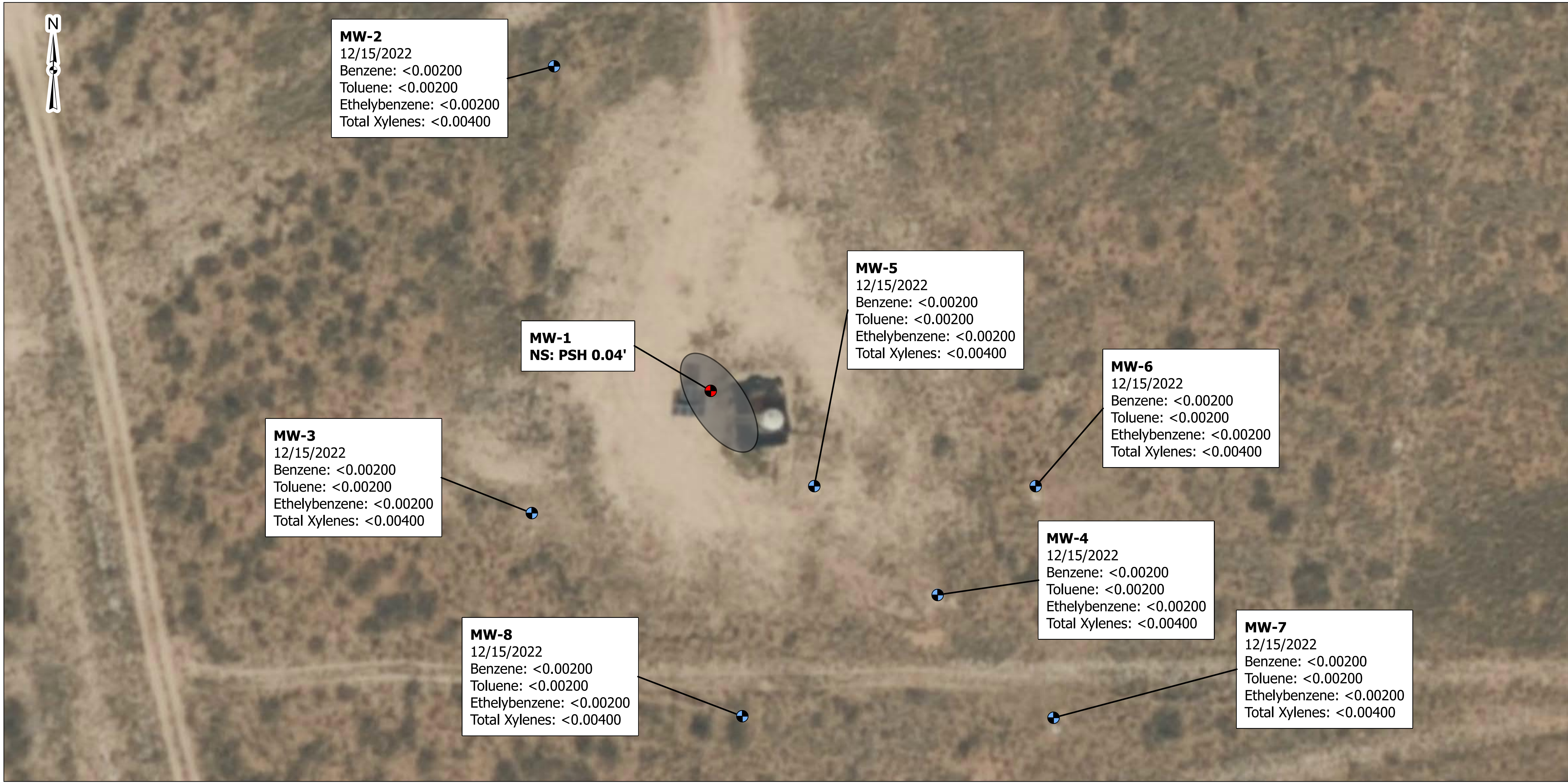

Legend:

- Monitor Well
- Recovery Well
- Free Phase Plume

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

Feet
0 25 50 100

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	AR217008
Date:	Jan 2022
Drawn By:	BAD
Reviewed By:	ELL

Terracon
5847 50th Street Lubbock, Texas 79424
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4Q21 Groundwater Concentration Map

DCP Plant to Lea Station 6" #2
Plains SRS # 2009-039
NMOCD Ref. # 1RP-2136
Lea County, New Mexico
GPS: 32.531660, -103.291110

Exhibit

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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 4a – MW-1 SVE System Operation and PSH Thickness & Recovery Summary
Table 4b – MW-5 Gauging and BTEX Impacted Groundwater Recovery Summary
Table 5 – Concentrations of PAH in Groundwater Summary

Table 1
Groundwater Elevation and PSH[1] Thickness Summary

DCP Plant to Lea Station 6-Inch #2
Lea County, New Mexico
Plains Pipeline, L.P. SRS #: 2009-039
Terracon Project #: AR217008
NMOCD[2] Reference #: 1RP-2136
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")	01/24/20	3,540.25	81.20	81.50	0.30	3,459.01
	06/24/20		81.32	81.51	0.19	3,458.90
	09/22/20		81.31	81.46	0.15	3,458.92
	12/16/20		81.42	81.49	0.07	3,458.82
	03/11/21		81.43	81.47	0.04	3,458.81
	06/18/21		81.35	81.40	0.05	3,458.89
	09/22/21		81.37	81.41	0.04	3,458.87
	12/15/21		81.42	81.46	0.04	3,458.82
MW-2 (2")	01/24/20	3,538.31	-	81.50	-	3,456.81
	06/24/20		-	79.20	-	3,459.11
	09/22/20		-	79.17	-	3,459.14
	12/16/20		-	79.23	-	3,459.08
	03/11/21		-	79.25	-	3,459.06
	06/18/21		-	79.26	-	3,459.05
	09/22/21		-	79.57	-	3,458.74
	12/15/21		-	79.31	-	3,459.00
MW-3 (2")	01/24/20	3,538.94	-	80.10	-	3,458.84
	06/24/20		-	80.16	-	3,458.78
	09/22/20		-	80.16	-	3,458.78
	12/16/20		-	80.19	-	3,458.75
	03/11/21		-	80.18	-	3,458.76
	06/18/21		-	80.20	-	3,458.74
	09/22/21		-	80.53	-	3,458.41
	12/15/21		-	80.29	-	3,458.65
MW-4 (4")	01/24/20	3,539.67	-	81.02	-	3,458.65
	06/24/20		-	81.09	-	3,458.58
	09/22/20		-	81.14	-	3,458.53
	12/16/20		-	80.72	-	3,458.95
	03/11/21		-	81.11	-	3,458.56
	06/18/21		-	81.10	-	3,458.57
	09/22/21		-	81.23	-	3,458.44
	12/15/21		-	81.14	-	3,458.53
MW-5 (4")	01/24/20	3,539.55	-	80.73	-	3,458.82
	06/24/20		-	80.81	-	3,458.74
	09/22/20		-	80.79	-	3,458.76
	12/16/20		-	80.90	-	3,458.65
	03/11/21		-	80.85	-	3,458.70
	06/18/21		-	80.84	-	3,458.71
	09/22/21		-	80.85	-	3,458.70
	12/15/21		-	80.90	-	3,458.65
MW-6 (2")	01/24/20	3,539.22	-	80.54	-	3,458.68
	06/24/20		-	80.54	-	3,458.68
	09/22/20		-	80.53	-	3,458.69
	12/16/20		-	80.53	-	3,458.69
	03/11/21		-	80.58	-	3,458.64
	06/18/21		-	80.60	-	3,458.62
	09/22/21		-	80.68	-	3,458.54
	12/15/21		-	80.63	-	3,458.59
MW-7 (4")	01/24/20	3,538.97	-	80.49	-	3,458.48
	06/24/20		-	80.50	-	3,458.47
	09/22/20		-	80.48	-	3,458.49
	12/16/20		-	80.50	-	3,458.47
	03/11/21		-	80.54	-	3,458.43
	06/18/21		-	80.61	-	3,458.36
	09/22/21		-	80.63	-	3,458.34
	12/15/21		-	80.64	-	3,458.33
MW-8 (2")	08/18/20	3,540.04	Monitor Well Installed			
	09/22/20		-	81.46	-	3,458.58
	12/16/20		-	81.52	-	3,458.52
	03/11/21		-	81.55	-	3,458.49
	06/18/21		-	81.58	-	3,458.46
	09/22/21		-	81.58	-	3,458.46
	12/15/21		-	81.61	-	3,458.43

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 #2
Lea County, New Mexico
Plains Pipeline, L.P. SRS #: 2009-039
Terracon Project #: AR217008
NMOCD[2] Reference #: 1RP-2136
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	01/24/20	MW-1 Not Sample Due to PSH[5]						
	06/24/20							
	09/22/20							
	12/16/20							
	03/11/21							
	06/18/21							
	09/22/21							
	12/15/21							
MW-2	01/24/20	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	06/24/20	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	09/22/20	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	12/16/20	**0.00174 J**	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	**0.00174 J**
	03/11/21	<0.00198	<0.00198	<0.00198	<0.00397	<0.00198	<0.00198	<0.00198
	06/18/21	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	09/22/21	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00200
	12/15/21	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
MW-3	01/24/20	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	06/24/20	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	09/22/20	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	12/16/20	**0.00148 J**	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	**0.00148 J**
	03/12/21	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00199	<0.00199
	06/18/21	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	09/22/21	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00200
	12/15/21	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
MW-4	01/24/20	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	06/24/20	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	09/22/20	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	12/16/20	**0.00140 J**	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	**0.00140 J**
	03/12/21	<0.00200	<0.00200	<0.00200	<0.00399	<0.00200	<0.00200	<0.00200
	06/18/21	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	09/22/21	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00200
	12/15/21	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
MW-5	01/24/20	**4.37**	**0.0400 J**	**0.275**	**0.210**	**0.140**	**0.350**	**5.04**
	06/24/20	**2.38**	**0.00167 J**	**0.117**	**0.085**	**0.0412**	**0.126**	**2.63**
	09/22/20	**1.42**	**0.00192 J**	**0.126**	**0.138**	**0.0379**	**0.176**	**1.72**
	DUP-1	**3.20**	**0.00670 J**	**0.312**	**0.348**	**0.106**	**0.454**	**3.97**
	12/16/20	**0.00495**	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	**0.00495**
	DUP-1	**0.00409**	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	**0.00409**
	03/12/21	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00199	<0.00199
	06/18/21	**0.253**	**0.000452 J**	**0.0320**	**0.0256**	**0.00402**	**0.0296**	**0.315**
	DUP-1	**0.210**	**0.000581 J**	**0.0289**	**0.0233**	**0.00343**	**0.0267**	**0.266**
	09/22/21	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	**0.00219***
	DUP-1	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	**0.00254***
	12/15/21	<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	01/24/20	<0.000480	<0.000512	**0.000800 J**	<0.000454	<0.000270	<0.000270	**0.000800 J**
	06/24/20	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	09/22/20	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	12/16/20	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	03/11/21	<0.00200	<0.00200	<0.00200	<0.00399	<0.00200	<0.00200	<0.00200
	06/18/21	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	09/22/21	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00200
	12/15/21	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
MW-7	01/24/20	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	06/24/20	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	09/22/20	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	12/16/20	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	03/11/21	<0.00198	<0.00198	<0.00198	<0.00396	<0.00198	<0.00198	<0.00198
	06/18/21	<0.000408	<0.000367	<0.000657	<0.000629	<0.000642	<0.000642	<0.000657
	09/22/21	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00200
	12/15/21	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00400
MW-8	08/18/20	Monitor Well Installed						
	09/22/20	Not sampled due to turbidity						
	12/16/20	<0.000408	<0.000367	<0.000657	<0.000630	<0.000642	<0.000630	<0.000367
	03/11/21	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00199	<0.00199
	06/18/21	<0.000408	<0.000367	**0.000671 J**	**0.000714 J**	<0.000642	**0.000714 J**	**0.00139 J**
	09/22/21	<0.00200	<0.00200	<0.00200	<0.00400	<0.00200	<0.00400	<0.00200
	12/15/21	<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
Bold text indicates a concentration above the laboratory detection limit.
Highlighted text indicates a concentration exceeding the NMOCD RRAL Criteria
* = Laboratory control samples indicate Total BTEX concentrations are biased high

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

DCP Plant to Lea Station 6-Inch #2
Lea County, New Mexico
Plains Pipeline, L.P. SRS#: 2009-039
NMOCD Reference #: 1RP-2136
Terracon Project No. AR217008

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**	
EF-1 (20200122)	01/22/20	Pace	Benzene - 83.4	0.057	0.043
			Toluene - 527	0.359	0.270
			Ethylbenzene - 67.2	0.045	0.034
			Total Xylene - 158	0.108	0.081
			Total BTEX - 41	0.028	0.021
			TPH - GRO - 15,500	**10.6**	9.76
EF-1 (20200220)	02/20/20	Pace	Benzene - 19.7	0.013	0.010
			Toluene - 141	0.096	0.072
			Ethylbenzene - 23.5	0.016	0.012
			Total Xylene - 55.1	0.038	0.028
			Total BTEX - 15	0.010	0.008
			TPH - GRO - 5,200	3.54	3.28
EF-1 (20200331)	03/31/20	Pace	Benzene - 17.1	0.012	0.009
			Toluene - 114	0.078	0.058
			Ethylbenzene - 17.5	0.012	0.009
			Total Xylene - 44.2	0.030	0.023
			Total BTEX - 11.2	0.008	0.006
			TPH - GRO - N/A	N/A	N/A
EF-1 (20200430)	04/30/20	Pace	Benzene - 63.6	0.043	0.033
			Toluene - 452	0.308	0.231
			Ethylbenzene - 81.5	0.055	0.042
			Total Xylene - 49	0.033	0.025
			Total BTEX - 184	0.125	0.094
			TPH - GRO - 20,700	**14.1**	13.0
EF-1 (20200528)	05/28/20	Pace	Benzene - 5.17	0.004	0.003
			Toluene - 43.3	0.029	0.022
			Ethylbenzene - 4.99	0.003	0.003
			Total Xylene - 96	0.065	0.049
			Total BTEX - 206	0.140	0.105
			TPH - GRO - 6,110	4.16	3.85
EF-1 (20200629)	06/29/20	Pace	Benzene - 32.6	0.022	0.017
			Toluene - 258	0.176	0.132
			Ethylbenzene - 40.4	0.028	0.021
			Total Xylene - 98.4	0.069	0.050
			Total BTEX - 26.3	0.018	0.013
			TPH - GRO - 9,010	6.13	5.67
EF-1 (20200729)	07/29/20	Pace	Benzene - 14.9	0.010	0.008
			Toluene - 133	0.091	0.068
			Ethylbenzene - 21.5	0.015	0.011
			Total Xylene - 49.9	0.034	0.026
			Total BTEX - 13.1	0.009	0.007
			TPH - GRO - 4,380	2.98	2.76
EFF-1 (20200819)	08/19/20	Pace	Benzene - 7.44	0.005	0.004
			Toluene - 58.8	0.040	0.030
			Ethylbenzene - 8.3	0.006	0.004
			Total Xylene - 23.1	0.016	0.012
			Total BTEX - ND	-	-
			TPH - GRO - 2,780	1.89	1.75
EFF-1 (09282020)	09/28/20	Pace	Benzene - 8.18	0.005	0.004
			Toluene - 70.4	0.048	0.036
			Ethylbenzene - 12.8	0.009	0.007
			Total Xylene - 39.3	0.027	0.020
			Total BTEX - 131	0.089	0.067
			TPH - GRO - 2,730	1.86	1.72
EF-1 (10292020)	10/29/20	Pace	Benzene - 14.8	0.010	0.008
			Toluene - 127	0.086	0.065
			Ethylbenzene - 25.1	0.017	0.013
			Total Xylene - 77.3	0.053	0.040
			Total BTEX - 244	0.166	0.125
			TPH - GRO - 5,410	3.68	3.41
			2020 TPH Average:	5.4	5.025

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 (m³/min) and constituent concentration were constant for the entirety of a year.
4. SVE Emission: Soil Vapor Extraction
NA: Indicates constituant was not analyzed
ND: Not detected at the Method Quantitation Limit.
< = 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 #2
Lea County, New Mexico
Plains Pipeline, L.P. SRS#: 2009-039
NMOCD Reference #: 1RP-2136
Terracon Project No. AR217008

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**	
EF #2	01/28/21	Pace	Benzene - 77.9	0.053	0.040
			Toluene - 701	0.477	0.359
			Ethylbenzene - 136	0.093	0.070
			Total Xylene - 394.4	0.268	0.202
			Total BTEX - 1,309	0.891	0.670
			TPH - GRO - 26,100	**17.77**	16.44
EF-1 (0262021)	02/26/21	Pace	Benzene - 45.4	0.031	0.023
			Toluene - 467	0.318	0.239
			Ethylbenzene - 101	0.069	0.052
			Total Xylene - 251	0.171	0.128
			Total BTEX - 864	0.588	0.442
			TPH - GRO - 17,300	**11.78**	10.89
EFF-1 (03302021)	03/30/21	Pace	Benzene - 14.8	0.010	0.008
			Toluene - 264	0.180	0.135
			Ethylbenzene - 34.9	0.024	0.018
			Total Xylene - 107	0.072	0.055
			Total BTEX - 420	0.286	0.215
			TPH - GRO - 6,650	4.53	4.19
EFF-1 (04272021)	04/27/21	Pace	Benzene - 29.1	0.020	0.015
			Toluene - 418	0.285	0.214
			Ethylbenzene - 73.3	0.050	0.038
			Total Xylene - 203	0.138	0.104
			Total BTEX - 724	0.493	0.370
			TPH - GRO - 12,200	8.30	7.68
EFF-1 (05272021)	05/27/21	Pace	Benzene - ND	ND	ND
			Toluene - 380	0.259	0.194
			Ethylbenzene - 68.1	0.046	0.035
			Total Xylene - 223	0.152	0.114
			Total BTEX - 671	0.457	0.343
			TPH - GRO - 13,300	9.05	8.38
EFF-1 (06282021)	06/28/21	Pace	Benzene - 16.2	0.011	0.008
			Toluene - 238	0.162	0.122
			Ethylbenzene - 49.9	0.034	0.026
			Total Xylene - 148	0.101	0.076
			Total BTEX - 452	0.308	0.231
			TPH - GRO - 7,480	5.09	4.71
EFF-1 (07272021)	07/27/21	Pace	Benzene - 20.8	0.014	0.011
			Toluene - 314	0.214	0.161
			Ethylbenzene - 59.4	0.040	0.030
			Total Xylene - 172	0.117	0.088
			Total BTEX - 567	0.386	0.290
			TPH - GRO - 10,700	7.28	6.74
EFF-1 (08252021)	08/25/21	Pace	Benzene - ND	ND	ND
			Toluene - 307	0.209	0.157
			Ethylbenzene - 68.5	0.047	0.035
			Total Xylene - 196.8	0.134	0.101
			Total BTEX - 572	0.390	0.293
			TPH - GRO - 9,870	6.72	6.22
EFF-1 (09302021)	09/30/21	Pace	Benzene - ND	ND	ND
			Toluene - 18.0	0.012	0.009
			Ethylbenzene - 3.5	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 - 9.32	0.006	0.005
			Toluene - 198	0.135	0.101
			Ethylbenzene - 42.7	0.029	0.022
			Total Xylene - 132	0.090	0.067
			Total BTEX - 382	0.260	0.195
			TPH - GRO - 6,820	4.64	4.29
EFF-1 (11302021)	11/30/21	Pace	Benzene - 22	0.015	0.011
			Toluene - 426	0.290	0.218
			Ethylbenzene - 83.7	0.057	0.043
			Total Xylene - 242.6	0.165	0.124
			Total BTEX - 774	0.527	0.396
			TPH - GRO - 19,200	**13.07**	**12.09**
EFF-1 (12202021)	12/20/21	Pace	Benzene - ND	ND	ND
			Toluene - 8.89	0.006	0.005
			Ethylbenzene - ND	ND	ND
			Total Xylene - 18	0.012	0.009
			Total BTEX - 26.89	0.018	0.014
			TPH - GRO - 4,790	3.26	3.02
			2021 TPH Average:	8.0345	7.433

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 (m³/min) and constituent concentration were constant for the entirety of a year.
4. SVE Emission: Soil Vapor Extraction
NA: Indicates constituant was not analyzed
ND: Not detected at the Method Quantitation Limit.
< = Constituent not detected above laboratory sample detection limit (SDL)
Bold denotes concentrations that could potentially be in violation of applicable NMED AQB criteria.

TABLE 4a
MW-1 SVE[1] System Operation and PSH[2] Thickness & Recovery Summary

DCP Plant to Lea Station 6-Inch #2
Lea County, New Mexico
Plains Pipeline, L.P. SRS #2009-039
Terracon Project #: AR217008
NMOCD[3] REFERENCE #: 1RP-2136
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	Hours of Operation	Total Fluid Recovery (gallons)	PSH Recovered (gallons)	
MW-1	01/10/2020	3,540.25	81.23	81.50	0.27	-	18,668	3.00	0.044	
	02/07/2020		81.23	81.50	0.27	1,382.00	-	3.00	0.044	
	02/20/2020		81.20	81.40	0.20	1,218.00	19,174	5.00	0.033	
	03/02/2020		81.20	81.39	0.19	-	-	4.00	0.031	
	03/16/2020		-	81.35	-	1,002.00	19,407	5.00	0.00	
	03/30/2020		81.22	81.23	0.01	562.00	19,699	5.00	0.002	
	04/16/2020		81.21	81.40	0.19	871.40	19,699	5.00	0.031	
	04/30/2020		81.20	81.39	0.19	998.00	20,034	5.00	0.031	
	05/28/2020		81.33	81.55	0.22	852.50	20,034	5.00	0.036	
	06/18/2020		81.23	81.34	0.11	-	-	5.00	0.018	
	06/24/2020		81.32	81.51	0.19	813.40	20,534	-	-	
	06/29/2020		Not Measured			1,384.10	20,658	-	-	
	07/29/2020		81.28	81.42	0.14	1,288.00	20,658	-	-	
	08/19/2020		81.30	81.45	0.15	1,348.10	21,658	5.00	0.024	
	09/28/2020		81.31	81.40	0.09	366.00	22,021	5.00	0.059	
	10/29/2020		81.31	81.41	0.10	584.90	20,658	5.00	0.016	
	11/24/2020		81.38	81.45	0.07	-	-	-	-	
	12/30/2020		81.41	81.49	0.08	-	-	5.00	0.052	
	01/28/2021		81.31	81.41	0.10	1,875.00	23,289	3.00	0.065	
	02/26/2021		Not Measured			3,998.00	23,794	5.00	-	
	03/30/2021		81.45	81.51	0.06	1,146.00	-	5.00	0.039	
	04/27/2021		81.10	81.14	0.04	1,517.00	25,065	5.00	0.026	
	05/28/2021		81.18	81.22	0.04	3,012.00	25,802	5.00	0.026	
	06/28/2021		81.21	81.23	0.02	1,713.00	26,409	5.00	0.013	
	07/27/2021		81.19	81.23	0.04	2,341.00	27,056	5.00	0.026	
	08/25/2021		81.55	81.86	0.31	1,475.00	27,752	5.00	0.202	
	10/28/2021		81.35	81.40	0.05	-	28,779	5.00	0.033	
	11/30/2021		Not Measured			1,326.00	29,571	5.00	-	
	12/20/2021		84.76	85.60	0.84	-	30,051	5.00	0.549	
			2021 Average PSH Thickness		**0.17**	**2021 Total Recovered**		**53.0**	**0.980**	**<--sum PSH rec**
										To date total

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

* 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 4b
MW-5 Gauging and BTEX[1] Impacted Groundwater Recovery Summary

DCP Plant to Lea Station 6-Inch #2
Lea County, New Mexico
Plains Pipeline, L.P. SRS #2009-039
Terracon Project #: AR217008
NMOCD[2] REFERENCE #: 1RP-2136
All measurements are in feet above mean sea level

Monitoring Well	Date	Top of Casing (TOC)[3] Elevation	Depth to Water	Corrected Groundwater Elevation	Groundwater Recovered (gallons)
MW-5	01/10/2020	3,539.55	-	-	3.0
	02/07/2020		-	-	3.0
	02/20/2020		-	-	5.0
	03/02/2020		-	-	3.5
	03/16/2020		-	-	5.0
	03/30/2020		-	-	5.0
	04/16/2020		-	-	5.0
	04/30/2020		-	-	5.0
	05/28/2020		-	-	5.0
	06/18/2020		-	-	5.0
	07/29/2020		-	-	5.0
	08/20/2020		-	-	5.0
	09/28/2020		-	-	5.0
	10/29/2020		-	-	5.0
	12/30/2020		-	-	5.0
	01/28/2021		-	-	5.0
	02/26/2021		-	-	5.0
	03/30/2021		-	-	5.0
	04/27/2021		-	-	5.0
	05/28/2021		-	-	5.0
	06/28/2021		-	-	5.0
	07/27/2021		-	-	5.0
	08/25/2021		-	-	5.0
	10/28/2021		-	-	5.0
	11/30/2021		-	-	5.0
	12/20/2021		-	-	5.0
				2Q21 GW Recovered	**55.0**

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

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

DCP Plant to Lea Station 6-Inch #2
Lea County, New Mexico
Plains Pipeline, L.P. SRS #: 2009-039
Terracon Project #: AR217008
NMOCD2 Reference#: 1RP-2136
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	NA	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	NA	<0.100	<0.100	<0.100	<0.100	<0.100
	12/16/2020	Well Not Sampled Due To PSH																
MW-2	7/1/2009	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	12/16/2020	<0.000104	<0.0000609	<0.000107	<0.0000899	<0.0000925	<0.000144	<0.0000759	<0.000121	<0.000124	<0.000167	<0.0000812	NA	<0.000168	<0.000108	<0.0000975	<0.0000908	<0.000139
MW-3	7/1/2009	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	12/16/2011	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	11/9/2012	<0.00031	<0.00019	<0.00035	<0.00033	<0.00016	<0.00024	<0.00036	<0.00028	<0.00049	<0.00022	<0.00019	NA	<0.00024	<0.00030	<0.00032	<0.00027	<0.00027
	12/16/2020	<0.000106	<0.0000623	<0.000109	<0.0000920	<0.0000946	<0.000147	<0.0000777	<0.000124	<0.000127	<0.000171	<0.0000830	NA	<0.000172	<0.000110	<0.0000998	<0.0000929	<0.000142
MW-4	7/1/2009	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	12/16/2011	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	11/9/2012	<0.00032	<0.00020	<0.00037	<0.00034	<0.00016	<0.00025	<0.00038	<0.00029	<0.00051	<0.00023	<0.00020	NA	<0.00025	<0.00031	<0.00034	<0.00028	<0.00028
	12/16/2020	<0.000108	<0.0000637	<0.000112	<0.0000939	<0.0000966	<0.000150	<0.0000793	<0.000126	<0.000130	<0.000174	<0.0000848	NA	<0.000175	<0.000112	<0.000102	<0.0000949	<0.000145
MW-5	3/25/2011	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005
	11/9/2012	<0.00032	<0.00020	<0.00037	<0.00034	<0.00016	<0.00025	<0.00038	<0.00029	<0.00051	<0.00023	<0.00020	NA	<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	NA	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049
	5/8/2014	NA	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	NA	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	12/16/2020	<0.0000986	<0.0000579	<0.000101	<0.0000854	<0.0000879	<0.000136	<0.0000721	<0.000115	<0.000118	<0.000158	<0.0000771	NA	<0.000159	<0.000102	<0.0000926	<0.0000863	<0.000132
MW-6	5/8/2014	NA	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	NA	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	12/16/2020	<0.000119	<0.0000698	<0.000122	<0.000103	<0.000106	<0.000164	<0.0000869	<0.000138	<0.000142	<0.000191	<0.0000929	NA	<0.000192	<0.000123	<0.000112	<0.000104	<0.000159
MW-7	5/8/2014	NA	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	NA	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	12/16/2020	<0.000110	<0.0000644	<0.000113	<0.0000951	<0.0000978	<0.000152	<0.0000803	<0.000128	<0.000131	<0.000176	<0.0000858	NA	<0.000177	<0.000114	<0.000103	<0.0000960	<0.000147
MW-8	12/16/2020	<0.0000646	<0.000110	<0.000113	<0.0000954	<0.0000981	<0.000152	<0.0000805	<0.000128	<0.000132	<0.000177	<0.0000861	NA	<0.000178	<0.000114	<0.000103	<0.0000963	<0.000148

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
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

Copies of Certified Laboratory Reports:

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Certificate of Analysis Summary 691644

Terracon-Lubbock, Lubbock, TX

Project Name: DCP #2

Project Id: AR217008
Contact: Brett Dennis
Project Location:

Date Received in Lab: Fri 03.12.2021 16:19
Report Date: 03.22.2021 15:00
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	691644-001		691644-002		691644-003		691644-004		691644-005		691644-006	
	Field Id:	MW-2		MW-3		MW-4		MW-5		MW-6		MW-7	
	Depth:												
	Matrix:	WATER		WATER		WATER		WATER		WATER		WATER	
	Sampled:	03.11.2021 11:24		03.12.2021 11:43		03.12.2021 12:27		03.12.2021 12:58		03.11.2021 13:57		03.11.2021 13:14	
BTEX by EPA 8021B	***Extracted:***	03.19.2021 16:40		03.19.2021 16:40		03.19.2021 16:40		03.19.2021 16:40		03.19.2021 16:40		03.19.2021 16:40	
SUB: T104704400-20-21	***Analyzed:***	03.21.2021 16:37		03.21.2021 16:58		03.21.2021 17:18		03.21.2021 17:39		03.21.2021 18:00		03.21.2021 18:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198
Toluene		<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198
Ethylbenzene		<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198
m,p-Xylenes		<0.00397	0.00397	<0.00398	0.00398	<0.00399	0.00399	<0.00398	0.00398	<0.00399	0.00399	<0.00396	0.00396
o-Xylene		<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198
Total Xylenes		<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198
Total BTEX		<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198

BRL - Below Reporting Limit

Jessica Kramer

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Certificate of Analysis Summary 691644

Terracon-Lubbock, Lubbock, TX

Project Name: DCP #2

Project Id: AR217008
Contact: Brett Dennis
Project Location:

Date Received in Lab: Fri 03.12.2021 16:19
Report Date: 03.22.2021 15:00
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	691644-007					
	Field Id:	MW-8					
	Depth:						
	Matrix:	WATER					
	Sampled:	03.11.2021 12:17					
BTEX by EPA 8021B	***Extracted:***	03.19.2021 16:40					
SUB: T104704400-20-21	***Analyzed:***	03.21.2021 18:41					
	Units/RL:	mg/kg RL					
Benzene		<0.00199 0.00199					
Toluene		<0.00199 0.00199					
Ethylbenzene		<0.00199 0.00199					
m,p-Xylenes		<0.00398 0.00398					
o-Xylene		<0.00199 0.00199					
Total Xylenes		<0.00199 0.00199					
Total BTEX		<0.00199 0.00199					

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer

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Analytical Report 691644

for

Terracon-Lubbock

Project Manager: Brett Dennis

DCP #2

AR217008

03.22.2021

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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03.22.2021

Project Manager: **Brett Dennis**
Terracon-Lubbock
5827 50th st, Suite 1
Lubbock, TX 79424

Reference: Eurofins Xenco, LLC Report No(s): **691644**
DCP #2
Project Address:

Brett Dennis:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 691644. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 691644 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

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Sample Cross Reference 691644

Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2	W	03.11.2021 11:24		691644-001
MW-3	W	03.12.2021 11:43		691644-002
MW-4	W	03.12.2021 12:27		691644-003
MW-5	W	03.12.2021 12:58		691644-004
MW-6	W	03.11.2021 13:57		691644-005
MW-7	W	03.11.2021 13:14		691644-006
MW-8	W	03.11.2021 12:17		691644-007

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CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: DCP #2

Project ID: *AR217008*
Work Order Number(s): *691644*

Report Date: *03.22.2021*
Date Received: *03.12.2021*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 691644

Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id: **MW-2** Matrix: Water Date Received:03.12.2021 16:19

Lab Sample Id: 691644-001 Date Collected: 03.11.2021 11:24

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 03.19.2021 16:40 % Moisture:

Seq Number: 3154335 Basis: Wet Weight

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.21.2021 16:37	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.21.2021 16:37	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.21.2021 16:37	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	03.21.2021 16:37	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.21.2021 16:37	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.21.2021 16:37	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.21.2021 16:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	03.21.2021 16:37	
4-Bromofluorobenzene	460-00-4	104	%	70-130	03.21.2021 16:37	

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Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id: **MW-3** Matrix: Water Date Received:03.12.2021 16:19

Lab Sample Id: 691644-002 Date Collected: 03.12.2021 11:43

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 03.19.2021 16:40 % Moisture:

Seq Number: 3154335 Basis: Wet Weight

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.21.2021 16:58	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.21.2021 16:58	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.21.2021 16:58	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.21.2021 16:58	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.21.2021 16:58	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.21.2021 16:58	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.21.2021 16:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	03.21.2021 16:58	
4-Bromofluorobenzene	460-00-4	106	%	70-130	03.21.2021 16:58	

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Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id: **MW-4** Matrix: Water Date Received:03.12.2021 16:19

Lab Sample Id: 691644-003 Date Collected: 03.12.2021 12:27

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 03.19.2021 16:40 % Moisture:

Seq Number: 3154335 Basis: Wet Weight

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.21.2021 17:18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.21.2021 17:18	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.21.2021 17:18	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.21.2021 17:18	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.21.2021 17:18	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.21.2021 17:18	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.21.2021 17:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	03.21.2021 17:18	
1,4-Difluorobenzene	540-36-3	98	%	70-130	03.21.2021 17:18	

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Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id: **MW-5** Matrix: Water Date Received:03.12.2021 16:19

Lab Sample Id: 691644-004 Date Collected: 03.12.2021 12:58

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 03.19.2021 16:40 % Moisture:

Seq Number: 3154335 Basis: Wet Weight

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.21.2021 17:39	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.21.2021 17:39	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.21.2021 17:39	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.21.2021 17:39	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.21.2021 17:39	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.21.2021 17:39	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.21.2021 17:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	03.21.2021 17:39	
4-Bromofluorobenzene	460-00-4	110	%	70-130	03.21.2021 17:39	

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Certificate of Analytical Results 691644

Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id: **MW-6** Matrix: Water Date Received:03.12.2021 16:19

Lab Sample Id: 691644-005 Date Collected: 03.11.2021 13:57

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 03.19.2021 16:40 % Moisture:

Seq Number: 3154335 Basis: Wet Weight

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.21.2021 18:00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.21.2021 18:00	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.21.2021 18:00	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.21.2021 18:00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.21.2021 18:00	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.21.2021 18:00	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.21.2021 18:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	03.21.2021 18:00	
1,4-Difluorobenzene	540-36-3	101	%	70-130	03.21.2021 18:00	

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Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id: **MW-7** Matrix: Water Date Received:03.12.2021 16:19

Lab Sample Id: 691644-006 Date Collected: 03.11.2021 13:14

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 03.19.2021 16:40 % Moisture:

Seq Number: 3154335 Basis: Wet Weight

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.21.2021 18:20	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.21.2021 18:20	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.21.2021 18:20	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	03.21.2021 18:20	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.21.2021 18:20	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.21.2021 18:20	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.21.2021 18:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	03.21.2021 18:20	
1,4-Difluorobenzene	540-36-3	98	%	70-130	03.21.2021 18:20	

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Certificate of Analytical Results 691644

Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id: **MW-8** Matrix: Water Date Received:03.12.2021 16:19

Lab Sample Id: 691644-007 Date Collected: 03.11.2021 12:17

Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A

Tech: KTL

Analyst: KTL Date Prep: 03.19.2021 16:40 % Moisture:

Seq Number: 3154335 Basis: Wet Weight

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.21.2021 18:41	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.21.2021 18:41	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.21.2021 18:41	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.21.2021 18:41	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.21.2021 18:41	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.21.2021 18:41	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.21.2021 18:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	03.21.2021 18:41	
1,4-Difluorobenzene	540-36-3	98	%	70-130	03.21.2021 18:41	

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Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

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

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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QC Summary 691644

Terracon-Lubbock

DCP #2

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3154335 Matrix: Solid Date Prep: 03.19.2021

MB Sample Id: 7723715-1-BLK LCS Sample Id: 7723715-1-BKS LCSD Sample Id: 7723715-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0986	99	0.0945	95	70-130	4	35	mg/kg	03.20.2021 14:19	
Toluene	<0.00200	0.100	0.0974	97	0.0952	95	70-130	2	35	mg/kg	03.20.2021 14:19	
Ethylbenzene	<0.00200	0.100	0.0967	97	0.0933	93	70-130	4	35	mg/kg	03.20.2021 14:19	
m,p-Xylenes	<0.00400	0.200	0.191	96	0.187	94	70-130	2	35	mg/kg	03.20.2021 14:19	
o-Xylene	<0.00200	0.100	0.0956	96	0.0931	93	70-130	3	35	mg/kg	03.20.2021 14:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		103		103		70-130	%	03.20.2021 14:19
4-Bromofluorobenzene	111		104		103		70-130	%	03.20.2021 14:19

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3154335 Matrix: Soil Date Prep: 03.19.2021

Parent Sample Id: 691744-006 MS Sample Id: 691744-006 S MSD Sample Id: 691744-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0463	46	0.122	122	70-130	90	35	mg/kg	03.20.2021 15:00	XF
Toluene	<0.00199	0.0996	0.0516	52	0.122	122	70-130	81	35	mg/kg	03.20.2021 15:00	XF
Ethylbenzene	<0.00199	0.0996	0.0532	53	0.122	122	70-130	79	35	mg/kg	03.20.2021 15:00	XF
m,p-Xylenes	<0.00398	0.199	0.105	53	0.242	121	70-130	79	35	mg/kg	03.20.2021 15:00	XF
o-Xylene	<0.00199	0.0996	0.0512	51	0.115	115	70-130	77	35	mg/kg	03.20.2021 15:00	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		102		70-130	%	03.20.2021 15:00
4-Bromofluorobenzene	108		105		70-130	%	03.20.2021 15:00

MS/MSD Percent Recovery	[D] = 100*(C-A) / B	LCS = Laboratory Control Sample	MS = Matrix Spike
Relative Percent Difference	RPD = 200* | (C-E) / (C+E) |	A = Parent Result	B = Spike Added
LCS/LCSD Recovery	[D] = 100 * (C) / [B]	C = MS/LCS Result	D = MSD/LCSD % Rec
Log Difference	Log Diff. = Log(Sample Duplicate) - Log(Original Sample)	E = MSD/LCSD Result	

691644

CHAIN OF CUSTODY RECORD

Terracon

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

Laboratory: Xenco
Address: 6701 Aberdeen, Lubbock, Texas 79424
Phone:
Contact:
SRS #: 2009-039
Sampler's Signature

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 18.3/18.28
Page 1 of 1

Project Number: AR217008
Project Name: DCP #2

ANALYSIS REQUESTED

	Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	40 ml VOA				BTEX (EPA Method 8021)							Lab Sample ID
1	GW	3/11/2021	11:24		X	MW-2			3				X							
2	GW	3/11/2021	11:43		X	MW-3			3				X							
3	GW	3/11/2021	12:27		X	MW-4			3				X							
4	GW	3/11/2021	12:58		X	MW 5			3				X							
5	GW	3/11/2021	13:57		X	MW-6			3				X							
6	GW	3/11/2021	13:14		X	MW-7			3				X							
7	GW	3/11/2021	12:17		X	MW-8			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]	3/12/21	16:19	[signature]	3/12/21	16:19
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:

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

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

Inter-Office Shipment

IOS Number : 79426

Date/Time: 03.12.2021
Lab# From: **Lubbock**
Lab# To: **Midland**
Created by: Randall Lee
Delivery Priority:
Air Bill No.:

Please send report to: Jessica Kramer
Address: 6701 Aberdeen, Suite 9 Lubbock, TX 79424
E-Mail: jessica.kramer@eurofinset.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
691644-001	S	MW-2	03.11.2021 11:24	SW8021B	BTEX by EPA 8021B	03.18.2021	03.25.2021	JKR	BR4FBZ BZ BZME EBZ	
691644-002	S	MW-3	03.12.2021 11:43	SW8021B	BTEX by EPA 8021B	03.18.2021	03.26.2021	JKR	BR4FBZ BZ BZME EBZ	
691644-003	S	MW-4	03.12.2021 12:27	SW8021B	BTEX by EPA 8021B	03.18.2021	03.26.2021	JKR	BR4FBZ BZ BZME EBZ	
691644-004	S	MW-5	03.12.2021 12:58	SW8021B	BTEX by EPA 8021B	03.18.2021	03.26.2021	JKR	BR4FBZ BZ BZME EBZ	
691644-005	S	MW-6	03.11.2021 13:57	SW8021B	BTEX by EPA 8021B	03.18.2021	03.25.2021	JKR	BR4FBZ BZ BZME EBZ	
691644-006	S	MW-7	03.11.2021 13:14	SW8021B	BTEX by EPA 8021B	03.18.2021	03.25.2021	JKR	BR4FBZ BZ BZME EBZ	
691644-007	S	MW-8	03.11.2021 12:17	SW8021B	BTEX by EPA 8021B	03.18.2021	03.25.2021	JKR	BR4FBZ BZ BZME EBZ	

Inter Office Shipment or Sample Comments:

Relinquished By: Teddy Randall Lee
Randall Lee

Date Relinquished: 03.12.2021

Received By: Jessica Kramer
Jessica Kramer

Date Received: 03.15.2021

Cooler Temperature: 2.6

Eurofins Xenco, LLC

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 79426

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used :

Sent By: Randall Lee **Date Sent:** 03.12.2021 04.41 PM

Received By: Jessica Kramer **Date Received:** 03.15.2021 10.15 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.6	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: Jessica Kramer Date: 03.15.2021

Jessica Kramer

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

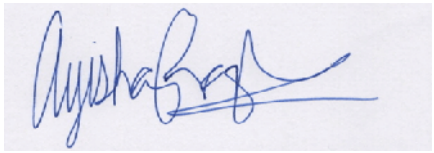
February 02, 2021

Plains All American Pipeline - Terracon

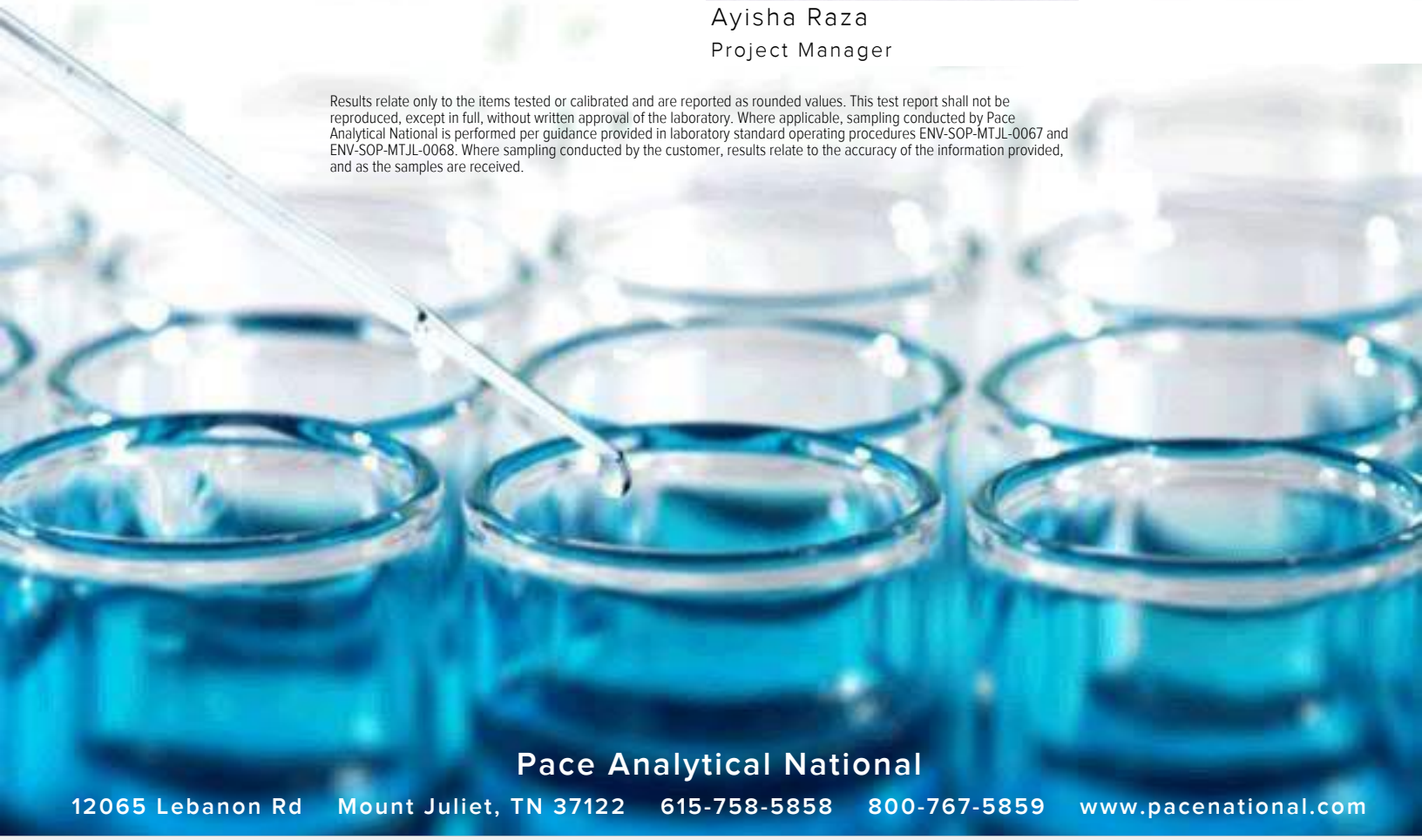
Sample Delivery Group:	L1311578
Samples Received:	01/29/2021
Project Number:	AR217008
Description:	DCP #2

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

Entire Report Reviewed By:



Ayisha Raza
Project Manager



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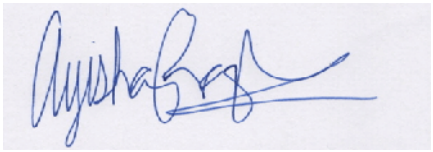
SAMPLE SUMMARY

EFF #2 L1311578-01 Air

			Collected by	Collected date/time	Received date/time
			Aaron Adams	01/28/21 12:35	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	2000	01/30/21 01:02	01/30/21 01:02	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

LFT #2
Collected date/time: 01/28/21 12:35
L1311578

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	24400	77900		2000	WG1613428
Toluene	108-88-3	92.10	1000	3770	186000	701000		2000	WG1613428
Ethylbenzene	100-41-4	106	400	1730	31300	136000		2000	WG1613428
m&p-Xylene	1330-20-7	106	800	3470	71900	312000		2000	WG1613428
o-Xylene	95-47-6	106	400	1730	19000	82400		2000	WG1613428
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1613428
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	6330000	26100000		2000	WG1613428
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*89.3*				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*				

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.

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	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		

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

CHAIN OF CUSTODY RECORD

Terracon

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

Office Location: Lubbock
Phone: (800) 767-5859
Contact:
Project Manager: Brett Dennis
SRS #: 2009-039
Sampler's Name: Aaron Adams
Sampler's Signature:

ANALYSIS REQUESTED

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

Page 1 of 1

Project Number: AR217008
Project Name: DCP #2

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	12:35		X	EFF #2			X				X	X						L1311578-01

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:
	1-28-2021	17:00		1/29/21	9:30

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

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		

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

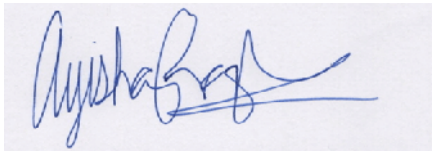
March 02, 2021

Plains All American Pipeline - Terracon

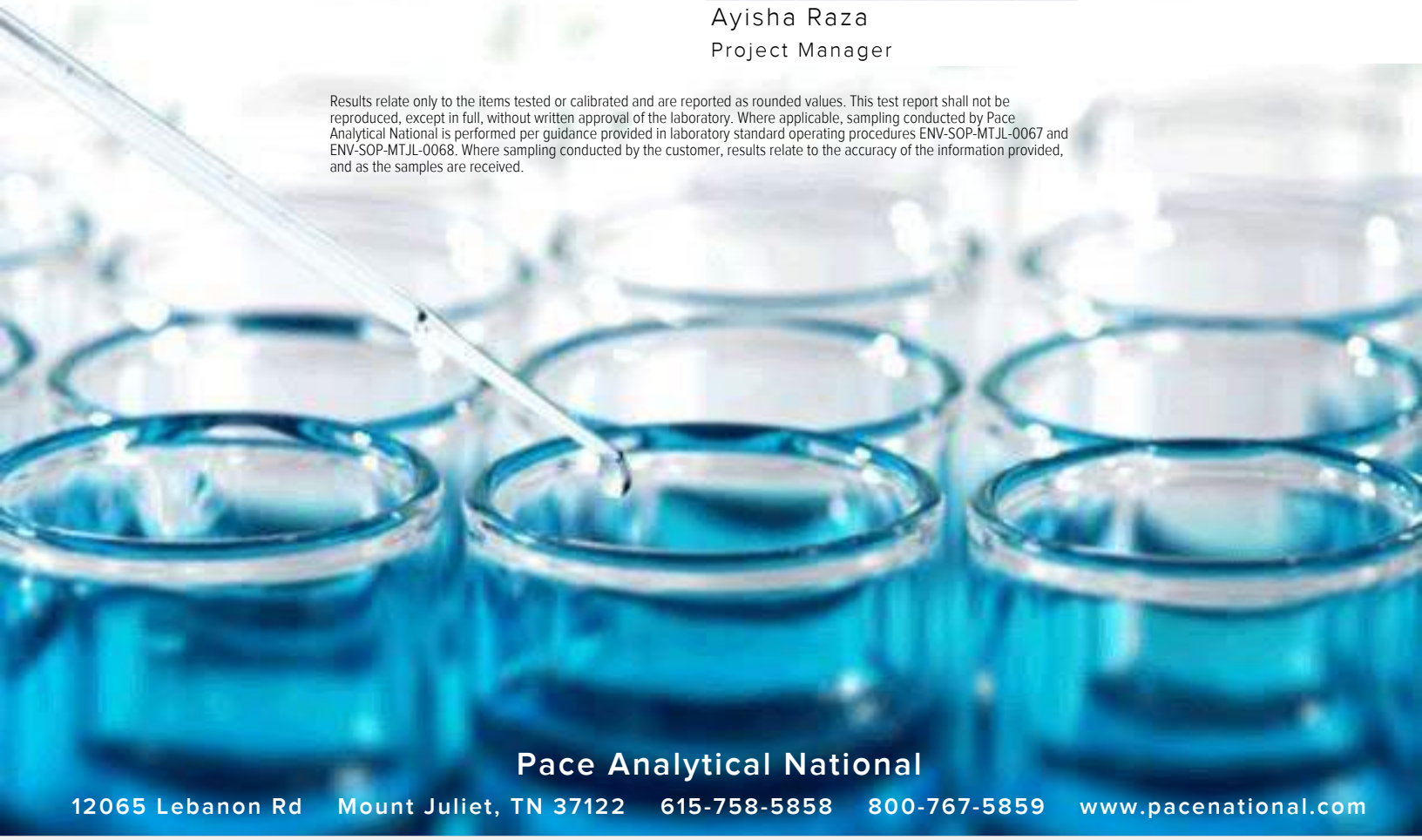
Sample Delivery Group:	L1321008
Samples Received:	02/27/2021
Project Number:	AR217008
Description:	DCP #2

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

Entire Report Reviewed By:



Ayisha Raza
Project Manager



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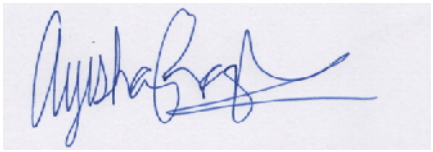
SAMPLE SUMMARY

EFF-1 (02262021) L1321008-01 Air

Collected by	Collected date/time	Received date/time
Brett Dennis	02/26/21 12:35	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	800	02/28/21 23:06	02/28/21 23:06	CAW	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method M18-Mod	WG1627473	10000	03/01/21 17:11	03/01/21 17:11	FKG	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	14200	45400		800	WG1627104
Toluene	108-88-3	92.10	5000	18800	124000	467000		10000	WG1627473
Ethylbenzene	100-41-4	106	160	694	23200	101000		800	WG1627104
m&p-Xylene	1330-20-7	106	320	1390	56300	244000		800	WG1627104
o-Xylene	95-47-6	106	160	694	15900	68900		800	WG1627104
TPH (GC/MS) Low Fraction	8006-61-9	101	160000	661000	4200000	17300000		800	WG1627104
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.3*				WG1627104
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.2*				WG1627473

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
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
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*				

Method Blank (MB)

(MB) R3626356-3 03/01/21 09:40

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Toluene	U		0.0870	0.500
(S) 1,4-Bromofluorobenzene	*92.1*			*60.0-140*

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

(LCS) R3626356-1 03/01/21 08:15 • (LCSD) R3626356-2 03/01/21 09:00

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Toluene	3.75	3.66	3.55	97.6	94.7	70.0-130			3.05	25
(S) 1,4-Bromofluorobenzene				*96.3*	*96.4*	*60.0-140*				

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Abbreviations and Definitions

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Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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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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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

H030

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 #: 2009-039
Sampler's Name: Brett Dennis
Sampler's Signature:

Project Number: AR217008
Project Name: DCP #2

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
S	2/26/2021	12:35	X		EFF-1 (02262021)			X	X	X	132108-01

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			
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: 2-27-21	Time: 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

			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		
Screen <0.5 mR/hr:	Y	N		

4876 1078 3785
1 total

ANALYTICAL REPORT

April 01, 2021

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1332471
Samples Received:	03/31/2021
Project Number:	AR217008
Description:	DCP #2 (SRS# 2009-039)

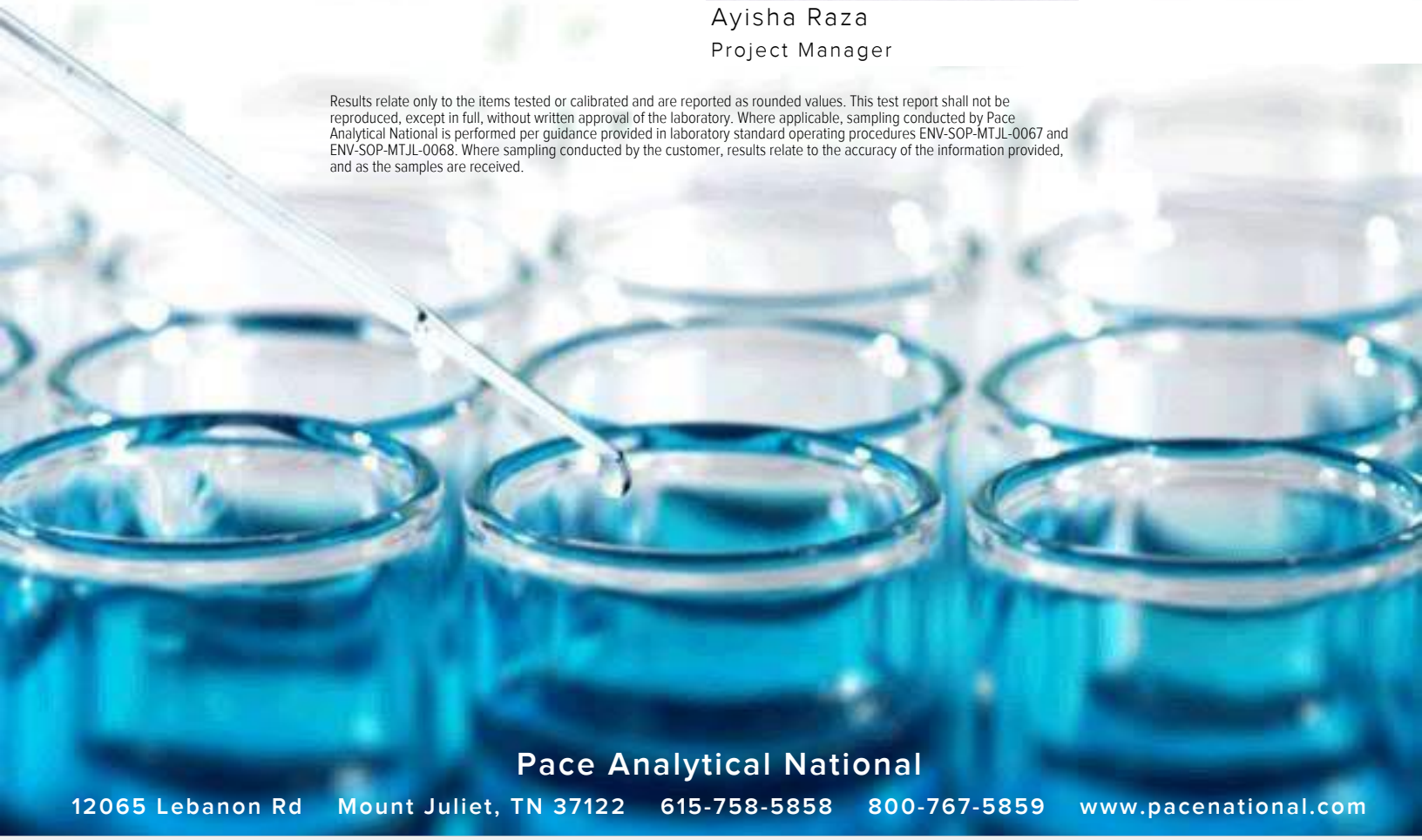
Report To:

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

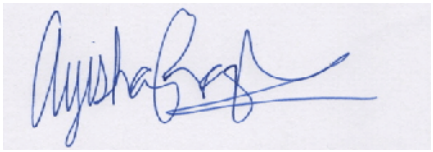
EFF-1 (03302021) L1332471-01 Air

	Collected by	Collected date/time	Received date/time
	Aaron Adams	03/30/21 12:56	03/31/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1643354	400	03/31/21 20:37	03/31/21 20:37	CAW	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method M18-Mod	WG1644029	4000	04/01/21 14:15	04/01/21 14:15	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	80.0	256	4620	14800		400	WG1643354
Toluene	108-88-3	92.10	2000	7530	70000	264000		4000	WG1644029
Ethylbenzene	100-41-4	106	80.0	347	8050	34900		400	WG1643354
m&p-Xylene	1330-20-7	106	160	694	19300	83700		400	WG1643354
o-Xylene	95-47-6	106	80.0	347	5250	22800		400	WG1643354
Methyl tert-butyl ether	1634-04-4	88.10	80.0	288	ND	ND		400	WG1643354
TPH (GC/MS) Low Fraction	8006-61-9	101	80000	330000	1610000	6650000		400	WG1643354
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*101*				WG1643354
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*96.5*				WG1644029

Method Blank (MB)

(MB) R3636700-3 03/31/21 10:42

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
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	*99.0*			*60.0-140*

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

(LCS) R3636700-1 03/31/21 09:22 • (LCSD) R3636700-2 03/31/21 10:02

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	4.13	4.21	110	112	70.0-130			1.92	25
Benzene	3.75	4.08	4.15	109	111	70.0-130			1.70	25
Ethylbenzene	3.75	4.09	4.08	109	109	70.0-130			0.245	25
m&p-Xylene	7.50	8.25	8.22	110	110	70.0-130			0.364	25
o-Xylene	3.75	4.07	4.06	109	108	70.0-130			0.246	25
TPH (GC/MS) Low Fraction	203	261	259	129	128	70.0-130			0.769	25
(S) 1,4-Bromofluorobenzene				*100*	*97.3*	*60.0-140*				

Method Blank (MB)

(MB) R3637144-3 04/01/21 10:56

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Toluene	U		0.0870	0.500
(S) 1,4-Bromofluorobenzene	*93.7*			*60.0-140*

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

(LCS) R3637144-1 04/01/21 09:33 • (LCSD) R3637144-2 04/01/21 10:16

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Toluene	3.75	4.55	4.51	121	120	70.0-130			0.883	25
(S) 1,4-Bromofluorobenzene				*97.2*	*97.0*	*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.
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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.

A043

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 #: 2009-039
Sampler's Signature:

Project Number: AR217008
Project Name: DCP #2 (SRS# 2009-039)

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	3/30/2021	12:56		X	EFF-1 (03302021)			X				X	X						-01

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C)
Page 1 of 1
L1332471

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
	3-30-21	5:00pm			
			B. Barras	3/31/21	0945

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

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		

7854 0229 3185

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 880-3234-1
Client Project/Site: DCP #2

For:
Terracon Consulting Eng & Scientists
10400 State Hwy 191
Midland, Texas 79707

Attn: Rane Wilson

Jkramer

Authorized for release by:
6/23/2021 1:14:52 PM

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

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

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

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Laboratory Job ID: 880-3234-1

Table of Contents

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists Job ID: 880-3234-1
Project/Site: DCP #2

Qualifiers

GC VOA

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

Glossary

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

Case Narrative

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 880-3234-1

Job ID: 880-3234-1

Laboratory: Eurofins Xenco, Midland

Narrative

Job Narrative
880-3234-1

Receipt
The samples were received on 6/21/2021 11:43 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 4.8°C

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: MW-8 (880-3234-7), Dup-1 (880-3234-8), (LCS 880-4464/34), (LCSD 880-4464/35), (MB 880-4464/39), (880-3234-A-7 MS) and (880-3234-A-7 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-2 (880-3234-1), MW-3 (880-3234-2), MW-4 (880-3234-3), MW-5 (880-3234-4), MW-6 (880-3234-5), MW-7 (880-3234-6) 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 #2

Job ID: 880-3234-1

Client Sample ID: MW-2

Lab Sample ID: 880-3234-1
Date Collected: 06/18/21 11:39
Matrix: Water
Date Received: 06/21/21 11:43

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			06/22/21 16:23	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			06/22/21 16:23	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			06/22/21 16:23	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			06/22/21 16:23	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/22/21 16:23	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			06/22/21 16:23	1
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			06/22/21 16:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*06/22/21 16:23*	*1*
1,4-Difluorobenzene (Surr)	*142*	*X*	*70 - 130*		*06/22/21 16:23*	*1*

Client Sample ID: MW-3

Lab Sample ID: 880-3234-2
Date Collected: 06/18/21 12:24
Matrix: Water
Date Received: 06/21/21 11:43

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			06/22/21 16:48	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			06/22/21 16:48	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			06/22/21 16:48	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			06/22/21 16:48	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/22/21 16:48	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			06/22/21 16:48	1
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			06/22/21 16:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*06/22/21 16:48*	*1*
1,4-Difluorobenzene (Surr)	*145*	*X*	*70 - 130*		*06/22/21 16:48*	*1*

Client Sample ID: MW-4

Lab Sample ID: 880-3234-3
Date Collected: 06/18/21 13:28
Matrix: Water
Date Received: 06/21/21 11:43

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			06/22/21 17:13	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			06/22/21 17:13	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			06/22/21 17:13	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			06/22/21 17:13	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/22/21 17:13	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			06/22/21 17:13	1
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			06/22/21 17:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*06/22/21 17:13*	*1*
1,4-Difluorobenzene (Surr)	*145*	*X*	*70 - 130*		*06/22/21 17:13*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 880-3234-1

Client Sample ID: MW-5

Lab Sample ID: 880-3234-4
Date Collected: 06/18/21 14:08
Matrix: Water
Date Received: 06/21/21 11:43

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.253		0.00200	0.000408	mg/L			06/22/21 17:38	1
Toluene	0.000452	J	0.00200	0.000367	mg/L			06/22/21 17:38	1
Ethylbenzene	0.0320		0.00200	0.000657	mg/L			06/22/21 17:38	1
m-Xylene & p-Xylene	0.0256		0.00400	0.000629	mg/L			06/22/21 17:38	1
o-Xylene	0.00402		0.00200	0.000642	mg/L			06/22/21 17:38	1
Xylenes, Total	0.0296		0.00400	0.000642	mg/L			06/22/21 17:38	1
Total BTEX	0.315		0.00400	0.000657	mg/L			06/22/21 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*		*06/22/21 17:38*	*1*
1,4-Difluorobenzene (Surr)	*158*	*X*	*70 - 130*		*06/22/21 17:38*	*1*

Client Sample ID: MW-6

Lab Sample ID: 880-3234-5
Date Collected: 06/18/21 08:35
Matrix: Water
Date Received: 06/21/21 11:43

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			06/22/21 19:20	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			06/22/21 19:20	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			06/22/21 19:20	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			06/22/21 19:20	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/22/21 19:20	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			06/22/21 19:20	1
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			06/22/21 19:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*06/22/21 19:20*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*		*06/22/21 19:20*	*1*

Client Sample ID: MW-7

Lab Sample ID: 880-3234-6
Date Collected: 06/18/21 09:45
Matrix: Water
Date Received: 06/21/21 11:43

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			06/22/21 19:45	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			06/22/21 19:45	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			06/22/21 19:45	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			06/22/21 19:45	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/22/21 19:45	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			06/22/21 19:45	1
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			06/22/21 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*06/22/21 19:45*	*1*
1,4-Difluorobenzene (Surr)	*137*	*X*	*70 - 130*		*06/22/21 19:45*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 880-3234-1

Client Sample ID: MW-8

Lab Sample ID: 880-3234-7
Matrix: Water
Date Collected: 06/18/21 10:23
Date Received: 06/21/21 11:43

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.000408	U	0.00200	0.000408	mg/L			06/23/21 02:57	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			06/23/21 02:57	1
Ethylbenzene	**0.000671**	**J**	0.00200	0.000657	mg/L			06/23/21 02:57	1
m-Xylene & p-Xylene	**0.000714**	**J**	0.00400	0.000629	mg/L			06/23/21 02:57	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/23/21 02:57	1
Xylenes, Total	**0.000714**	**J**	0.00400	0.000642	mg/L			06/23/21 02:57	1
Total BTEX	**0.00139**	**J**	0.00400	0.000657	mg/L			06/23/21 02:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*		*06/23/21 02:57*	*1*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*		*06/23/21 02:57*	*1*

Client Sample ID: Dup-1

Lab Sample ID: 880-3234-8
Matrix: Water
Date Collected: 06/18/21 00:00
Date Received: 06/21/21 11:43

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.210**		0.00200	0.000408	mg/L			06/23/21 06:45	1
Toluene	**0.000581**	**J**	0.00200	0.000367	mg/L			06/23/21 06:45	1
Ethylbenzene	**0.0289**		0.00200	0.000657	mg/L			06/23/21 06:45	1
m-Xylene & p-Xylene	**0.0233**		0.00400	0.000629	mg/L			06/23/21 06:45	1
o-Xylene	**0.00343**		0.00200	0.000642	mg/L			06/23/21 06:45	1
Xylenes, Total	**0.0267**		0.00400	0.000642	mg/L			06/23/21 06:45	1
Total BTEX	**0.266**		0.00400	0.000657	mg/L			06/23/21 06:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*		*06/23/21 06:45*	*1*
1,4-Difluorobenzene (Surr)	*145*	*X*	*70 - 130*		*06/23/21 06:45*	*1*

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 880-3234-1

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)										
880-3234-1	MW-2	94	142 X										
880-3234-2	MW-3	99	145 X										
880-3234-3	MW-4	98	145 X										
880-3234-4	MW-5	91	158 X										
880-3234-5	MW-6	95	106										
880-3234-6	MW-7	99	137 X										
880-3234-7	MW-8	109	117										
880-3234-7 MS	MW-8	99	158 X										
880-3234-7 MSD	MW-8	95	162 X										
880-3234-8	Dup-1	89	145 X										
LCS 880-4464/3	Lab Control Sample	87	130										
LCS 880-4464/34	Lab Control Sample	96	158 X										
LCSD 880-4464/35	Lab Control Sample Dup	95	151 X										
LCSD 880-4464/4	Lab Control Sample Dup	92	149 X										
MB 880-4464/39	Method Blank	64 X	119										
MB 880-4464/8	Method Blank	62 X	111										

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 880-3234-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-4464/39
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	<0.000408	U	0.00200	0.000408	mg/L			06/23/21 02:31	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			06/23/21 02:31	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			06/23/21 02:31	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			06/23/21 02:31	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/23/21 02:31	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			06/23/21 02:31	1
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			06/23/21 02:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*64*	*X*	*70 - 130*		*06/23/21 02:31*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*		*06/23/21 02:31*	*1*

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	<0.000408	U	0.00200	0.000408	mg/L			06/22/21 13:28	1
Toluene	<0.000367	U	0.00200	0.000367	mg/L			06/22/21 13:28	1
Ethylbenzene	<0.000657	U	0.00200	0.000657	mg/L			06/22/21 13:28	1
m-Xylene & p-Xylene	<0.000629	U	0.00400	0.000629	mg/L			06/22/21 13:28	1
o-Xylene	<0.000642	U	0.00200	0.000642	mg/L			06/22/21 13:28	1
Xylenes, Total	<0.000642	U	0.00400	0.000642	mg/L			06/22/21 13:28	1
Total BTEX	<0.000657	U	0.00400	0.000657	mg/L			06/22/21 13:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*62*	*X*	*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*

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 880-3234-1

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

Lab Sample ID: LCS 880-4464/34
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	0.1221		mg/L		122	70 - 130		
Toluene			0.100	0.1166		mg/L		117	70 - 130		
Ethylbenzene			0.100	0.1065		mg/L		106	70 - 130		
m-Xylene & p-Xylene			0.200	0.2195		mg/L		110	70 - 130		
o-Xylene			0.100	0.1098		mg/L		110	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*158*	*X*	*70 - 130*

Lab Sample ID: LCSD 880-4464/35
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	0.1204		mg/L		120	70 - 130	1	20
Toluene			0.100	0.1234		mg/L		123	70 - 130	6	20
Ethylbenzene			0.100	0.1061		mg/L		106	70 - 130	0	20
m-Xylene & p-Xylene			0.200	0.2185		mg/L		109	70 - 130	0	20
o-Xylene			0.100	0.1094		mg/L		109	70 - 130	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*151*	*X*	*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*	*X*	*70 - 130*

Lab Sample ID: 880-3234-7 MS
Matrix: Water
Analysis Batch: 4464

Client Sample ID: MW-8
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	0.1202		mg/L		120	70 - 130		
Toluene	<0.000367	U	0.100	0.1243		mg/L		124	70 - 130		
Ethylbenzene	0.000671	J	0.100	0.1091		mg/L		108	70 - 130		

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 880-3234-1

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

Lab Sample ID: 880-3234-7 MS
Matrix: Water
Analysis Batch: 4464

Client Sample ID: MW-8
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
m-Xylene & p-Xylene	0.000714	J	0.200	0.2245		mg/L		112	70 - 130		
o-Xylene	<0.000642	U	0.100	0.1118		mg/L		112	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*158*	*X*	*70 - 130*

Lab Sample ID: 880-3234-7 MSD
Matrix: Water
Analysis Batch: 4464

Client Sample ID: MW-8
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	0.1266		mg/L		127	70 - 130	5	25
Toluene	<0.000367	U	0.100	0.1260		mg/L		126	70 - 130	1	25
Ethylbenzene	0.000671	J	0.100	0.1123		mg/L		112	70 - 130	3	25
m-Xylene & p-Xylene	0.000714	J	0.200	0.2312		mg/L		115	70 - 130	3	25
o-Xylene	<0.000642	U	0.100	0.1150		mg/L		115	70 - 130	3	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*162*	*X*	*70 - 130*

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 880-3234-1

GC VOA

Analysis Batch: 4464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-3234-1	MW-2	Total/NA	Water	8021B	
880-3234-2	MW-3	Total/NA	Water	8021B	
880-3234-3	MW-4	Total/NA	Water	8021B	
880-3234-4	MW-5	Total/NA	Water	8021B	
880-3234-5	MW-6	Total/NA	Water	8021B	
880-3234-6	MW-7	Total/NA	Water	8021B	
880-3234-7	MW-8	Total/NA	Water	8021B	
880-3234-8	Dup-1	Total/NA	Water	8021B	
MB 880-4464/39	Method Blank	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	
LCS 880-4464/34	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-4464/35	Lab Control Sample Dup	Total/NA	Water	8021B	
LCSD 880-4464/4	Lab Control Sample Dup	Total/NA	Water	8021B	
880-3234-7 MS	MW-8	Total/NA	Water	8021B	
880-3234-7 MSD	MW-8	Total/NA	Water	8021B	

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 880-3234-1

Client Sample ID: MW-2
Lab Sample ID: 880-3234-1
Date Collected: 06/18/21 11:39
Matrix: Water
Date Received: 06/21/21 11:43

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 16:23	MR	XEN MID

Client Sample ID: MW-3
Lab Sample ID: 880-3234-2
Date Collected: 06/18/21 12:24
Matrix: Water
Date Received: 06/21/21 11:43

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 16:48	MR	XEN MID

Client Sample ID: MW-4
Lab Sample ID: 880-3234-3
Date Collected: 06/18/21 13:28
Matrix: Water
Date Received: 06/21/21 11:43

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 17:13	MR	XEN MID

Client Sample ID: MW-5
Lab Sample ID: 880-3234-4
Date Collected: 06/18/21 14:08
Matrix: Water
Date Received: 06/21/21 11:43

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 17:38	MR	XEN MID

Client Sample ID: MW-6
Lab Sample ID: 880-3234-5
Date Collected: 06/18/21 08:35
Matrix: Water
Date Received: 06/21/21 11:43

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 19:20	MR	XEN MID

Client Sample ID: MW-7
Lab Sample ID: 880-3234-6
Date Collected: 06/18/21 09:45
Matrix: Water
Date Received: 06/21/21 11:43

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 19:45	MR	XEN MID

Client Sample ID: MW-8
Lab Sample ID: 880-3234-7
Date Collected: 06/18/21 10:23
Matrix: Water
Date Received: 06/21/21 11:43

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	06/23/21 02:57	MR	XEN MID

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 880-3234-1

Client Sample ID: Dup-1

Date Collected: 06/18/21 00:00
Date Received: 06/21/21 11:43

Lab Sample ID: 880-3234-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	4464	06/23/21 06:45	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: 880-3234-1
Project/Site: DCP #2

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 #2

Job ID: 880-3234-1

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 #2

Job ID: 880-3234-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
880-3234-1	MW-2	Water	06/18/21 11:39	06/21/21 11:43	
880-3234-2	MW-3	Water	06/18/21 12:24	06/21/21 11:43	
880-3234-3	MW-4	Water	06/18/21 13:28	06/21/21 11:43	
880-3234-4	MW-5	Water	06/18/21 14:08	06/21/21 11:43	
880-3234-5	MW-6	Water	06/18/21 08:35	06/21/21 11:43	
880-3234-6	MW-7	Water	06/18/21 09:45	06/21/21 11:43	
880-3234-7	MW-8	Water	06/18/21 10:23	06/21/21 11:43	
880-3234-8	Dup-1	Water	06/18/21 00:00	06/21/21 11:43	

880-3234

880-3234 Chain of Custody

CORD

Terracon

Office Location	Lubbock	Laboratory	Xenco
		Address	6701 Aberdeen, Lubbock, Texas 79424
		Phone	
		Contact	
Project Manager	Brett Dennis	SRS #	2009-039
Sampler's Name	Aaron Adams	Sampler's Signature	[signature]

LAB USE ONLY
DUE DATE
TEMP OF COOLER WHEN RECEIVED (°C)
Page 1 of 1
4.3/4.8

Project Number: AR217008
Project Name: DCP #2

REQUESTED

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	6/18/2021	11 39		X	MW-2			3				X							
GW	6/18/2021	12 24		X	MW-3			3				X							
GW	6/18/2021	13 28		X	MW-4			3				X							
GW	6/18/2021	14:08		X	MW-5			3				X							
GW	6/18/2021	8 35		X	MW-6			3				X							
GW	6/18/2021	9:45		X	MW-7			3				X							
GW	6/18/2021	10 23		X	MW-8			3				X							
GW	6/18/2021			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]	6-18-2021	15 30	[signature]	6-18-2021	15 31
[signature]	6-18-21	4 00	[signature]	6/21/21	11 41

NOTES Bill directly to Plains Pipeline

e-mail results to
brett.dennis@terracon.com
erin.loyd@terracon.com
algroves@paalp.com
magchoa@paalp.com
cjbryant@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

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

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists Job Number: 880-3234-1

Login Number: 3234 **List Source: Eurofins Xenco, Midland**
List Number: 1
Creator: Teel, Brianna

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	

ANALYTICAL REPORT

August 24, 2021

Revised Report

Plains All American Pipeline - Terracon

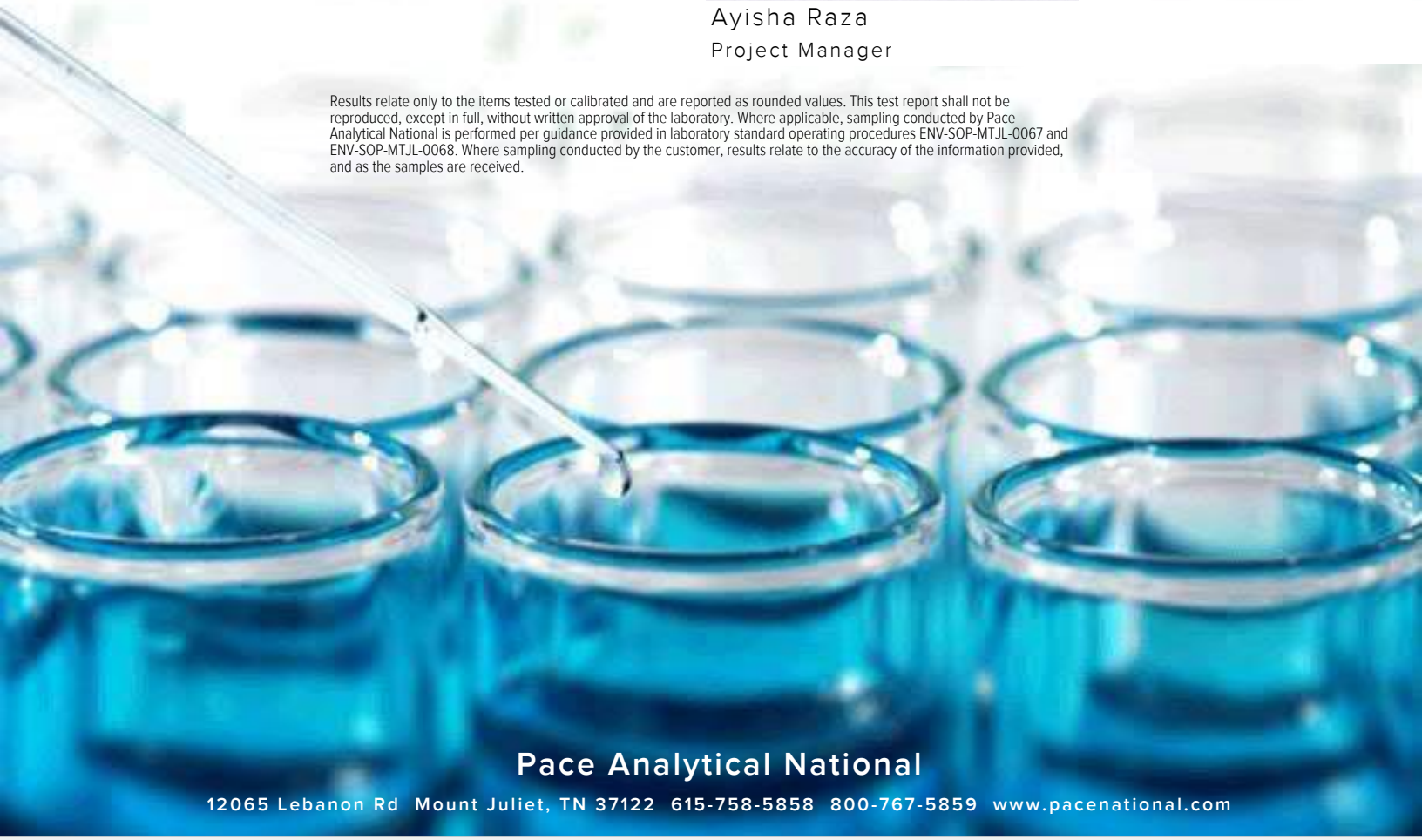
Sample Delivery Group:	L1345067
Samples Received:	04/28/2021
Project Number:	AR217008
Description:	DCP #2

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

TABLE OF CONTENTS

SAMPLE SUMMARY

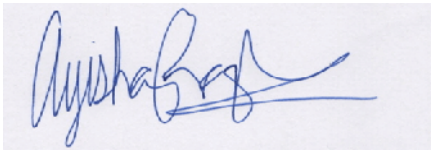
EFF-1 (04272021) L1345067-01 Air

Collected by	Collected date/time	Received date/time
Aaron Adams	04/27/21 15:37	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	2000	04/29/21 21:02	04/29/21 21:02	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.



Ayisha Raza
Project Manager

Report Revision History

Level II Report - Version 1: 05/13/21 00:07
Level II Report - Version 2: 07/28/21 10:23
Level II Report - Version 3: 08/13/21 19:19

Project Narrative

Dilution correction.

Sample Delivery Group (SDG) Narrative

Sample received in tedlar bag.

Lab Sample ID	Project Sample ID	Method
L1345067-01	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	400	1280	9100	29100		2000	WG1661298
Ethylbenzene	100-41-4	106	400	1730	16900	73300		2000	WG1661298
Toluene	108-88-3	92.10	1000	3770	111000	418000		2000	WG1661298
m&p-Xylene	1330-20-7	106	800	3470	36900	160000		2000	WG1661298
o-Xylene	95-47-6	106	400	1730	10000	43400		2000	WG1661298
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	2960000	12200000		2000	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.
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	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.

M188

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 #: 2009-039
Sampler's Name: Aaron Adams
Sampler's Signature:

ANALYSIS REQUESTED

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

Page 1 of 1

U345067

Project Number: AR217008
Project Name: DCP #2

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
S	4/27/2021	15:37	X		EFF-1 (04272021)			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
	4-27-2021	17:24			1515
					0900

NOTES: Bill directly to Plains Pipeline

OK

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 _____

count = 1 bag Amb

ANALYTICAL REPORT

July 09, 2021

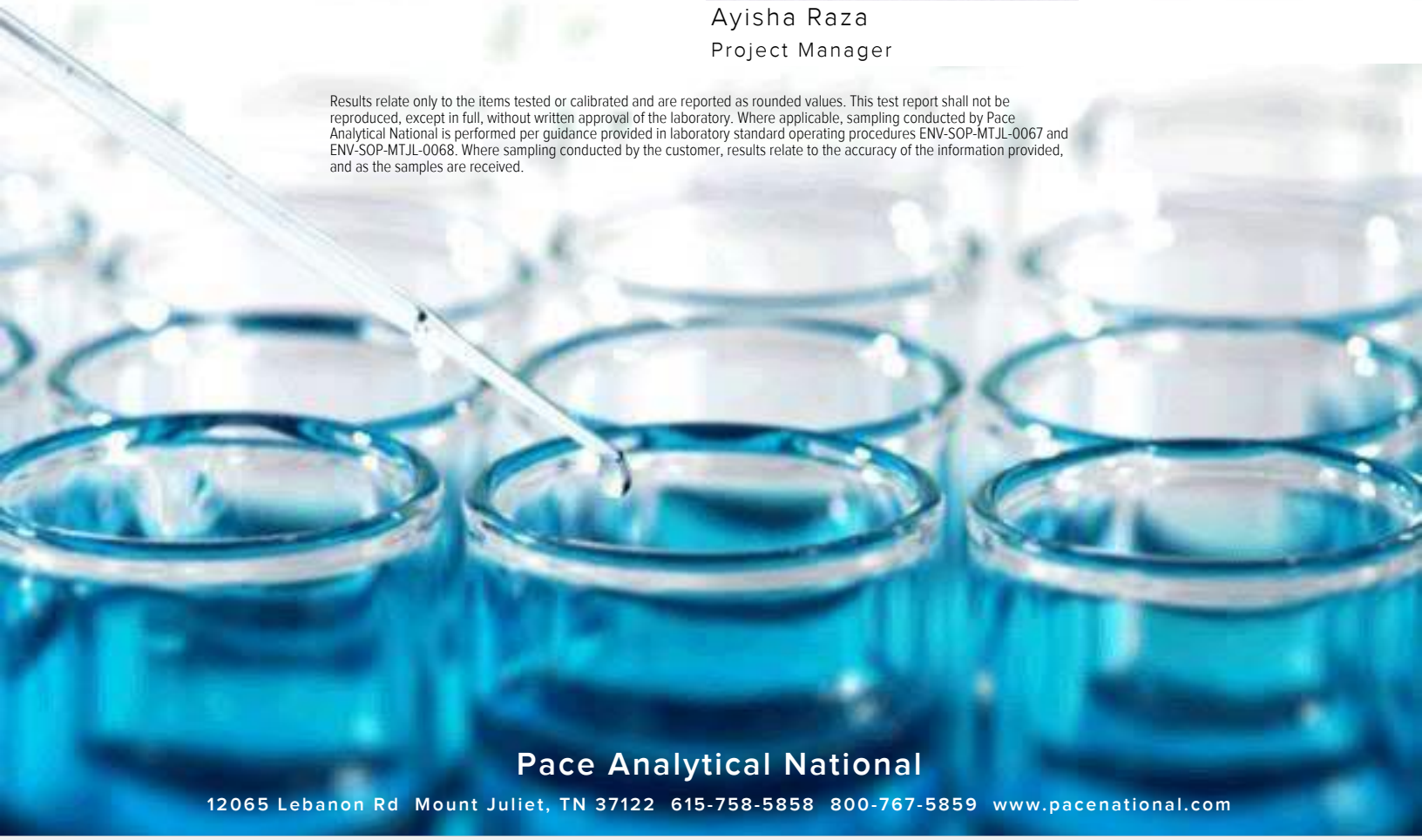
Plains All American Pipeline - Terracon

Sample Delivery Group:	L1372011
Samples Received:	06/29/2021
Project Number:	AR217008
Description:	DCP #2

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) L1372011-01 Air

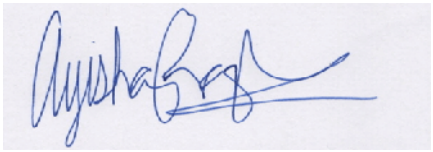
Collected by	Collected date/time	Received date/time
Aaron Adams	06/28/21 13:38	06/29/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1697863	800	06/30/21 23:15	06/30/21 23:15	GLN	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1698509	5000	07/01/21 17:01	07/01/21 17:01	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	1000	2380	ND	ND		800	WG1697863
Allyl chloride	107-05-1	76.53	160	501	ND	ND		800	WG1697863
Benzene	71-43-2	78.10	160	511	5080	16200		800	WG1697863
Benzyl Chloride	100-44-7	127	160	831	ND	ND		800	WG1697863
Bromodichloromethane	75-27-4	164	160	1070	ND	ND		800	WG1697863
Bromoform	75-25-2	253	480	4970	ND	ND		800	WG1697863
Bromomethane	74-83-9	94.90	160	621	ND	ND		800	WG1697863
1,3-Butadiene	106-99-0	54.10	1600	3540	ND	ND		800	WG1697863
Carbon disulfide	75-15-0	76.10	160	498	ND	ND		800	WG1697863
Carbon tetrachloride	56-23-5	154	160	1010	ND	ND		800	WG1697863
Chlorobenzene	108-90-7	113	160	739	ND	ND		800	WG1697863
Chloroethane	75-00-3	64.50	160	422	ND	ND		800	WG1697863
Chloroform	67-66-3	119	160	779	ND	ND		800	WG1697863
Chloromethane	74-87-3	50.50	160	330	ND	ND		800	WG1697863
2-Chlorotoluene	95-49-8	126	160	825	ND	ND		800	WG1697863
Cyclohexane	110-82-7	84.20	160	551	78800	271000		800	WG1697863
Dibromochloromethane	124-48-1	208	160	1360	ND	ND		800	WG1697863
1,2-Dibromoethane	106-93-4	188	160	1230	ND	ND		800	WG1697863
1,2-Dichlorobenzene	95-50-1	147	160	962	ND	ND		800	WG1697863
1,3-Dichlorobenzene	541-73-1	147	160	962	ND	ND		800	WG1697863
1,4-Dichlorobenzene	106-46-7	147	160	962	ND	ND		800	WG1697863
1,2-Dichloroethane	107-06-2	99	160	648	ND	ND		800	WG1697863
1,1-Dichloroethane	75-34-3	98	160	641	ND	ND		800	WG1697863
1,1-Dichloroethene	75-35-4	96.90	160	634	ND	ND		800	WG1697863
cis-1,2-Dichloroethene	156-59-2	96.90	160	634	ND	ND		800	WG1697863
trans-1,2-Dichloroethene	156-60-5	96.90	160	634	ND	ND		800	WG1697863
1,2-Dichloropropane	78-87-5	113	160	739	ND	ND		800	WG1697863
cis-1,3-Dichloropropene	10061-01-5	111	160	726	ND	ND		800	WG1697863
trans-1,3-Dichloropropene	10061-02-6	111	160	726	ND	ND		800	WG1697863
1,4-Dioxane	123-91-1	88.10	160	577	ND	ND		800	WG1697863
Ethanol	64-17-5	46.10	1000	1890	1160	2190		800	WG1697863
Ethylbenzene	100-41-4	106	160	694	11500	49900		800	WG1697863
4-Ethyltoluene	622-96-8	120	160	785	3120	15300		800	WG1697863
Trichlorofluoromethane	75-69-4	137.40	160	899	ND	ND		800	WG1697863
Dichlorodifluoromethane	75-71-8	120.92	160	791	ND	ND		800	WG1697863
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	160	1230	ND	ND		800	WG1697863
1,2-Dichlorotetrafluoroethane	76-14-2	171	160	1120	ND	ND		800	WG1697863
Heptane	142-82-5	100	1000	4090	299000	1220000		5000	WG1698509
Hexachloro-1,3-butadiene	87-68-3	261	504	5380	ND	ND		800	WG1697863
n-Hexane	110-54-3	86.20	504	1780	31900	112000		800	WG1697863
Isopropylbenzene	98-82-8	120.20	160	787	1300	6390		800	WG1697863
Methylene Chloride	75-09-2	84.90	160	556	ND	ND		800	WG1697863
Methyl Butyl Ketone	591-78-6	100	1000	4090	ND	ND		800	WG1697863
2-Butanone (MEK)	78-93-3	72.10	1000	2950	ND	ND		800	WG1697863
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1000	4090	ND	ND		800	WG1697863
Methyl methacrylate	80-62-6	100.12	160	655	ND	ND		800	WG1697863
MTBE	1634-04-4	88.10	160	577	ND	ND		800	WG1697863
Naphthalene	91-20-3	128	504	2640	ND	ND		800	WG1697863
2-Propanol	67-63-0	60.10	1000	2460	1510	3710		800	WG1697863
Propene	115-07-1	42.10	1000	1720	ND	ND		800	WG1697863
Styrene	100-42-5	104	160	681	ND	ND		800	WG1697863
1,1,2,2-Tetrachloroethane	79-34-5	168	160	1100	ND	ND		800	WG1697863
Tetrachloroethylene	127-18-4	166	160	1090	ND	ND		800	WG1697863
Tetrahydrofuran	109-99-9	72.10	160	472	ND	ND		800	WG1697863
Toluene	108-88-3	92.10	400	1510	63100	238000		800	WG1697863
1,2,4-Trichlorobenzene	120-82-1	181	504	3730	ND	ND		800	WG1697863

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

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	160	870	ND	ND		800	WG1697863
1,1,2-Trichloroethane	79-00-5	133	160	870	ND	ND		800	WG1697863
Trichloroethylene	79-01-6	131	160	857	ND	ND		800	WG1697863
1,2,4-Trimethylbenzene	95-63-6	120	160	785	1990	9770		800	WG1697863
1,3,5-Trimethylbenzene	108-67-8	120	160	785	1280	6280		800	WG1697863
2,2,4-Trimethylpentane	540-84-1	114.22	160	747	ND	ND		800	WG1697863
Vinyl chloride	75-01-4	62.50	160	409	ND	ND		800	WG1697863
Vinyl Bromide	593-60-2	106.95	160	700	ND	ND		800	WG1697863
Vinyl acetate	108-05-4	86.10	160	563	ND	ND		800	WG1697863
m&p-Xylene	1330-20-7	106	320	1390	26700	116000		800	WG1697863
o-Xylene	95-47-6	106	160	694	7360	31900		800	WG1697863
TPH (GC/MS) Low Fraction	8006-61-9	101	160000	661000	1810000	7480000		800	WG1697863
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*106*				WG1697863
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*93.8*				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
Cyclohexane	U		0.0753	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
n-Hexane	U		0.206	0.630
Isopropylbenzene	U		0.0777	0.200
Methylene Chloride	U		0.0979	0.200

Method Blank (MB)

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

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methyl Butyl Ketone	U		0.133	1.25
2-Butanone (MEK)	U		0.0814	1.25
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
TPH (GC/MS) Low Fraction	U		39.7	200
(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

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 %
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
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
n-Hexane	3.75	3.04	2.99	81.1	79.7	70.0-130			1.66	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
Cyclohexane	3.75	3.22	3.19	85.9	85.1	70.0-130			0.936	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

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 %
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
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
TPH (GC/MS) Low Fraction	203	186	186	91.6	91.6	70.0-130			0.000	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*				

Method Blank (MB)

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

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Heptane	U		0.104	0.200
(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 %
Heptane	3.75	3.86	3.82	103	102	70.0-130			1.04	25
(S) 1,4-Bromofluorobenzene				*102*	*98.2*	*60.0-140*				

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

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.

C106

CHAIN OF CUSTODY RECORD

Terracon

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

Phone: (800) 767-5859
Contact:
SRS #: 2009-039

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

Project Number: AR217008
Project Name: DCP #2 (SRS# 2009-039)

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 1

L137204

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	1338		X	EFF-1 (06282021)			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
	6-28-21	1710			
				6/29	0900

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

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 _____

AMB

Sample Receipt Checklist

COC Seal Present/Intact: __Y__N
COC Signed/Accurate: __Y__N
Bottles arrive intact: __Y__N
Correct bottles used: __Y__N
[illegible]: __Y__N
RAD Screen <0.5 mR/hr: __Y__N

If Applicable
VOA Zero Headspace: __Y__N
Pres.Correct/Check: __Y__N

ANALYTICAL REPORT

June 07, 2021

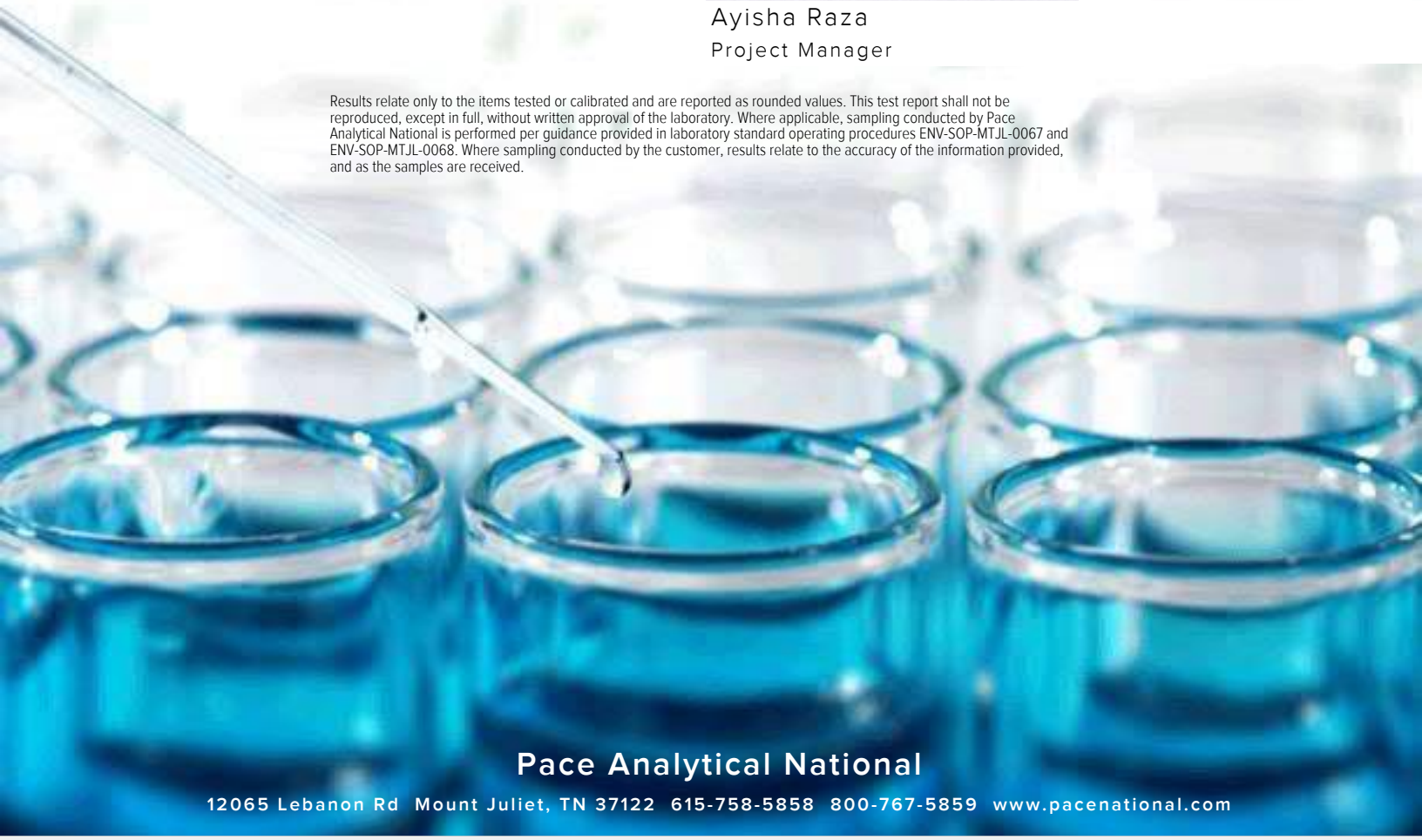
Plains All American Pipeline - Terracon

Sample Delivery Group:	L1359588
Samples Received:	05/29/2021
Project Number:	AR217008
Description:	DCP #2

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

TABLE OF CONTENTS

SAMPLE SUMMARY

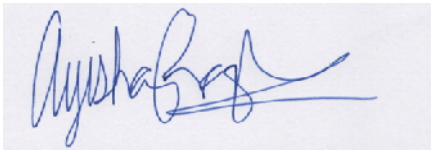
EFF-1 (05272021) L1359588-01 Air

Collected by: Aaron Adams
Collected date/time: 05/27/21 09:20
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 15:57	05/29/21 15:57	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.



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	101000	380000		2000	WG1679834
Ethylbenzene	100-41-4	106	400	1730	15700	68100		2000	WG1679834
m&p-Xylene	1330-20-7	106	800	3470	40100	174000		2000	WG1679834
o-Xylene	95-47-6	106	400	1730	11300	49000		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	3220000	13300000		2000	WG1679834
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.7*				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*				

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	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

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B144

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 #: 2009-039
Sampler's Signature:

ANALYSIS REQUESTED

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

Page 1 of 1

L1359588

Project Number: AR217008
Project Name: DCP #2

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	9:20	X	X	EFF-1 (05272021)			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:
	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

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 820-2017-1
Laboratory Sample Delivery Group: AR217008
Client Project/Site: DCP #2

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

Attn: Brett Dennis

JKramer

Authorized for release by:
9/30/2021 3:55:34 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 Zachary Smith (Water Microbiology).

Jessica Kramer
Project Manager
9/30/2021 3:55:34 PM

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Laboratory Job ID: 820-2017-1
SDG: AR217008

Table of Contents

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2017-1
SDG: AR217008

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control 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 #2

Job ID: 820-2017-1
SDG: AR217008

Job ID: 820-2017-1

Laboratory: Eurofins Xenco, Lubbock

Narrative

Job Narrative
820-2017-1

Receipt
The samples were received on 9/23/2021 4:12 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 5.9°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 #2

Job ID: 820-2017-1
SDG: AR217008

Client Sample ID: MW-2

Lab Sample ID: 820-2017-1
Matrix: Water
Date Collected: 09/22/21 13:39
Date Received: 09/23/21 16:12

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			09/30/21 03:16	1
Toluene	<0.00200	U	0.00200		mg/L			09/30/21 03:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			09/30/21 03:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			09/30/21 03:16	1
o-Xylene	<0.00200	U	0.00200		mg/L			09/30/21 03:16	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			09/30/21 03:16	1
Total BTEX	<0.00200	U *+ F1	0.00200		mg/L			09/30/21 03:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*		*09/30/21 03:16*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*		*09/30/21 03:16*	*1*

Client Sample ID: MW-3

Lab Sample ID: 820-2017-2
Matrix: Water
Date Collected: 09/22/21 14:50
Date Received: 09/23/21 16:12

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			09/30/21 03:42	1
Toluene	<0.00200	U	0.00200		mg/L			09/30/21 03:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			09/30/21 03:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			09/30/21 03:42	1
o-Xylene	<0.00200	U	0.00200		mg/L			09/30/21 03:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			09/30/21 03:42	1
Total BTEX	<0.00200	U *+	0.00200		mg/L			09/30/21 03:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*09/30/21 03:42*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*		*09/30/21 03:42*	*1*

Client Sample ID: MW-4

Lab Sample ID: 820-2017-3
Matrix: Water
Date Collected: 09/22/21 15:50
Date Received: 09/23/21 16:12

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			09/29/21 15:33	1
Toluene	<0.00200	U	0.00200		mg/L			09/29/21 15:33	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			09/29/21 15:33	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			09/29/21 15:33	1
o-Xylene	<0.00200	U	0.00200		mg/L			09/29/21 15:33	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			09/29/21 15:33	1
Total BTEX	<0.00200	U *+	0.00200		mg/L			09/29/21 15:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*		*09/29/21 15:33*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*		*09/29/21 15:33*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2017-1
SDG: AR217008

Client Sample ID: MW-5
Date Collected: 09/22/21 16:29
Date Received: 09/23/21 16:12

Lab Sample ID: 820-2017-4
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			09/29/21 15:59	1
Toluene	<0.00200	U	0.00200		mg/L			09/29/21 15:59	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			09/29/21 15:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			09/29/21 15:59	1
o-Xylene	<0.00200	U	0.00200		mg/L			09/29/21 15:59	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			09/29/21 15:59	1
Total BTEX	**0.00219**	*+	0.00200		mg/L			09/29/21 15:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*		*09/29/21 15:59*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*		*09/29/21 15:59*	*1*

Client Sample ID: MW-6
Date Collected: 09/22/21 11:14
Date Received: 09/23/21 16:12

Lab Sample ID: 820-2017-5
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			09/29/21 16:26	1
Toluene	<0.00200	U	0.00200		mg/L			09/29/21 16:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			09/29/21 16:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			09/29/21 16:26	1
o-Xylene	<0.00200	U	0.00200		mg/L			09/29/21 16:26	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			09/29/21 16:26	1
Total BTEX	<0.00200	U *+	0.00200		mg/L			09/29/21 16:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*		*09/29/21 16:26*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*		*09/29/21 16:26*	*1*

Client Sample ID: MW-7
Date Collected: 09/22/21 12:07
Date Received: 09/23/21 16:12

Lab Sample ID: 820-2017-6
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			09/29/21 16:52	1
Toluene	<0.00200	U	0.00200		mg/L			09/29/21 16:52	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			09/29/21 16:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			09/29/21 16:52	1
o-Xylene	<0.00200	U	0.00200		mg/L			09/29/21 16:52	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			09/29/21 16:52	1
Total BTEX	<0.00200	U *+	0.00200		mg/L			09/29/21 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*		*09/29/21 16:52*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*		*09/29/21 16:52*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2017-1
SDG: AR217008

Client Sample ID: MW-8

Date Collected: 09/22/21 12:48
Date Received: 09/23/21 16:12

Lab Sample ID: 820-2017-7
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			09/29/21 17:19	1
Toluene	<0.00200	U	0.00200		mg/L			09/29/21 17:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			09/29/21 17:19	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			09/29/21 17:19	1
o-Xylene	<0.00200	U	0.00200		mg/L			09/29/21 17:19	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			09/29/21 17:19	1
Total BTEX	<0.00200	U *+	0.00200		mg/L			09/29/21 17:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*		*09/29/21 17:19*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*		*09/29/21 17:19*	*1*

Client Sample ID: DUP-1

Date Collected: 09/22/21 00:00
Date Received: 09/23/21 16:12

Lab Sample ID: 820-2017-8
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			09/29/21 17:45	1
Toluene	<0.00200	U	0.00200		mg/L			09/29/21 17:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			09/29/21 17:45	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			09/29/21 17:45	1
o-Xylene	<0.00200	U	0.00200		mg/L			09/29/21 17:45	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			09/29/21 17:45	1
Total BTEX	**0.00254**	*+	0.00200		mg/L			09/29/21 17:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*		*09/29/21 17:45*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*		*09/29/21 17:45*	*1*

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2017-1
SDG: AR217008

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
820-2017-1	MW-2	111	93
820-2017-1 MS	MW-2	105	103
820-2017-1 MSD	MW-2	108	115
820-2017-2	MW-3	103	103
820-2017-3	MW-4	108	103
820-2017-4	MW-5	115	106
820-2017-5	MW-6	112	100
820-2017-6	MW-7	112	104
820-2017-7	MW-8	113	104
820-2017-8	DUP-1	116	104
LCS 880-8514/34	Lab Control Sample	105	107
LCS 880-8514/65	Lab Control Sample	102	109
LCSD 880-8514/35	Lab Control Sample Dup	107	101
LCSD 880-8514/66	Lab Control Sample Dup	106	108
MB 880-8514/39	Method Blank	63 S1-	93
MB 880-8514/70	Method Blank	64 S1-	93
MB 880-8514/8	Method Blank	63 S1-	93

Surrogate Legend

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

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2017-1
SDG: AR217008

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-8514/39
Matrix: Water
Analysis Batch: 8514

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			09/29/21 13:21	1
Toluene	<0.00200	U	0.00200		mg/L			09/29/21 13:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			09/29/21 13:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			09/29/21 13:21	1
o-Xylene	<0.00200	U	0.00200		mg/L			09/29/21 13:21	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			09/29/21 13:21	1
Total BTEX	<0.00200	U	0.00200		mg/L			09/29/21 13:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*63*	*S1-*	*70 - 130*		*09/29/21 13:21*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*		*09/29/21 13:21*	*1*

Lab Sample ID: MB 880-8514/70
Matrix: Water
Analysis Batch: 8514

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			09/30/21 02:51	1
Toluene	<0.00200	U	0.00200		mg/L			09/30/21 02:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			09/30/21 02:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			09/30/21 02:51	1
o-Xylene	<0.00200	U	0.00200		mg/L			09/30/21 02:51	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			09/30/21 02:51	1
Total BTEX	<0.00200	U	0.00200		mg/L			09/30/21 02:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*64*	*S1-*	*70 - 130*		*09/30/21 02:51*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*		*09/30/21 02:51*	*1*

Lab Sample ID: MB 880-8514/8
Matrix: Water
Analysis Batch: 8514

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			09/28/21 23:15	1
Toluene	<0.00200	U	0.00200		mg/L			09/28/21 23:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			09/28/21 23:15	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			09/28/21 23:15	1
o-Xylene	<0.00200	U	0.00200		mg/L			09/28/21 23:15	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			09/28/21 23:15	1
Total BTEX	<0.00200	U	0.00200		mg/L			09/28/21 23:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*63*	*S1-*	*70 - 130*		*09/28/21 23:15*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*		*09/28/21 23:15*	*1*

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2017-1
SDG: AR217008

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

Lab Sample ID: LCS 880-8514/34
Matrix: Water
Analysis Batch: 8514

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	0.08990		mg/L		90	70 - 130		
Toluene			0.100	0.09755		mg/L		98	70 - 130		
Ethylbenzene			0.100	0.09210		mg/L		92	70 - 130		
m-Xylene & p-Xylene			0.200	0.1991		mg/L		100	70 - 130		
o-Xylene			0.100	0.1022		mg/L		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: LCS 880-8514/65
Matrix: Water
Analysis Batch: 8514

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	0.07930		mg/L		79	70 - 130		
Toluene			0.100	0.08734		mg/L		87	70 - 130		
Ethylbenzene			0.100	0.08962		mg/L		90	70 - 130		
m-Xylene & p-Xylene			0.200	0.1932		mg/L		97	70 - 130		
o-Xylene			0.100	0.1003		mg/L		100	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: LCSD 880-8514/35
Matrix: Water
Analysis Batch: 8514

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	0.08605		mg/L		86	70 - 130	4	20
Toluene			0.100	0.08895		mg/L		89	70 - 130	9	20
Ethylbenzene			0.100	0.08618		mg/L		86	70 - 130	7	20
m-Xylene & p-Xylene			0.200	0.1858		mg/L		93	70 - 130	7	20
o-Xylene			0.100	0.09628		mg/L		96	70 - 130	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-8514/66
Matrix: Water
Analysis Batch: 8514

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	0.07779		mg/L		78	70 - 130	2	20
Toluene			0.100	0.08514		mg/L		85	70 - 130	3	20
Ethylbenzene			0.100	0.08761		mg/L		88	70 - 130	2	20

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2017-1
SDG: AR217008

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

Lab Sample ID: LCSD 880-8514/66
Matrix: Water
Analysis Batch: 8514

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
m-Xylene & p-Xylene			0.200	0.1895		mg/L		95	70 - 130	2	20
o-Xylene			0.100	0.09976		mg/L		100	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 820-2017-1 MS
Matrix: Water
Analysis Batch: 8514

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	0.08106		mg/L		81	70 - 130
Toluene	<0.00200	U	0.100	0.07866		mg/L		79	70 - 130
Ethylbenzene	<0.00200	U	0.100	0.08950		mg/L		90	70 - 130
m-Xylene & p-Xylene	<0.00400	U	0.200	0.1938		mg/L		97	70 - 130
o-Xylene	<0.00200	U	0.100	0.1005		mg/L		101	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 820-2017-1 MSD
Matrix: Water
Analysis Batch: 8514

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	0.08758		mg/L		88	70 - 130	8	25
Toluene	<0.00200	U	0.100	0.09346		mg/L		93	70 - 130	17	25
Ethylbenzene	<0.00200	U	0.100	0.09744		mg/L		97	70 - 130	8	25
m-Xylene & p-Xylene	<0.00400	U	0.200	0.2108		mg/L		105	70 - 130	8	25
o-Xylene	<0.00200	U	0.100	0.1098		mg/L		110	70 - 130	9	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2017-1
SDG: AR217008

GC VOA

Analysis Batch: 8514

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-2017-1	MW-2	Total/NA	Water	8021B	
820-2017-2	MW-3	Total/NA	Water	8021B	
820-2017-3	MW-4	Total/NA	Water	8021B	
820-2017-4	MW-5	Total/NA	Water	8021B	
820-2017-5	MW-6	Total/NA	Water	8021B	
820-2017-6	MW-7	Total/NA	Water	8021B	
820-2017-7	MW-8	Total/NA	Water	8021B	
820-2017-8	DUP-1	Total/NA	Water	8021B	
MB 880-8514/39	Method Blank	Total/NA	Water	8021B	
MB 880-8514/70	Method Blank	Total/NA	Water	8021B	
MB 880-8514/8	Method Blank	Total/NA	Water	8021B	
LCS 880-8514/34	Lab Control Sample	Total/NA	Water	8021B	
LCS 880-8514/65	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-8514/35	Lab Control Sample Dup	Total/NA	Water	8021B	
LCSD 880-8514/66	Lab Control Sample Dup	Total/NA	Water	8021B	
820-2017-1 MS	MW-2	Total/NA	Water	8021B	
820-2017-1 MSD	MW-2	Total/NA	Water	8021B	

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2017-1
SDG: AR217008

Client Sample ID: MW-2
Date Collected: 09/22/21 13:39
Date Received: 09/23/21 16:12

Lab Sample ID: 820-2017-1
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	8514	09/30/21 03:16	MR	XEN MID

Client Sample ID: MW-3
Date Collected: 09/22/21 14:50
Date Received: 09/23/21 16:12

Lab Sample ID: 820-2017-2
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	8514	09/30/21 03:42	MR	XEN MID

Client Sample ID: MW-4
Date Collected: 09/22/21 15:50
Date Received: 09/23/21 16:12

Lab Sample ID: 820-2017-3
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	8514	09/29/21 15:33	MR	XEN MID

Client Sample ID: MW-5
Date Collected: 09/22/21 16:29
Date Received: 09/23/21 16:12

Lab Sample ID: 820-2017-4
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	8514	09/29/21 15:59	MR	XEN MID

Client Sample ID: MW-6
Date Collected: 09/22/21 11:14
Date Received: 09/23/21 16:12

Lab Sample ID: 820-2017-5
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	8514	09/29/21 16:26	MR	XEN MID

Client Sample ID: MW-7
Date Collected: 09/22/21 12:07
Date Received: 09/23/21 16:12

Lab Sample ID: 820-2017-6
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	8514	09/29/21 16:52	MR	XEN MID

Client Sample ID: MW-8
Date Collected: 09/22/21 12:48
Date Received: 09/23/21 16:12

Lab Sample ID: 820-2017-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	8514	09/29/21 17:19	MR	XEN MID

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2017-1
SDG: AR217008

Client Sample ID: DUP-1
Date Collected: 09/22/21 00:00
Date Received: 09/23/21 16:12

Lab Sample ID: 820-2017-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	8514	09/29/21 17:45	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 #2

Job ID: 820-2017-1
SDG: AR217008

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 #2

Job ID: 820-2017-1
SDG: AR217008

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 #2

Job ID: 820-2017-1
SDG: AR217008

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-2017-1	MW-2	Water	09/22/21 13:39	09/23/21 16:12
820-2017-2	MW-3	Water	09/22/21 14:50	09/23/21 16:12
820-2017-3	MW-4	Water	09/22/21 15:50	09/23/21 16:12
820-2017-4	MW-5	Water	09/22/21 16:29	09/23/21 16:12
820-2017-5	MW-6	Water	09/22/21 11:14	09/23/21 16:12
820-2017-6	MW-7	Water	09/22/21 12:07	09/23/21 16:12
820-2017-7	MW-8	Water	09/22/21 12:48	09/23/21 16:12
820-2017-8	DUP-1	Water	09/22/21 00:00	09/23/21 16:12

Loc: 820
2017

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Contact:
Project Manager: Brett Dennis
SRS #: 2009-039
Sampler's Name: Aaron Adams
Sampler's Signature

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 5.9/5.8 IR4

Page 1 of 1

Project Number: AR217008
Project Name: DCP #2

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	9/22/2021	13:39		X	MW-2			3				X							
GW	9/22/2021	14:50		X	MW-3			3				X							
GW	9/22/2021	15:50		X	MW-4			3				X							
GW	9/22/2021	16:29		X	MW-5			3				X							
GW	9/22/2021	11:14		X	MW-6			3				X							
GW	9/22/2021	12:07		X	MW-7			3				X							
GW	9/22/2021	12:48		X	MW-8			3				X							
GW	9/22/2021	---		X	DUP-1			3				X							

820-2017 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:
[signature]	9/23/21	16:12	[signature]	9/23/21	16:12

NOTES: Bill directly to Plains Pipeline

e-mail results to:
brett.dennis@terracon.com
erin.loyd@terracon.com
algroves@paalp.com
maochoa@paalp.com
cjbryant@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: 820-2131 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 #: 820-2017-1
Address: 1211 W Florida Ave	Due Date Requested: 9/29/2021	Analysis Requested		Preservation Codes:
City: Midland	TAT Requested (days):			A HCL M - Hexane B NaOH N - None C Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q Na2SO3 F MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J DI Water V MCAA K EDTA W - pH 4-5 L EDA Z other (specify)
State, Zip: TX, 79701	PO #:			
Phone: 432-704-5440(Tel)	WO #:			
Email:				Other:
Project Name: General Waters	Project #: 82000284			
Site:	SSOW#:			

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)	8021B/5030C (MOD) BTEX	Special Instructions/Note:
MW-2 (820-2017-1)	9/22/21	13:39 Central		Water	X	
MW-3 (820-2017-2)	9/22/21	14:50 Central		Water	X	
MW-4 (820-2017-3)	9/22/21	15:50 Central		Water	X	
MW-5 (820-2017-4)	9/22/21	16:29 Central		Water	X	
MW-6 (820-2017-5)	9/22/21	11:14 Central		Water	X	
MW-7 (820-2017-6)	9/22/21	12:07 Central		Water	X	
MW-8 (820-2017-7)	9/22/21	12:48 Central		Water	X	
DUP-1 (820-2017-8)	9/22/21	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	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested I II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Ashley J. Ruggles	9/24/21 17:00			9-27-21 2:00	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 2.1 2.0

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-2017-1
SDG Number: AR217008

Login Number: 2017
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").	True	

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-2017-1
SDG Number: AR217008

Login Number: 2017
List Number: 2
Creator: Copeland, Tatiana

List Source: Eurofins Xenco, Midland
List Creation: 09/27/21 02:00 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	2.1 / 2.6
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:	L1383911
Samples Received:	07/29/2021
Project Number:	AR217008
Description:	DCP #2

Report To:

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

Entire Report Reviewed By:

Brittnie L Boyd
Project Manager

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) L1383911-01 Air

	Collected by	Collected date/time	Received date/time
		07/27/21 13:30	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 16:48	07/29/21 16:48	MBF	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.

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	6500	20800		2000	WG1713890
Toluene	108-88-3	92.10	1000	3770	83300	314000		2000	WG1713890
Ethylbenzene	100-41-4	106	400	1730	13700	59400		2000	WG1713890
m&p-Xylene	1330-20-7	106	800	3470	31200	135000		2000	WG1713890
o-Xylene	95-47-6	106	400	1730	8600	37300		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	2590000	10700000		2000	WG1713890
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.8*				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	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.

C191

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 #: 2009-039
Sampler's Name: Aaron Adams
Sampler's Signature:

ANALYSIS REQUESTED

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

Page 1 of 1

L138 3911

Project Number: AR217008
Project Name: DCP #2

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	13:30	X		EFF-1 (07272021)			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
	7-27-21	1820			
				7/29	0800

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 _____

0900

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

ANALYTICAL REPORT

September 01, 2021

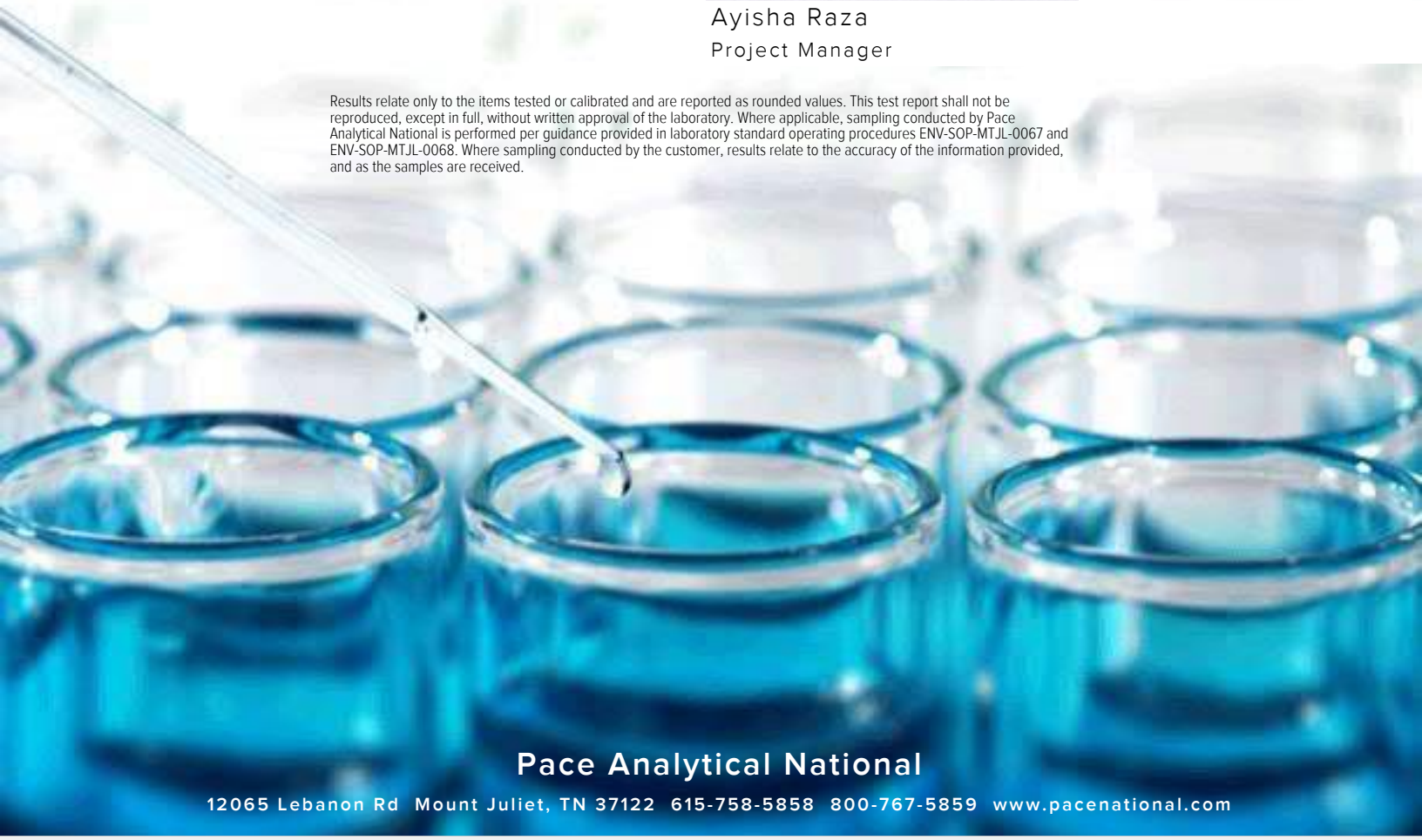
Plains All American Pipeline - Terracon

Sample Delivery Group:	L1395209
Samples Received:	08/26/2021
Project Number:	AR217008
Description:	DCP #2

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

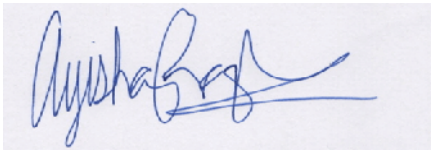
EFF-1 (08252021) L1395209-01 Air

Collected by: Brett Dennis
Collected date/time: 08/25/21 12:20
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	400	08/26/21 22:40	08/26/21 22:40	CEP	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method M18-Mod	WG1730759	2000	08/28/21 02:25	08/28/21 02:25	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	80.0	256	ND	ND		400	WG1730160
Toluene	108-88-3	92.10	1000	3770	81500	307000		2000	WG1730759
Ethylbenzene	100-41-4	106	80.0	347	15800	68500		400	WG1730160
m&p-Xylene	1330-20-7	106	160	694	35400	153000		400	WG1730160
o-Xylene	95-47-6	106	80.0	347	10100	43800		400	WG1730160
Methyl tert-butyl ether	1634-04-4	88.10	80.0	288	ND	ND		400	WG1730160
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	2390000	9870000		2000	WG1730759
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*113*				WG1730160
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.4*				WG1730759

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
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
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) R3697652-3 08/27/21 11:11

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Toluene	U		0.0870	0.500
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*87.4*			*60.0-140*

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

(LCS) R3697652-1 08/27/21 09:45 • (LCSD) R3697652-2 08/27/21 10:28

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Toluene	3.75	4.25	4.14	113	110	70.0-130			2.62	25
TPH (GC/MS) Low Fraction	203	220	218	108	107	70.0-130			0.913	25
(S) 1,4-Bromofluorobenzene				*92.2*	*91.1*	*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.
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	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.

F222

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 #: 2009-039
Sampler's Signature

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 1

Project Number: AR217008

Project Name: DCP #2

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	12:20	X		EFF-1 (08252021)			X	X	X	L1395209-01

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		
RAD Screen <0.5 mR/hr:	Y N		

NFE

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

TRRP Laboratory Review Checklist ☐ Yes ☐ No

	Date:	Time:		Date:	Time:
Relinquished by (Signature)	8/25/21	16:36	Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)		
Relinquished by (Signature)			Received by (Signature)	8/26/21	0830

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

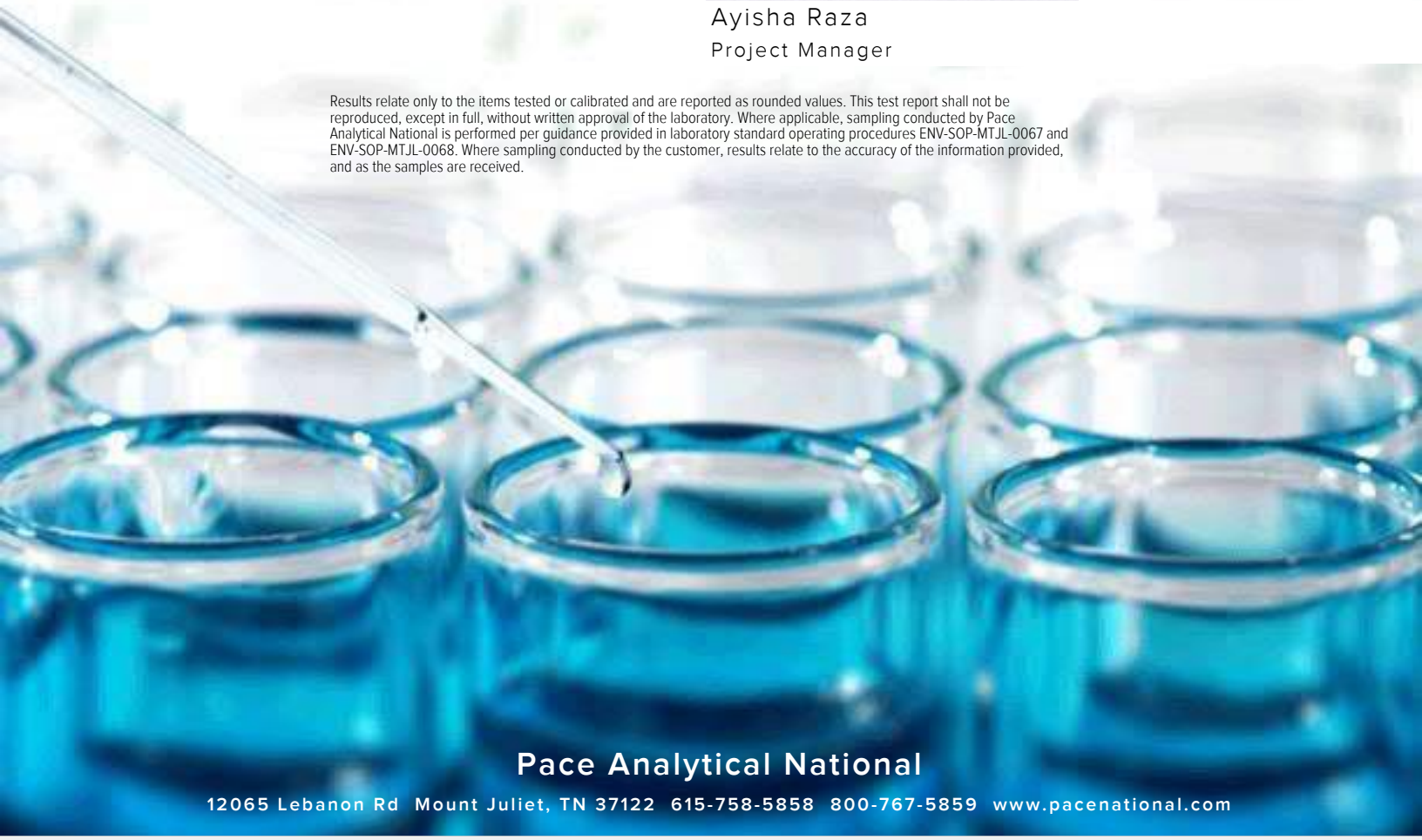
Sample Delivery Group:	L1411747
Samples Received:	10/01/2021
Project Number:	AR217009
Description:	DCP Sec. 31 (SRS# 2009-084)

Report To:

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

Entire Report Reviewed By:

Ayisha Raza
Project Manager



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

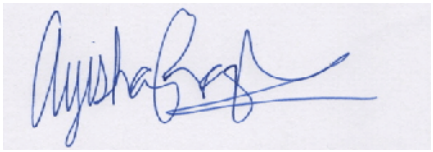
			Collected by	Collected date/time	Received date/time
			Aaron Adams	09/30/21 16:13	10/01/21 09:00

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

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	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*				

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RPD	Relative Percent Difference.
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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.
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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	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

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* 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: 820-2917-1
Laboratory Sample Delivery Group: AR207008
Client Project/Site: DCP #2

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

Attn: Brett Dennis

Jkramer

Authorized for release by:
12/22/2021 1:18:05 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
12/22/2021 1:18:05 PM

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Laboratory Job ID: 820-2917-1
SDG: AR207008

Table of Contents

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2917-1
SDG: AR207008

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 #2

Job ID: 820-2917-1
SDG: AR207008

Job ID: 820-2917-1

Laboratory: Eurofins Xenco, Lubbock

Narrative

Job Narrative
820-2917-1

Receipt

The samples were received on 12/16/2021 9:33 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.5°C

GC VOA

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

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2917-1
SDG: AR207008

Client Sample ID: MW-6

Lab Sample ID: 820-2917-1
Matrix: Water
Date Collected: 12/15/21 09:47
Date Received: 12/16/21 09:33

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			12/20/21 17:58	1
Toluene	<0.00200	U	0.00200		mg/L			12/20/21 17:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			12/20/21 17:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/20/21 17:58	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/20/21 17:58	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/20/21 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*12/20/21 17:58*	*1*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*		*12/20/21 17:58*	*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			12/22/21 12:38	1

Client Sample ID: MW-7

Lab Sample ID: 820-2917-2
Matrix: Water
Date Collected: 12/15/21 10:40
Date Received: 12/16/21 09:33

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			12/20/21 18:24	1
Toluene	<0.00200	U	0.00200		mg/L			12/20/21 18:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			12/20/21 18:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/20/21 18:24	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/20/21 18:24	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/20/21 18:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*		*12/20/21 18:24*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*		*12/20/21 18:24*	*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			12/22/21 12:38	1

Client Sample ID: MW-8

Lab Sample ID: 820-2917-3
Matrix: Water
Date Collected: 12/15/21 11:24
Date Received: 12/16/21 09:33

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			12/20/21 18:51	1
Toluene	<0.00200	U	0.00200		mg/L			12/20/21 18:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			12/20/21 18:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/20/21 18:51	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/20/21 18:51	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/20/21 18:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*		*12/20/21 18:51*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*		*12/20/21 18:51*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2917-1
SDG: AR207008

Client Sample ID: MW-8
Lab Sample ID: 820-2917-3
Date Collected: 12/15/21 11:24
Matrix: Water
Date Received: 12/16/21 09:33

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			12/22/21 12:38	1

Client Sample ID: MW-2
Lab Sample ID: 820-2917-4
Date Collected: 12/15/21 12:10
Matrix: Water
Date Received: 12/16/21 09:33

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			12/20/21 19:17	1
Toluene	<0.00200	U	0.00200		mg/L			12/20/21 19:17	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			12/20/21 19:17	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/20/21 19:17	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/20/21 19:17	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/20/21 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*12/20/21 19:17*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*		*12/20/21 19:17*	*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			12/22/21 12:38	1

Client Sample ID: MW-3
Lab Sample ID: 820-2917-5
Date Collected: 12/15/21 12:51
Matrix: Water
Date Received: 12/16/21 09:33

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			12/20/21 19:43	1
Toluene	<0.00200	U	0.00200		mg/L			12/20/21 19:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			12/20/21 19:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/20/21 19:43	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/20/21 19:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/20/21 19:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*973*	*S1+*	*70 - 130*		*12/20/21 19:43*	*1*
1,4-Difluorobenzene (Surr)	*918*	*S1+*	*70 - 130*		*12/20/21 19:43*	*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			12/22/21 12:38	1

Client Sample ID: MW-4
Lab Sample ID: 820-2917-6
Date Collected: 12/15/21 14:00
Matrix: Water
Date Received: 12/16/21 09:33

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			12/20/21 20:10	1
Toluene	<0.00200	U	0.00200		mg/L			12/20/21 20:10	1

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2917-1
SDG: AR207008

Client Sample ID: MW-4

Lab Sample ID: 820-2917-6
Date Collected: 12/15/21 14:00
Matrix: Water
Date Received: 12/16/21 09:33

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			12/20/21 20:10	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/20/21 20:10	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/20/21 20:10	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/20/21 20:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*		*12/20/21 20:10*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*		*12/20/21 20:10*	*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			12/22/21 12:38	1

Client Sample ID: MW-5

Lab Sample ID: 820-2917-7
Date Collected: 12/15/21 14:39
Matrix: Water
Date Received: 12/16/21 09:33

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			12/20/21 20:37	1
Toluene	<0.00200	U	0.00200		mg/L			12/20/21 20:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			12/20/21 20:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/20/21 20:37	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/20/21 20:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/20/21 20:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*		*12/20/21 20:37*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*		*12/20/21 20:37*	*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			12/22/21 12:38	1

Client Sample ID: DUP-1

Lab Sample ID: 820-2917-8
Date Collected: 12/15/21 00:00
Matrix: Water
Date Received: 12/16/21 09:33

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			12/20/21 21:04	1
Toluene	<0.00200	U	0.00200		mg/L			12/20/21 21:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			12/20/21 21:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/20/21 21:04	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/20/21 21:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/20/21 21:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*12/20/21 21:04*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*		*12/20/21 21:04*	*1*

Client Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2917-1
SDG: AR207008

Client Sample ID: DUP-1
Date Collected: 12/15/21 00:00
Date Received: 12/16/21 09:33

Lab Sample ID: 820-2917-8
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			12/22/21 12:38	1

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2917-1
SDG: AR207008

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)										
820-2917-1	MW-6	101	73										
820-2917-1 MS	MW-6	84	93										
820-2917-1 MSD	MW-6	82	90										
820-2917-2	MW-7	89	86										
820-2917-3	MW-8	89	87										
820-2917-4	MW-2	88	83										
820-2917-5	MW-3	973 S1+	918 S1+										
820-2917-6	MW-4	83	81										
820-2917-7	MW-5	91	85										
820-2917-8	DUP-1	94	81										
LCS 880-15046/3	Lab Control Sample	107	77										
LCSD 880-15046/4	Lab Control Sample Dup	86	78										
MB 880-15046/8	Method Blank	55 S1-	84										

Surrogate Legend

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

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2917-1
SDG: AR207008

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-15046/8
Matrix: Water
Analysis Batch: 15046

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			12/20/21 17:31	1
Toluene	<0.00200	U	0.00200		mg/L			12/20/21 17:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/L			12/20/21 17:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/L			12/20/21 17:31	1
o-Xylene	<0.00200	U	0.00200		mg/L			12/20/21 17:31	1
Xylenes, Total	<0.00400	U	0.00400		mg/L			12/20/21 17:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*55*	*S1-*	*70 - 130*		*12/20/21 17:31*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*		*12/20/21 17:31*	*1*

Lab Sample ID: LCS 880-15046/3
Matrix: Water
Analysis Batch: 15046

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	0.08141		mg/L		81	70 - 130		
Toluene			0.100	0.07634		mg/L		76	70 - 130		
Ethylbenzene			0.100	0.08392		mg/L		84	70 - 130		
m-Xylene & p-Xylene			0.200	0.1654		mg/L		83	70 - 130		
o-Xylene			0.100	0.08282		mg/L		83	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*

Lab Sample ID: LCSD 880-15046/4
Matrix: Water
Analysis Batch: 15046

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	0.09447		mg/L		94	70 - 130	15	20
Toluene			0.100	0.08363		mg/L		84	70 - 130	9	20
Ethylbenzene			0.100	0.08803		mg/L		88	70 - 130	5	20
m-Xylene & p-Xylene			0.200	0.1728		mg/L		86	70 - 130	4	20
o-Xylene			0.100	0.09154		mg/L		92	70 - 130	10	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*

Lab Sample ID: 820-2917-1 MS
Matrix: Water
Analysis Batch: 15046

Client Sample ID: MW-6
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	0.1056		mg/L		106	70 - 130		
Toluene	<0.00200	U	0.100	0.08457		mg/L		85	70 - 130		

QC Sample Results

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2917-1
SDG: AR207008

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

Lab Sample ID: 820-2917-1 MS
Matrix: Water
Analysis Batch: 15046

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00200	U	0.100	0.07913		mg/L		79	70 - 130
m-Xylene & p-Xylene	<0.00400	U	0.200	0.1511		mg/L		75	70 - 130
o-Xylene	<0.00200	U	0.100	0.08179		mg/L		82	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 820-2917-1 MSD
Matrix: Water
Analysis Batch: 15046

Client Sample ID: MW-6
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	0.1078		mg/L		108	70 - 130	2	25
Toluene	<0.00200	U	0.100	0.08803		mg/L		88	70 - 130	4	25
Ethylbenzene	<0.00200	U	0.100	0.08362		mg/L		84	70 - 130	6	25
m-Xylene & p-Xylene	<0.00400	U	0.200	0.1626		mg/L		81	70 - 130	7	25
o-Xylene	<0.00200	U	0.100	0.08955		mg/L		90	70 - 130	9	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2917-1
SDG: AR207008

GC VOA

Analysis Batch: 15046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-2917-1	MW-6	Total/NA	Water	8021B	
820-2917-2	MW-7	Total/NA	Water	8021B	
820-2917-3	MW-8	Total/NA	Water	8021B	
820-2917-4	MW-2	Total/NA	Water	8021B	
820-2917-5	MW-3	Total/NA	Water	8021B	
820-2917-6	MW-4	Total/NA	Water	8021B	
820-2917-7	MW-5	Total/NA	Water	8021B	
820-2917-8	DUP-1	Total/NA	Water	8021B	
MB 880-15046/8	Method Blank	Total/NA	Water	8021B	
LCS 880-15046/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-15046/4	Lab Control Sample Dup	Total/NA	Water	8021B	
820-2917-1 MS	MW-6	Total/NA	Water	8021B	
820-2917-1 MSD	MW-6	Total/NA	Water	8021B	

Analysis Batch: 15380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-2917-1	MW-6	Total/NA	Water	Total BTEX	
820-2917-2	MW-7	Total/NA	Water	Total BTEX	
820-2917-3	MW-8	Total/NA	Water	Total BTEX	
820-2917-4	MW-2	Total/NA	Water	Total BTEX	
820-2917-5	MW-3	Total/NA	Water	Total BTEX	
820-2917-6	MW-4	Total/NA	Water	Total BTEX	
820-2917-7	MW-5	Total/NA	Water	Total BTEX	
820-2917-8	DUP-1	Total/NA	Water	Total BTEX	

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2917-1
SDG: AR207008

Client Sample ID: MW-6
Date Collected: 12/15/21 09:47
Date Received: 12/16/21 09:33

Lab Sample ID: 820-2917-1
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	15046	12/20/21 17:58	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			15380	12/22/21 12:38	AJ	XEN MID

Client Sample ID: MW-7
Date Collected: 12/15/21 10:40
Date Received: 12/16/21 09:33

Lab Sample ID: 820-2917-2
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	15046	12/20/21 18:24	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			15380	12/22/21 12:38	AJ	XEN MID

Client Sample ID: MW-8
Date Collected: 12/15/21 11:24
Date Received: 12/16/21 09:33

Lab Sample ID: 820-2917-3
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	15046	12/20/21 18:51	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			15380	12/22/21 12:38	AJ	XEN MID

Client Sample ID: MW-2
Date Collected: 12/15/21 12:10
Date Received: 12/16/21 09:33

Lab Sample ID: 820-2917-4
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	15046	12/20/21 19:17	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			15380	12/22/21 12:38	AJ	XEN MID

Client Sample ID: MW-3
Date Collected: 12/15/21 12:51
Date Received: 12/16/21 09:33

Lab Sample ID: 820-2917-5
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	15046	12/20/21 19:43	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			15380	12/22/21 12:38	AJ	XEN MID

Client Sample ID: MW-4
Date Collected: 12/15/21 14:00
Date Received: 12/16/21 09:33

Lab Sample ID: 820-2917-6
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	15046	12/20/21 20:10	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			15380	12/22/21 12:38	AJ	XEN MID

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: DCP #2

Job ID: 820-2917-1
SDG: AR207008

Client Sample ID: MW-5
Date Collected: 12/15/21 14:39
Date Received: 12/16/21 09:33

Lab Sample ID: 820-2917-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	15046	12/20/21 20:37	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			15380	12/22/21 12:38	AJ	XEN MID

Client Sample ID: DUP-1
Date Collected: 12/15/21 00:00
Date Received: 12/16/21 09:33

Lab Sample ID: 820-2917-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	15046	12/20/21 21:04	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			15380	12/22/21 12:38	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 #2

Job ID: 820-2917-1
SDG: AR207008

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 #2

Job ID: 820-2917-1
SDG: AR207008

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 #2

Job ID: 820-2917-1
SDG: AR207008

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-2917-1	MW-6	Water	12/15/21 09:47	12/16/21 09:33
820-2917-2	MW-7	Water	12/15/21 10:40	12/16/21 09:33
820-2917-3	MW-8	Water	12/15/21 11:24	12/16/21 09:33
820-2917-4	MW-2	Water	12/15/21 12:10	12/16/21 09:33
820-2917-5	MW-3	Water	12/15/21 12:51	12/16/21 09:33
820-2917-6	MW-4	Water	12/15/21 14:00	12/16/21 09:33
820-2917-7	MW-5	Water	12/15/21 14:39	12/16/21 09:33
820-2917-8	DUP-1	Water	12/15/21 00:00	12/16/21 09:33

Loc: 820
2917

820-2917 Chain of Custody

CHAIN OF C

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Contact:
Project Manager: Brett Dennis
SRS #: 2009-039
Sampler's Name: Aaron Adams
Sampler's Signature:

ANALYSIS REQUESTED

DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C): 5.6/5.5 IR-4

Page 1 of 1

Project Number: AR207008
Project Name: DCP #2

No. Type of Containers

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	40 ml VOA	BTEX (EPA Method 8021)	Lab Sample ID
GW	12/15/2021	9:47		X	MW-6			3	X	
GW	12/15/2021	10:40		X	MW-7			3	X	
GW	12/15/2021	11:24		X	MW-8			3	X	
GW	12/15/2021	12:10		X	MW-2			3	X	
GW	12/15/2021	12:51		X	MW-3			3	X	
GW	12/15/2021	14:00		X	MW-4			3	X	
GW	12/15/2021	14:39		X	MW-5			3	X	
GW	12/15/2021			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
1		12-16-2021	09:33		12/16/21	0933
2						
3						
4						

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

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-2917-1
SDG Number: AR207008

Login Number: 2917
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").	True	

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 820-2917-1
SDG Number: AR207008

Login Number: 2917
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland
List Creation: 12/17/21 01:55 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

November 01, 2021

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1423937
Samples Received:	10/29/2021
Project Number:	AR217008
Description:	DCP #2 (SRS# 2009-039)

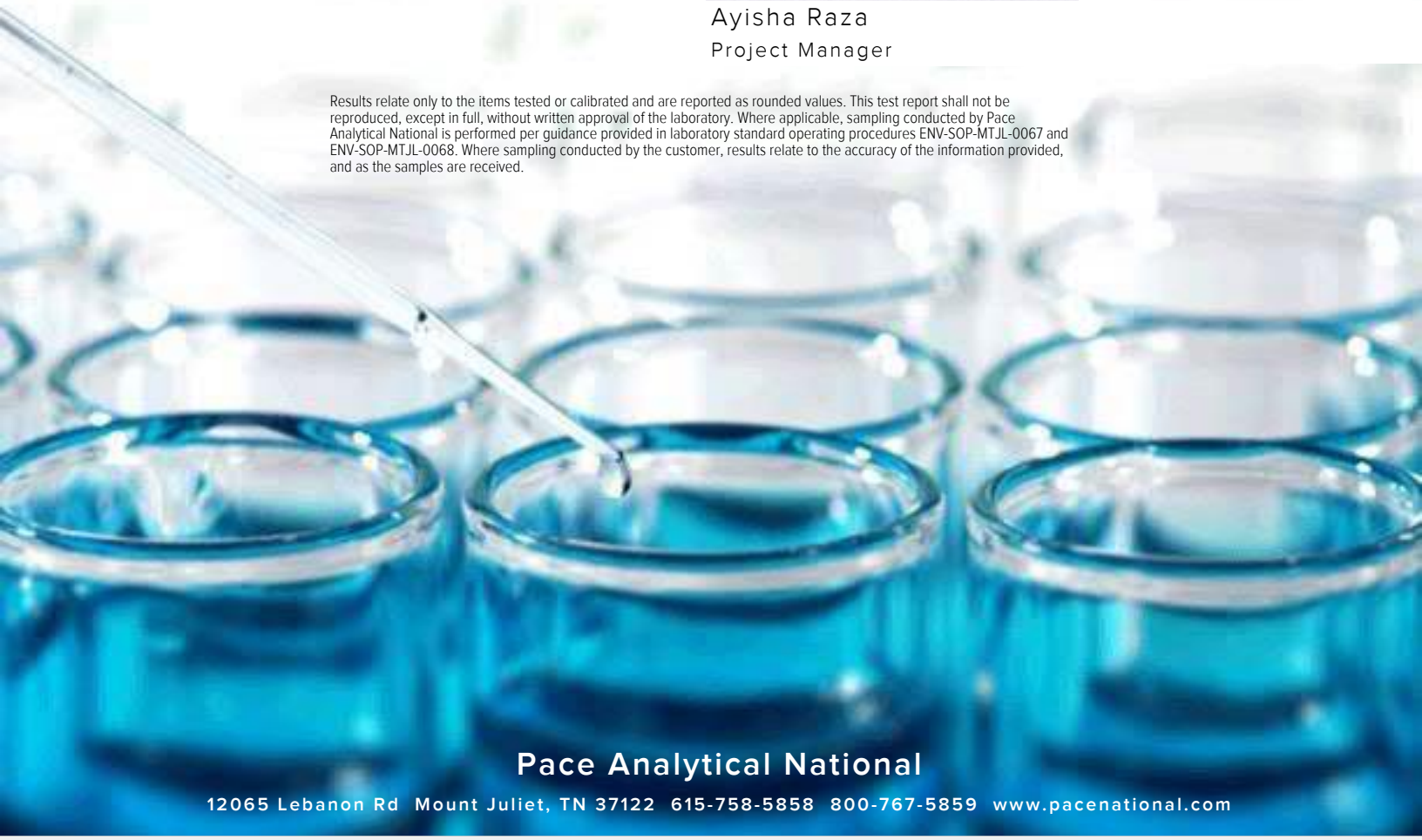
Report To:

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) L1423937-01 Air

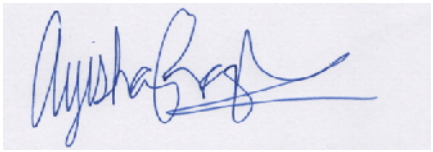
Collected by: Aaron Adams
Collected date/time: 10/28/21 11:05
Received date/time: 10/29/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1765786	2000	10/30/21 00:13	10/30/21 00:13	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	2890	9230		2000	WG1765786
Toluene	108-88-3	92.10	1000	3770	52600	198000		2000	WG1765786
Ethylbenzene	100-41-4	106	400	1730	9840	42700		2000	WG1765786
m&p-Xylene	1330-20-7	106	800	3470	24000	104000		2000	WG1765786
o-Xylene	95-47-6	106	400	1730	6390	27700		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	1650000	6820000		2000	WG1765786
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.6*				WG1765786

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	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

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

Phone: (800) 767-5859
Contact:
SRS #: 2009-039

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

Project Number: AR217008
Project Name: DCP #2 (SRS# 2009-039)

ANALYSIS REQUESTED

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

Page 1 of 1

J059

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	10/28/2021	11:05		X	EFF-1 (10282021)			X	X	X	L1423937-01

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:
	10-28-21	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

cnt = 1
TB=0

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

2854 7732 4252

ANALYTICAL REPORT

December 03, 2021

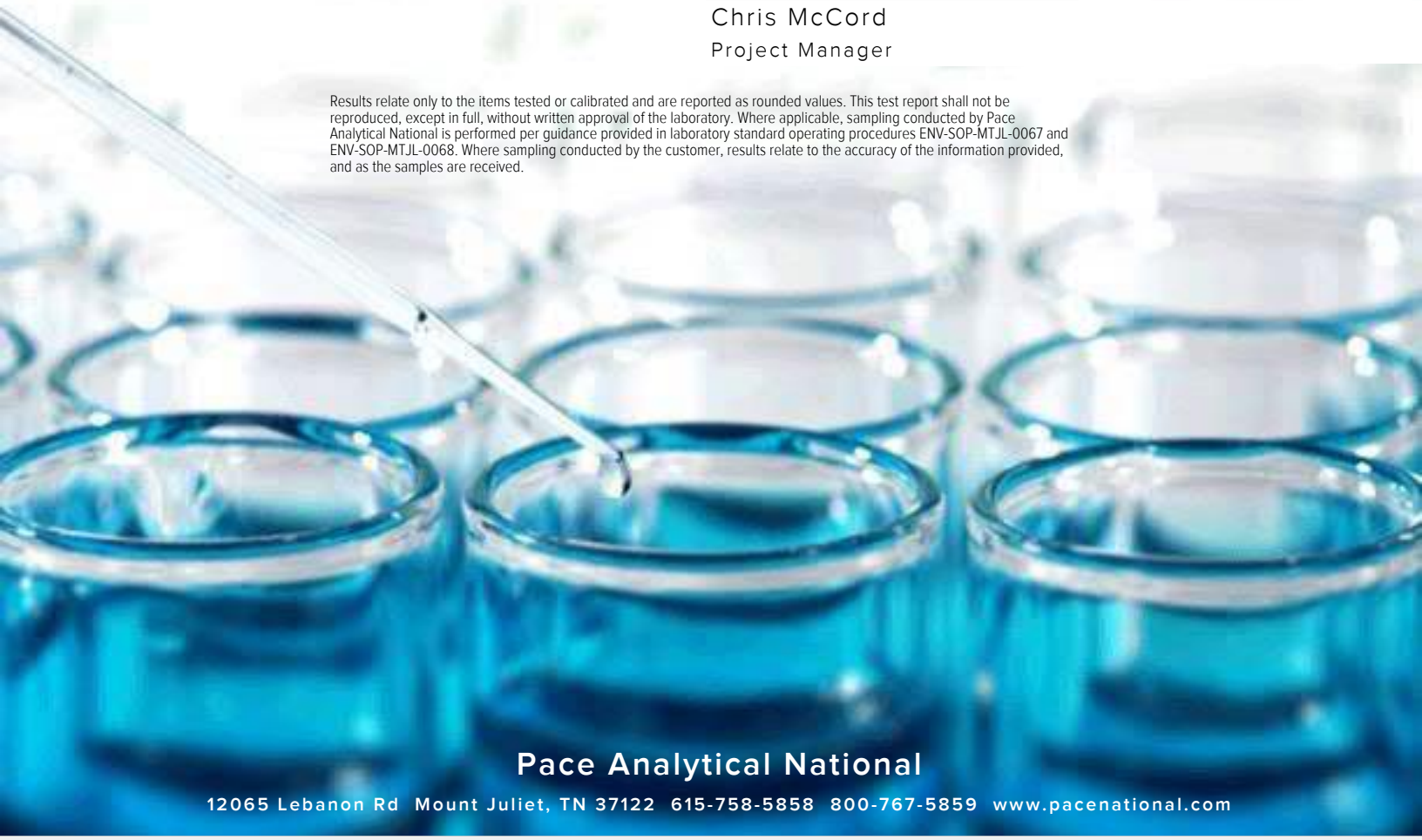
Plains All American Pipeline - Terracon

Sample Delivery Group:	L1436391
Samples Received:	12/01/2021
Project Number:	AR217008
Description:	DCP #2

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

Entire Report Reviewed By:

Chris McCord
Project Manager



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) L1436391-01 Air

			Collected by	Collected date/time	Received date/time
			Brett Dennis	11/30/21 13:00	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	400	12/02/21 14:26	12/02/21 14:26	FKG	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method M18-Mod	WG1783670	8000	12/02/21 19:50	12/02/21 19:50	DAH	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	80.0	256	6900	22000		400	WG1783045
Toluene	108-88-3	92.10	4000	15100	113000	426000		8000	WG1783670
Ethylbenzene	100-41-4	106	80.0	347	19300	83700		400	WG1783045
m&p-Xylene	1330-20-7	106	160	694	44000	191000		400	WG1783045
o-Xylene	95-47-6	106	80.0	347	11900	51600		400	WG1783045
TPH (GC/MS) Low Fraction	8006-61-9	101	1600000	6610000	4650000	19200000		8000	WG1783670
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*104*				WG1783045
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.2*				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
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
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
Toluene	U		0.0870	0.500
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 %
Toluene	3.75	4.62	4.58	123	122	70.0-130			0.870	25
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.

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

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.

H159

Terracon

CHAIN OF CUSTODY RECORD

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 #: 2009-039
Sampler's Signature

Project Number: AR217008
Project Name: DCP #2

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C)
Page 1 of 1
L1436391

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: tedlar bag	ANALYSIS REQUESTED: BTEX (EPA Method 8021)	TPH 8015 extended	Lab Sample ID
A	11/30/2021	13:00	X		EFF-1 (11302021)			X	X	X	-01

NFE

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

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
[signature]	11/30/21	16:20	[signature]	12/1/21	10:00

TRRP Laboratory Review Checklist ☐ Yes ☐ No

NOTES: Bill directly to Plains Pipeline Ok

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

2865 55CR/15Ce

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

Sample Receipt Checklist
COC Seal Present/Intact: Y N — NP
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
~~4310 - 4.5~~
DK#2

ANALYTICAL REPORT

December 30, 2021

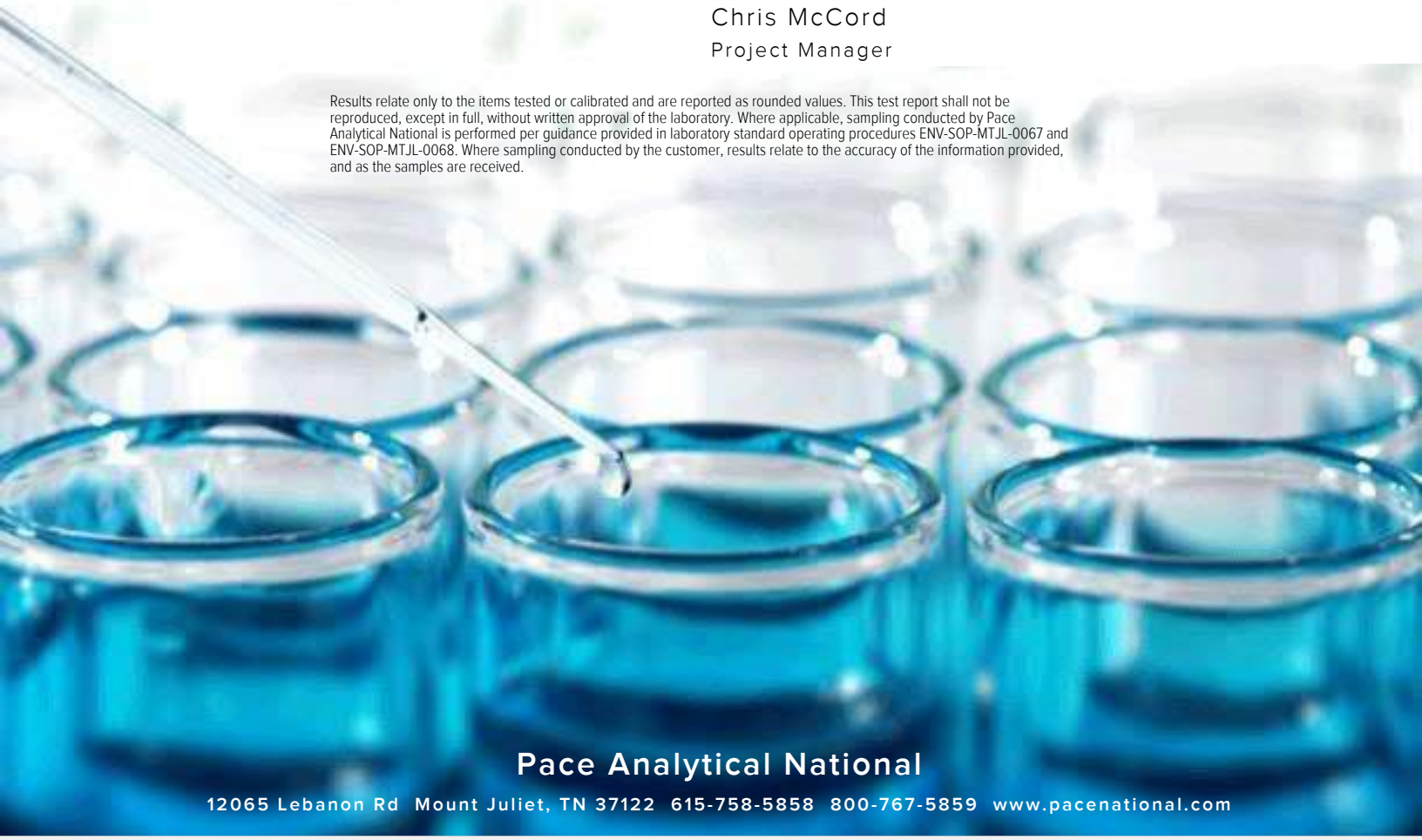
Plains All American Pipeline - Terracon

Sample Delivery Group:	L1444526
Samples Received:	12/21/2021
Project Number:	AR217008
Description:	DCP #2 (SRS# 2009-039)

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

Entire Report Reviewed By:

Chris McCord
Project Manager



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 (12202021) L1444526-01 Air

			Collected by	Collected date/time	Received date/time
			Aaron Adams	12/20/21 08:06	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	2000	12/21/21 15:56	12/21/21 15:56	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	400	1280	ND	ND		2000	WG1792997
Toluene	108-88-3	92.10	1000	3770	2360	8890		2000	WG1792997
Ethylbenzene	100-41-4	106	400	1730	ND	ND		2000	WG1792997
m&p-Xylene	1330-20-7	106	800	3470	3080	13400		2000	WG1792997
o-Xylene	95-47-6	106	400	1730	1060	4600		2000	WG1792997
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	1160000	4790000		2000	WG1792997
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*95.7*				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*				

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Abbreviations and Definitions

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Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
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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	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.

E100

CHAIN OF CUSTODY RECORD

Terracon

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

Office Location: Lubbock
Project Manager: Brett Dennis
Sampler's Name: Aaron Adams
SRS #: 2009-039
Sampler's Signature:

ANALYSIS REQUESTED

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

Project Number: AR217008
Project Name: DCP #2 (SRS# 2009-039)

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: Redlar bag				BTEX (EPA Method 8021)	TPH 8015 extended					Lab Sample ID
A	12/20/2021	8:06		X	EFF-1 (12202021)			X				X	X					L1444526-01

[redacted]

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:
	12/20/2021	10:00			
				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		
RAD Screen <0.5 mR/hr:	✓Y	N		

APPENDIX E

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.

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District III
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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 93363

CONDITIONS

Operator:	OGRID:
PLAINS MARKETING L.P. 333 Clay Street Suite 1900 Houston, TX 77002	34053
	Action Number: 93363
	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 NMOCD and are as follows; 1. Continue quarterly gauging, purging, and sampling from MW-2 through MW-8 for the presence of PSH and BTEX 2. Continue PSH recovery by SVE from monitoring well MW-1, with emission sampling events occurring monthly 3. Continue monthly manual PSH recovery, if applicable, from MW-1 4. Continue monthly recovery of hydrocarbon impacted groundwater from MW-5 5. Submit annual report to NMOCD no later than March 31, 2023.	8/3/2022