2020 Annual Groundwater Monitoring Report

APPROVED
By Nelson Velez at 12:45 pm, Jan 12, 2022

Review of 2020 ANNUAL GROUNDWATER MONITORING REPORT:
Content satisfactory
Contractor anticipated actions approved by OCD and are as follows;
1. Continue quarterly gauging, purging, and sampling of monitoring wells 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, during 2021
3. Monthly manual PSH recovery, if applicable, will continue on monitoring well MW-1
4. Continue monthly recovery of hydrocarbon impacted groundwater from monitoring well MW-5
5. Submit annual report to OCD no later than March 31,2022.

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. AR207008

April 7, 2021

Prepared for:

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

Prepared by:

Terracon Consultants, Inc.

Terracon

April 7, 2021

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

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

Re: 2020 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. AR207008

Dear Mrs. Bryant:

Terracon is pleased to submit one electronic copy and one CD attached to the cover page of the 2020 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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- 1Q20 Groundwater 650318 (Xenco)
- 2Q20 Groundwater 665420 (Xenco)
- 3Q20 Groundwater 673301 (Xenco)
- 4Q20 Groundwater 681574 (Xenco)

Copies of Certified Pace National Reports:
- 1Q20 Air Reports L1182454, L1193055, & L1205596
- 2Q20 Air Reports L1214004, L1223108, L1234655
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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.

On August 18, 2020, an additional monitor well (MW-8) was installed (see Figure 1 of Appendix A for location) 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. For details of well construction and observed lithology refer to the boring log in Appendix D.

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 January 24, June 24, September 22, and December 16, 2020.

2.0 GROUNDWATER REMEDIATION PROGRAM

2.1 Groundwater Monitoring

Quarterly groundwater monitoring events were conducted on January 24 (1Q2020), June 24 (2Q2020), September 22 (3Q2020) and December 16, 2020 (4Q2020). 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 gauging data collected during the respective quarterly sampling events were used to construct groundwater gradient maps, which are included as Exhibits 3 through 6 in Appendix A. The groundwater flow direction was relatively consistent, ranging from 0.002 ft/ft during the 1st and 4th quarters to 0.004 ft/ft during the 2nd and 3rd quarters in a south-southeasterly direction. Groundwater elevation and PSH thickness data is summarized in Table 1 of Appendix B.

On August 18, 2020, an additional monitor well (MW-8) was installed (see Figure 1 of Appendix A for location) 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. For details of well construction and observed lithology refer to the boring log in Appendix D.

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. Therefore, monitor wells MW-2 through MW-8 will be analyzed for PAHs during the 4th quarter sampling event in 2021.

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 concentration 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 documentation 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 0.30 ft. (1Q2020), 0.19 ft. (2Q2020), 0.15 ft. (3Q2020), and 0.07 ft. (4Q2020), were observed during the quarterly monitoring events.

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

- Laboratory analytical results indicated BTEX concentrations were below the respective laboratory sample detections limits (SDLs) during each quarterly monitoring event with the exception of benzene being detected in monitor well MW-2, MW-3, and MW-4 during the 4th quarterly monitoring event at values below laboratory method quantitation limit (MQL) and ethylbenzene detected in monitor well MW-6 during the 1st quarter at a value below laboratory MQL.

4.1.3 Monitoring Well MW-5

- Laboratory analytical results indicated benzene concentrations exceeded the NMOCD regulatory standard during the 1st, 2nd, and 3rd quarterly monitoring events. The detected benzene concentrations ranged from 0.00495 mg/L for the 4th quarter to 4.37 mg/L for the 1st quarter.
- Laboratory analytical results indicated toluene, ethylbenzene, and total xylenes concentrations were above the respective laboratory sample detection limit but below the NMOCD regulatory standard during the 1st, 2nd, and 3rd quarterly monitoring events.

4.1.4 Monitoring Well MW-8

- Monitoring well MW-8 was installed on August 18, 2020 but was not sampled in the 3rd quarter due to elevated turbidity.
- Laboratory analytical results from the groundwater sample collected from monitor well MW-8 indicated that concentrations of BTEX were below the applicable laboratory SDLs during the 4th quarter monitoring event.

5.0 CORRECTIVE ACTION

5.1 Product Recovery

An estimated 0.421 gallons of PSH were recovered from monitoring well MW-1, by manual recovery, in 2020. During the last recovery event the PSH thickness in monitoring well MW-1 measured 0.08 feet. An estimated 65 gallons of hydrocarbon impacted groundwater were recovered manually from monitoring well MW-1 for 2020. To date, an estimated 6,172 gallons (146.9 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 Table 3 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.

Air samples have progressively decreased in magnitude since last year. Emission mass calculations resulted in a slight increase in average emissions of TPH from 4.123 tons/year in 2019 to 5.651 tons/year in 2020 and an average emission volume of 3.813 gal/day to 5.228 gal/day respectively. Monitoring well MW-1 SVE air emissions analytical results for BTEX and TPH is summarized in Table 3 of Appendix B.

On November 24, 2020, the SVE unit was not running when Terracon arrived on-site. After troubleshooting the batteries were found to no longer hold a charge from the solar panels. Therefore, from November 24th through the remainder of 2020, the SVE unit was nonoperational. Replacement batteries were installed on January 13, 2021.

5.2 Groundwater Recovery

For 2020, an estimated 69.5 gallons (1.65 bbls) of hydrocarbon impacted groundwater were recovered from monitor well monitoring well MW-5, by manual recovery. Since recovery operations began on January 22, 2016, an estimated 2,381.5 gallons (56.7 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 2020 Quarterly groundwater monitoring activities are as follows:

- Currently, there are seven groundwater monitoring wells (MW-1 through MW-7) located at the site.
- Monitoring well MW-1's groundwater was not sampled during each quarterly monitoring event due to the presence of PSH. Monthly air samples were sampled.
- Monitoring well MW-2 through MW-7 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, and MW-7 during each quarterly event with the exception of benzene being detected in monitor well MW-2, MW-3, and MW-4 during the 4th quarterly monitoring event at values below laboratory MQL and ethylbenzene detected in monitor well MW-6 during the 1st quarter at a value below laboratory MQL.
- The benzene concentration in monitoring well MW-5 exceeded the NMOCD regulatory standard for the 1st, 2nd, and 3rd quarterly monitoring events.
- Concentrations of toluene, ethylbenzene, and total xylenes were above the SDL in monitoring well MW-5 but below the NMOCD regulatory standard for each respective constituent for the four quarterly monitoring events.
- The PSH thickness in monitoring well MW-1 was 0.08 ft. during the last recovery event conducted on December 30, 2020.
- The groundwater flow direction was relatively consistent to the southeast for each quarterly event. The groundwater gradient contour was 0.004 ft/ft.
- An estimated 0.421 gallons of PSH were recovered manually from monitoring well MW-1.
- Monthly air emission samples were collected from the SVE unit to ensure compliance with New Mexico Environment Department (NMED) Air Quality Bureau (AQB) Action Level. Emission mass calculations resulted in a slight increase in average emissions of TPH from 4.123 tons/year in 2019 to 5.651 tons/year in 2020 and an average emission volume of 3.813 gal/day to 5.228 gal/day respectively.
- An estimated 69.5 gallons (1.65 bbls) of hydrocarbon impacted groundwater were recovered manually from monitoring well MW-5 for 2020.

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 2020.
- PSH recovery by SVE will continue on monitoring well MW-1, with emission sampling events occurring monthly, during 2021.
- 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 2021 reporting period.

8.0 DISTRIBUTION

Copy 1: Bradford Billings, Hydrologist, E Spec. A.
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Houston, Texas 77002
jpdann@paalp.com

APPENDIX A

Exhibit 1 – Topographic Map
Exhibit 2 – Site Diagram
Exhibit 3 – 1Q20 Groundwater Gradient Map (01/24/20)
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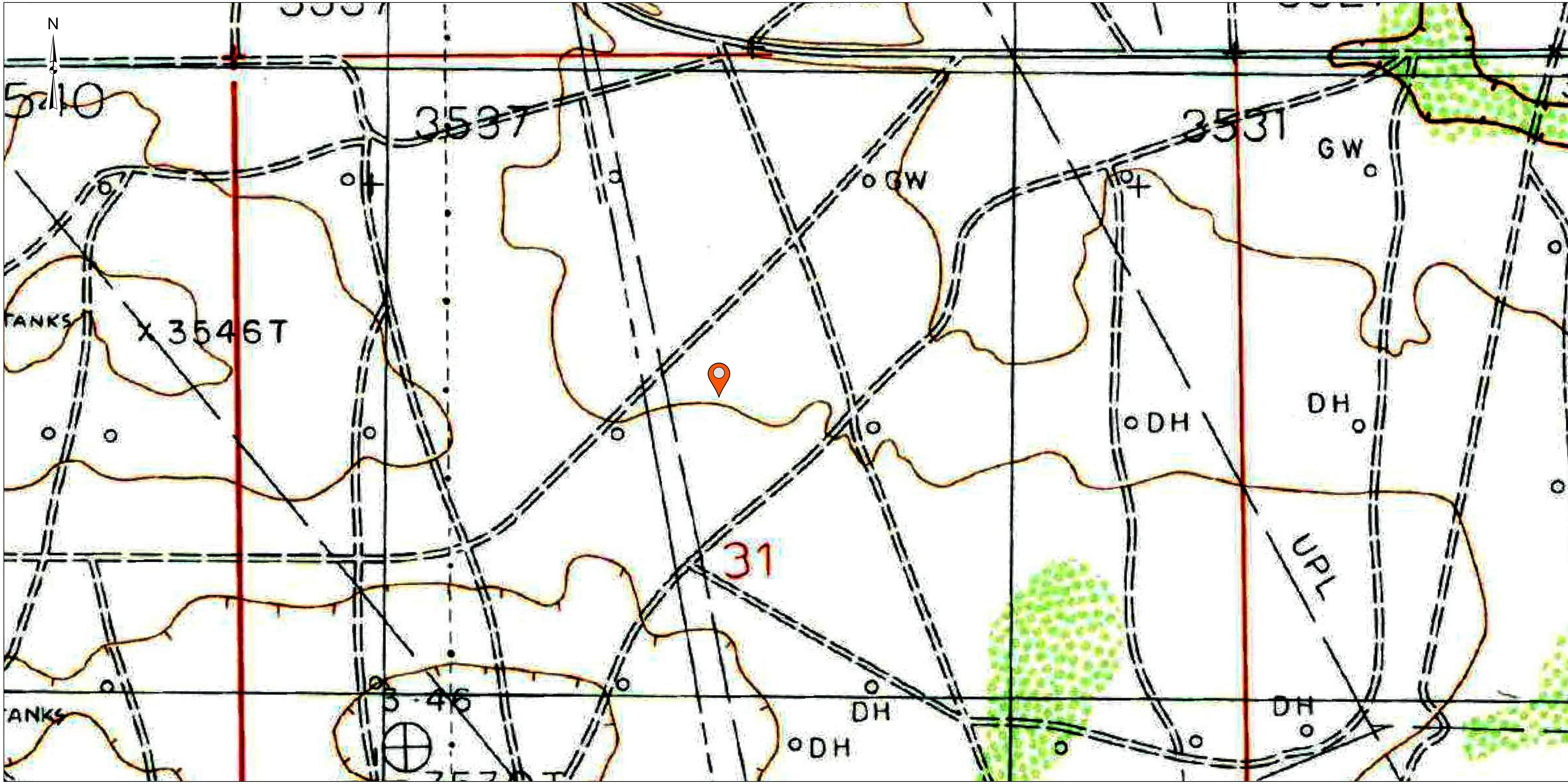


Legend:

Site Location

DATA SOURCES:
USGS Topoview - Monument South, NM 1985

Feet
0 390 780 1,560

Project No.:	AR207008
Date:	Jan 2021
Drawn By:	BAD
Reviewed By:	ELL

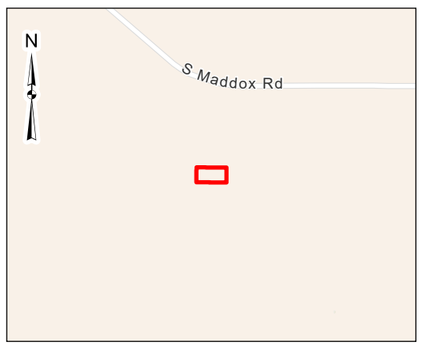
Terracon
5847 50th Street Lubbock, Texas 79424
PH. (806) 300-0140 terracon.com

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.:	AR207008
Date:	Jan 2021
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

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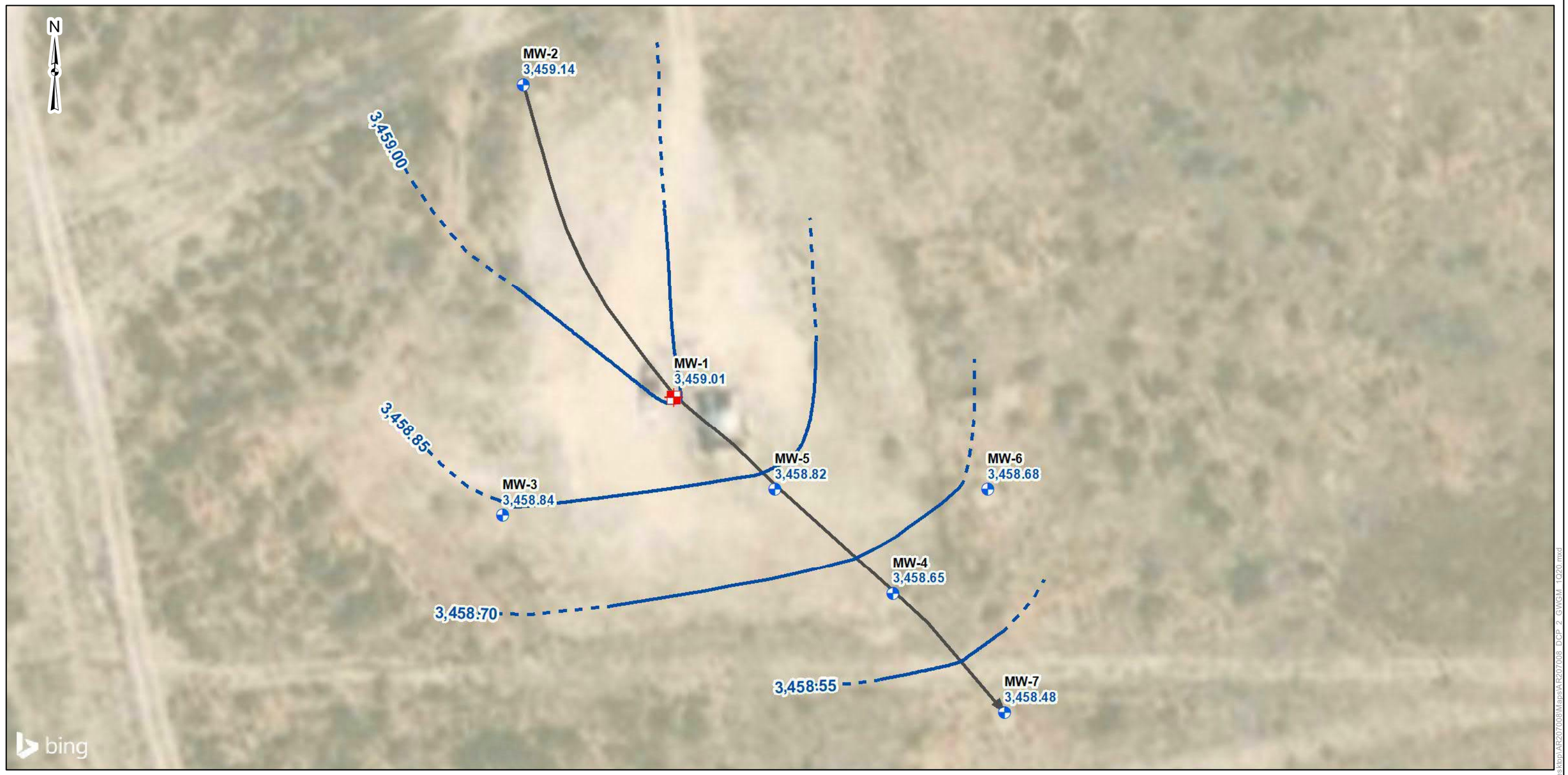

Groundwater Monitoring Site

- Recovery Well w/ Soil Vapor Extraction (SVE) Unit
- Monitoring Well (MW)
- Groundwater Contour
- Inferred 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: 0.15 ft.
- Groundwater gradient: 0.004 ft/ft

Feet
0 50 100

Fractional Scale: 1:470

DATA SOURCES:
Bing Maps - Aerial Imagery, World Street Map

Project No.:	AR207008
Date:	Jan 2020
Drawn By:	KK
Reviewed By:	ELL

Terracon
5847 50th St. Lubbock, TX 79424
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1Q20 Groundwater Gradient Map

DCP Plant to Lea Station 6" #2
Plains SRS # 2009-039
NMOCD Ref. # 1R-2136
Plains Pipeline LP
Lea County, New Mexico
U/L "F", Sec 31, T20S, R37E
GPS: 32.531660° -103,291110°

Exhibit

3

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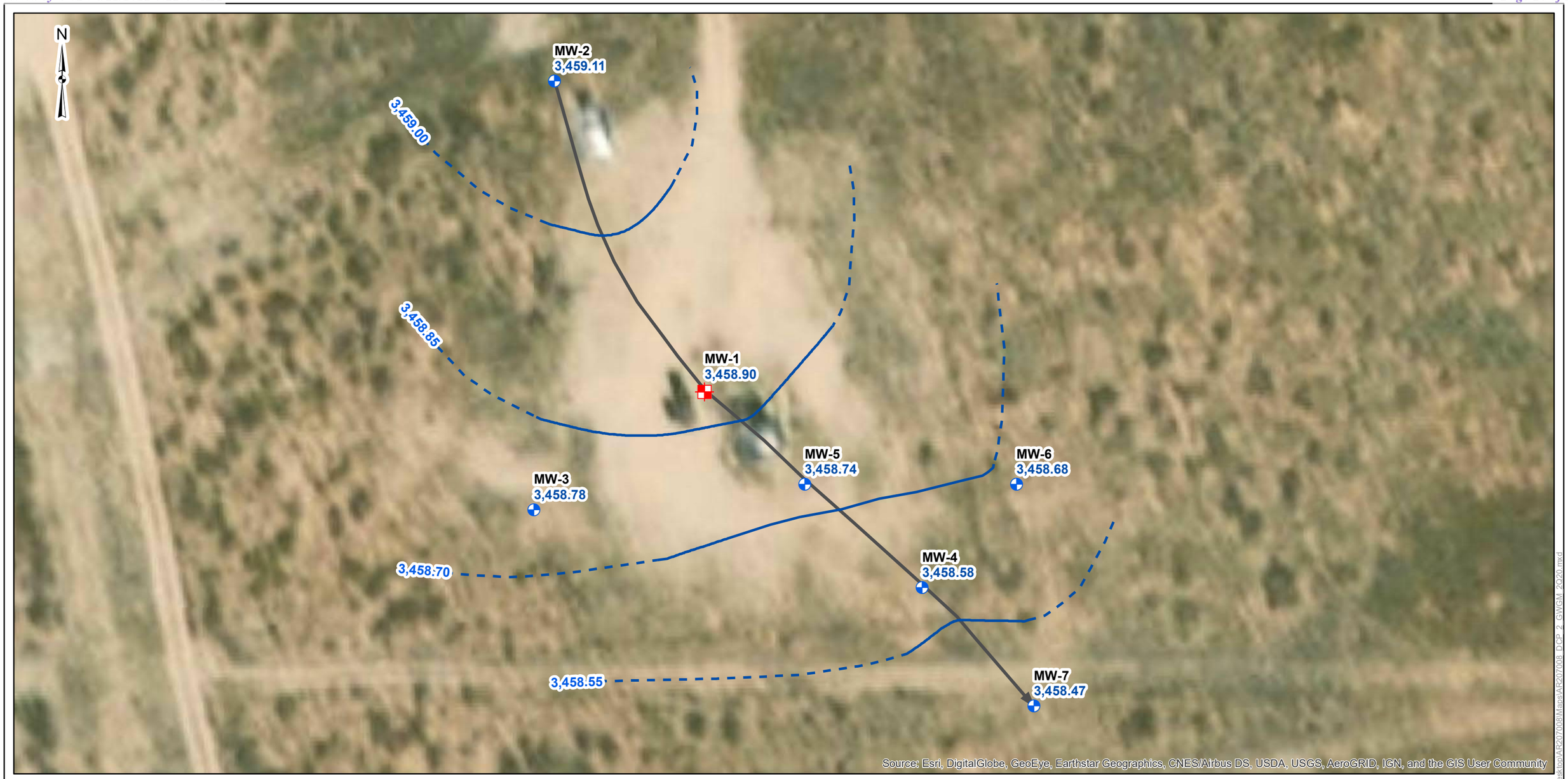

Groundwater Monitoring Site

- Recovery Well w/ Soil Vapor Extraction (SVE) Unit
- Monitoring Well (MW)
- Groundwater Contour
- Inferred 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: 0.15 ft.
- Groundwater gradient: 0.004 ft/ft

Feet
0 50 100

1:470

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	AR207008
Date:	Jul 2020
Drawn By:	KAK
Reviewed By:	ELL

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5847 50th St. Lubbock, TX 79424
PH. (806) 300-0104 terracon.com

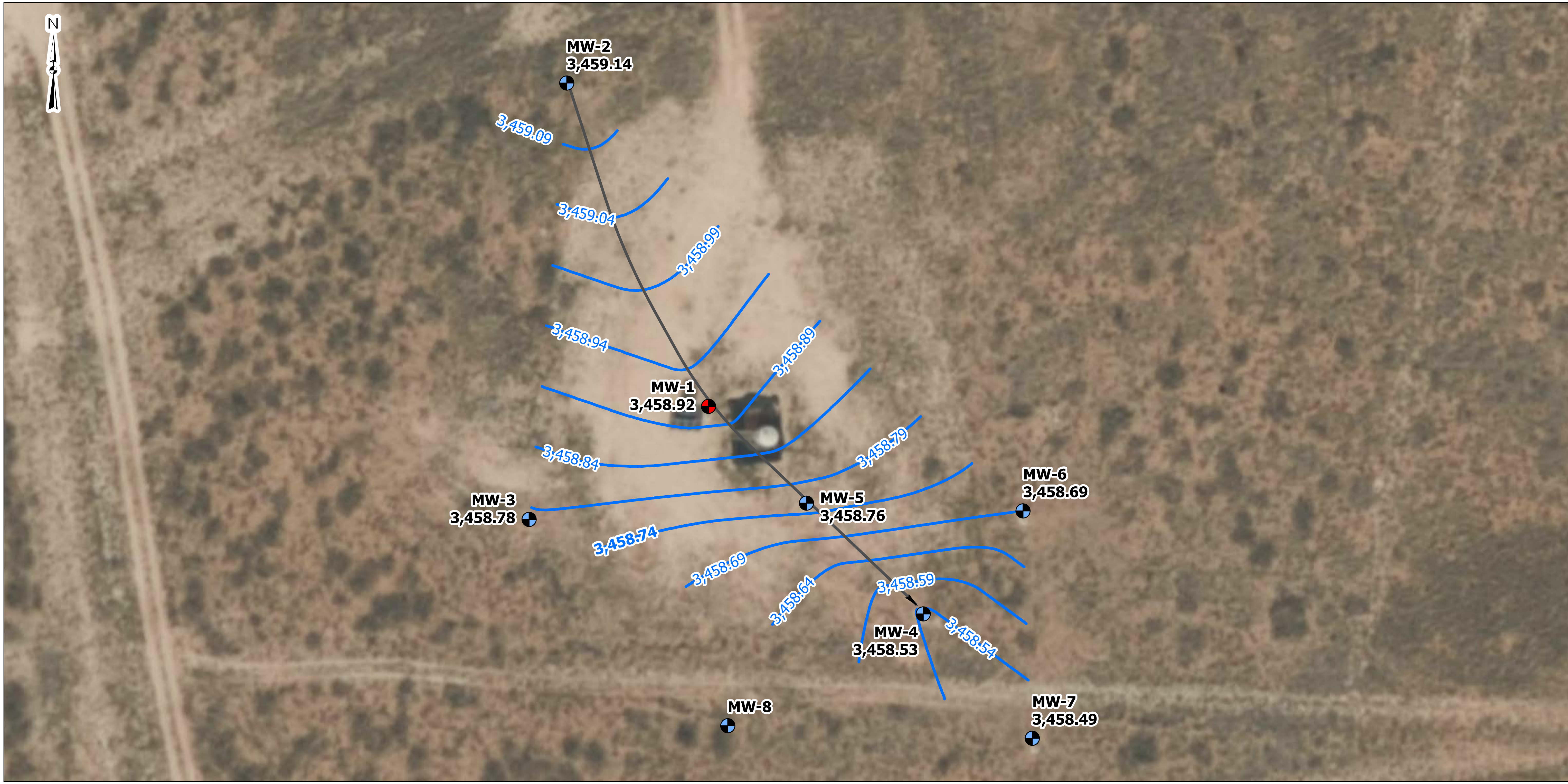
2Q20 Groundwater Gradient Map

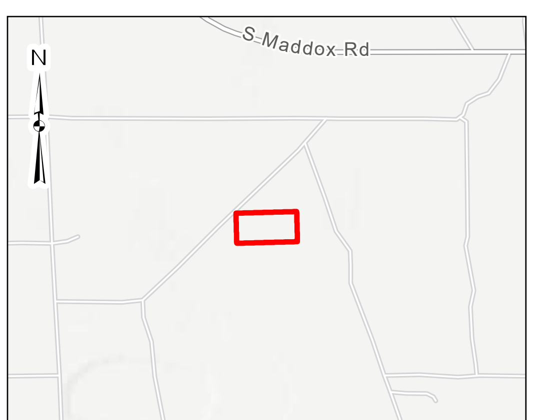
DCP Plant to Lea Station 6" #2
Plains SRS # 2009-039
NMOCD Ref. # 1R-2136
Plains Pipeline LP
Lea County, New Mexico
U/L "F", Sec 31, T20S, R37E
GPS: 32.531660 -103,291110

Exhibit

4

C:\Users\kkemble\OneDrive - Terracon Consultants Inc\Desktop\AR207008\Maps\AR207008_DCP_2_GWGM_2Q20.mxd





Legend:

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

Notes:
- All groundwater elevations are measured in feet above mean sea level.
- Monitor well MW-8 has not yet been surveyed.
- Groundwater contours were interpolated with ArcGIS's kriging algorithm.
- Groundwater contour interval: 0.05 ft.
- Groundwater gradient: 0.002 ft/ft

Feet
0 25 50 100
Fractional Scale: 1:470

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

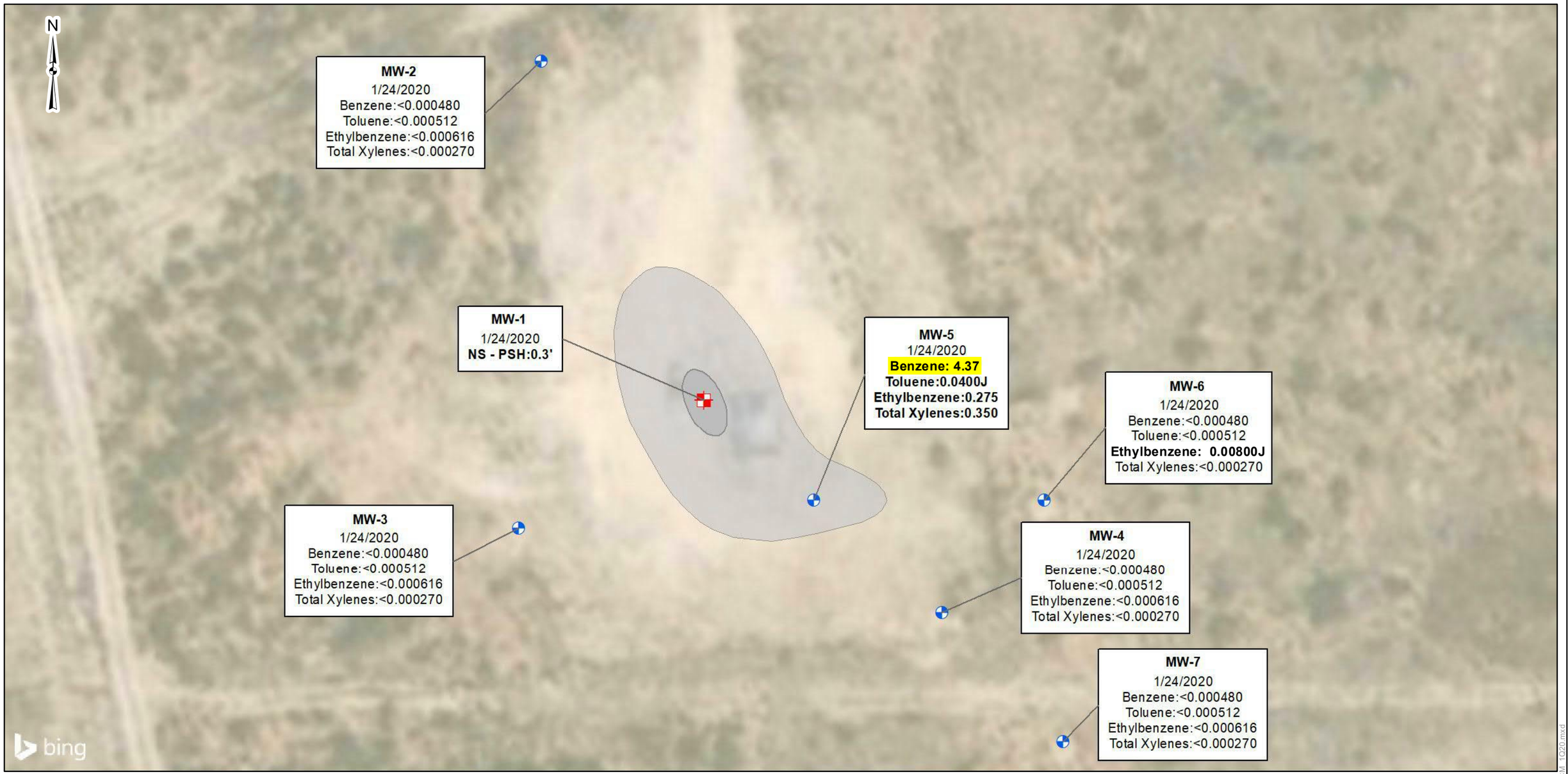
Project No.:	AR207008
Date:	Oct 2020
Drawn By:	BAD
Reviewed By:	ELL

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

3Q20 Groundwater Gradient Map

DCP Plant to Lea Station 6" #2
Plains SRS # 2009-039
NMOCD Ref. # 1R-2136
Lea County, New Mexico
UL "F", Sec 31, T20S, R37E
GPS: 32.531660, -103.291110

Exhibit
5



Groundwater Monitoring Site

- Recovery Well w/ Soil Vapor Extraction (SVE) Unit
- Monitoring Well (MW)
- Free Phase Plume: Phase Separated Hydrocarbons (PSH)
- Dissolved Phase Plume: Outlines Wells w/TPH and/or BTEX

New Mexico - Oil Conservation Division (NMOCD) Criteria:
B (Benzene) - 0.01 mg/L
T (Toluene) - 0.75 mg/L
E (Ethylbenzene) - 0.75 mg/L
X (Total Xylenes) - 0.6 mg/L
ND: Contaminant concentrations were not detected above applicable laboratory sample detection limits.
MS: Monitor well was not sampled due to presence of PSH or due to hold on PAH being exceeded.
BOLDconcentrations indicate a concentration above the laboratory sample detection limit (SDL).
Highlighted concentrations indicate a concentration exceeding the NMOCD Recommended Remediation Action Level (RRAL) Criteria. PSH thicknesses are measured in hundredths of a foot.

Feet
0 50 100

Fractional Scale: 1:435

DATA SOURCES:
Bing Maps - Aerial Imagery, World Street Map

Project No.:	AR207008
Date:	Jan 2020
Drawn By:	KK
Reviewed By:	ELL

Terracon
5847 50th St. Lubbock, TX 79424
PH. (806) 300-0104 terracon.com

Groundwater Contaminant Concentration Map (1/24/20)

DCP Plant to Lea Station 6" #2
Plains SRS # 2009-039
NMOCD Ref. # 1R-2136
Plains Pipeline LP
Lea County, New Mexico
U/L "F", Sec 31, T20S, R37E
GPS: 32.531660° -103,291110°

Exhibit

7

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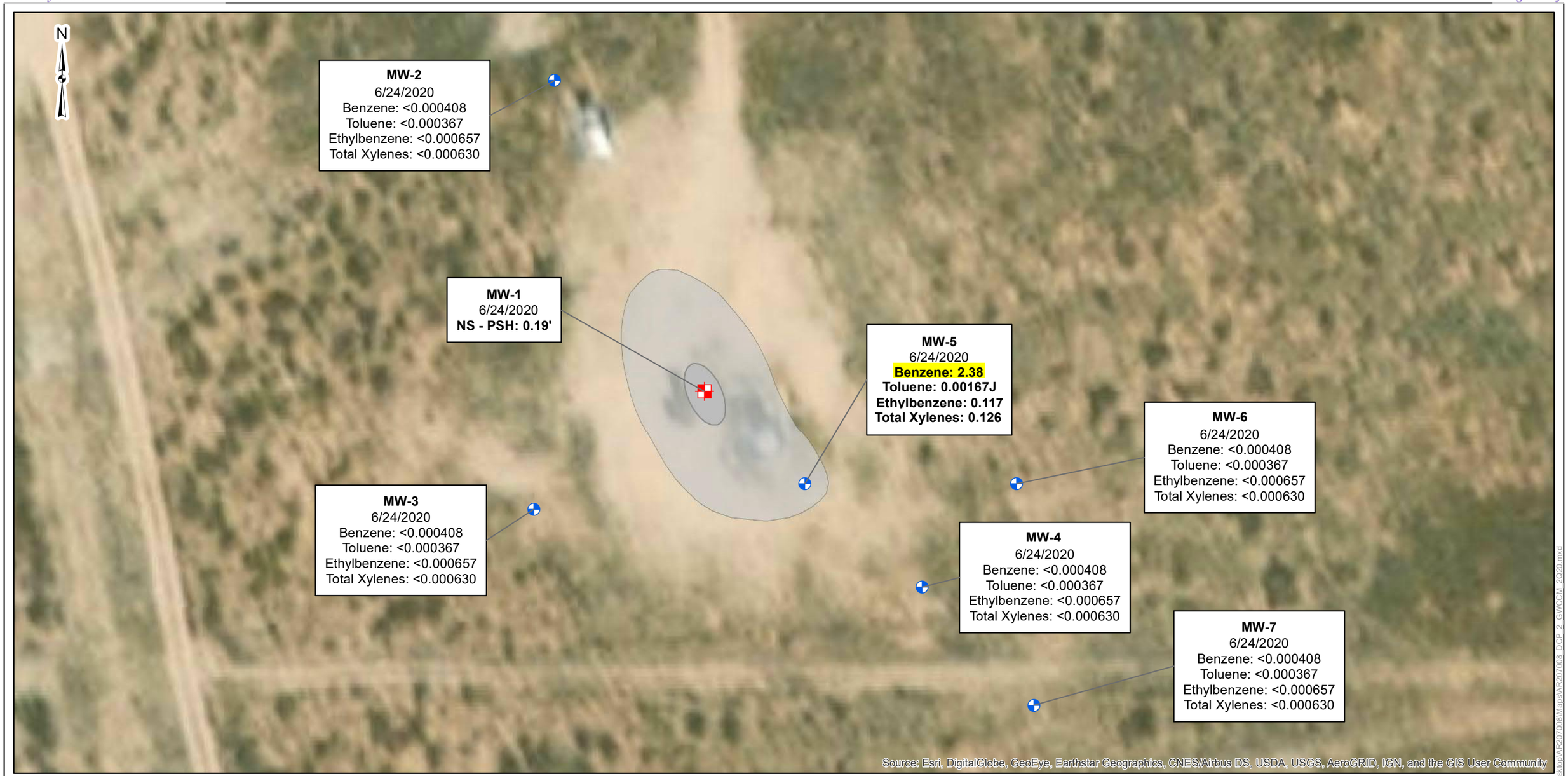

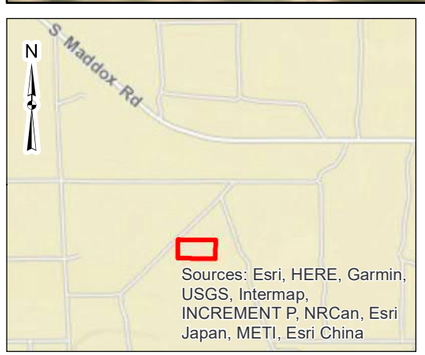

Groundwater Monitoring Site

- Recovery Well w/ Soil Vapor Extraction (SVE) Unit
- Monitoring Well (MW)
- Dissolved Phase Plume: Outlines Wells w/TPH and/or BTEX
- Free Phase Plume: Phase Separated Hydrocarbons (PSH)

New Mexico - Oil Conservation Division (NMOCD) Criteria:
B (Benzene) - 0.01 mg/L
T (Toluene) - 0.75 mg/L
E (Ethylbenzene) - 0.75 mg/L
X (Total Xylenes) - 0.6 mg/L
ND: Contaminant concentrations were not detected above applicable laboratory sample detection limits.
MS: Monitor well was not sampled due to presence of PSH or due to hold on PAH being exceeded.
BOLD concentrations indicate a concentration above the laboratory sample detection limit (SDL). Highlighted concentrations indicate a concentration exceeding the NMOCD Recommended Remediation Action Level (RRAL) Criteria. PSH thicknesses are measured in tenths of a foot.

Feet
0 50 100
Fractional Scale = 1:470

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:	AR207008
Date:	Jul 2020
Drawn By:	KAK
Reviewed By:	ELL

Terracon
5847 50th St. Lubbock, TX 79424
PH. (806) 300-0104 terracon.com

Groundwater Contaminant Concentration Map (6/24/20)

DCP Plant to Lea Station 6" #2
Plains SRS # 2009-039
NMOCD Ref. # 1R-2136
Plains Pipeline LP
Lea County, New Mexico
U/L "F", Sec 31, T20S, R37E
GPS: 32.531660 -103,291110

Exhibit

8

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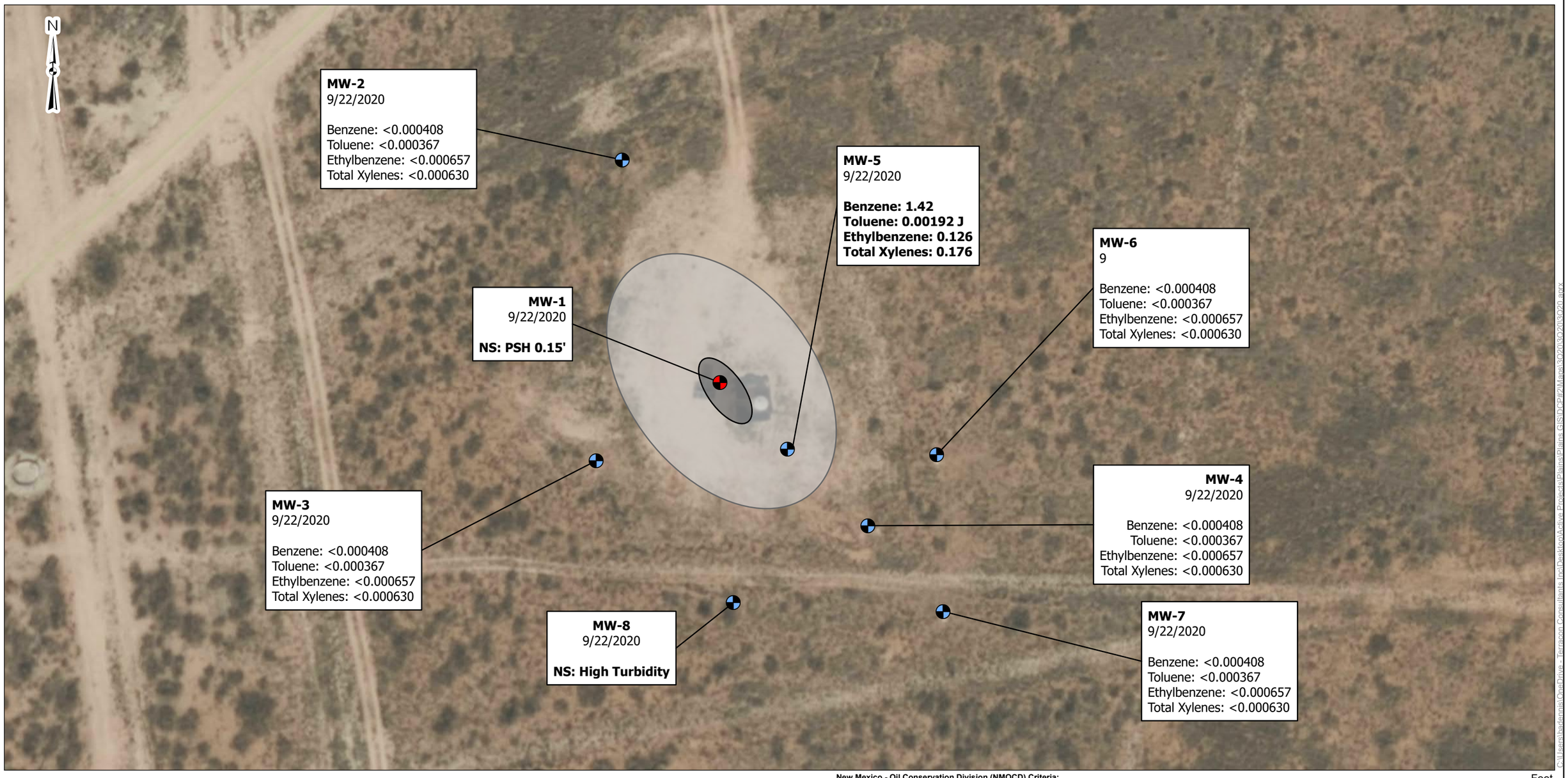

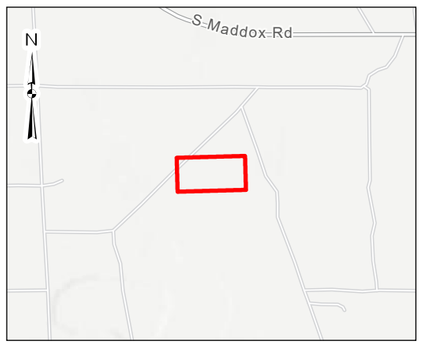

Legend:

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

DATA SOURCES:
ESRI WMS - World Aerial Imagery, OpenStreetMap

New Mexico - Oil Conservation Division (NMOCD) Criteria:
B (Benzene) - 0.01 mg/L
T (Toluene) - 0.75 mg/L
E (Ethylbenzene) - 0.75 mg/L
X (Total Xylenes) - 0.6 mg/L

NS: Monitor well was not sampled due to presence of PSH or due to hold on PAH being exceeded.
BOLD concentrations indicate a concentration above the laboratory sample detection limit (SDL).
Highlighted text indicates a concentration exceeding the NMOCD Recommended Remediation Action Level (RRAL) Criteria.
PSH thicknesses are measured in tenths of a foot.

Feet
0 40 80 160
Fractional Scale: 1:670

Project No.:	AR207008
Date:	Oct 2020
Drawn By:	BAD
Reviewed By:	ELL

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

3Q20 Groundwater Contaminant Concentration Map

DCP Plant to Lea Station 6" #2
Plains SRS # 2009-039
NMOCD Ref. # 1R-2136
Lea County, New Mexico
UL "F", Sec 31, T20S, R37E
GPS: 32.531660, -103.291110

Exhibit

9

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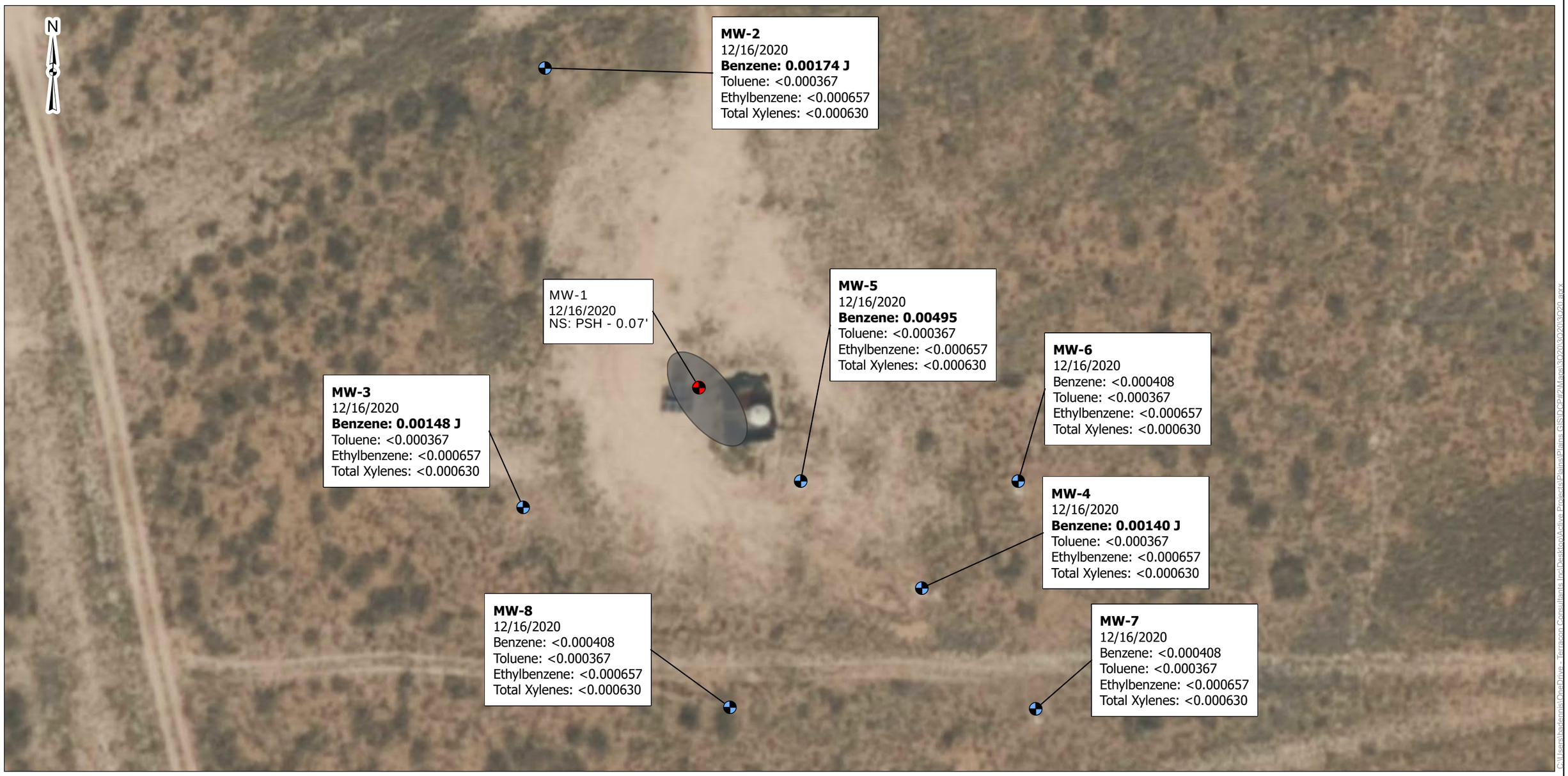

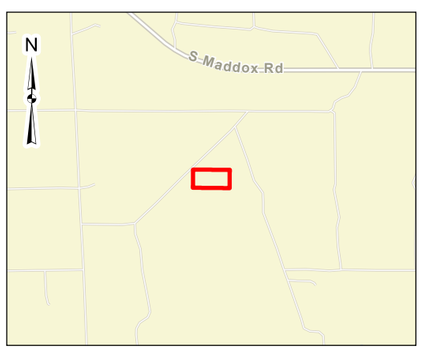

Legend:

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

New Mexico- Oil Conservation Division(NMOCD) Criteria:
B (Benzene) - 0.01 mg/L
T (Toluene) - 0.75 mg/L
E (Ethylbenzene) - 0.75 mg/L
X (Total Xylenes) - 0.62 mg/L
NS: Monitoring well was not sampled due to presence of PSH.
Bold concentrations indicates a concentration above the laboratory sample detection limit (SDL).
Highlighted 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.:	AR207008
Date:	Jan 2021
Drawn By:	BAD
Reviewed By:	ELL

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

4Q20 Groundwater Concentration 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

10

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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 #: AR207008
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")	02/08/16	3,540.25	81.10	81.50	0.40	3,459.09
	05/03/16		80.83	81.10	0.27	3,459.38
	03/01/17		80.75	82.16	1.41	3,459.29
	05/19/17		80.74	82.09	1.35	3,459.31
	09/28/17		80.49	82.10	1.61	3,459.52
	12/12/17		80.68	82.79	2.11	3,459.25
	12/27/17		80.56	82.57	2.01	3,459.39
	01/16/18		80.44	82.00	1.56	3,459.58
	04/20/18		80.62	82.62	2.00	3,459.33
	08/20/18		80.70	83.33	2.63	3,459.16
	12/10/18		80.88	82.49	1.61	3,459.13
	02/21/19		80.81	81.70	0.89	3,459.31
	05/22/19		81.12	82.00	0.88	3,459.00
	09/05/19		81.20	81.55	0.35	3,459.00
	11/13/19		81.15	81.54	0.39	3,459.04
	01/24/20		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
MW-2 (2")	02/10/16	3,538.31	-	78.85	-	3,459.46
	05/03/16		-	78.95	-	3,459.36
	11/01/16		-	79.20	-	3,459.11
	12/22/16		-	79.80	-	3,458.51
	03/01/17		-	79.07	-	3,459.24
	06/26/17		-	79.09	-	3,459.22
	09/19/17		-	79.07	-	3,459.24
	11/15/17		-	79.05	-	3,459.26
	01/16/18		-	79.04	-	3,459.27
	04/20/18		-	78.97	-	3,459.34
	08/20/18		-	79.09	-	3,459.22
	12/10/18		-	79.02	-	3,459.29
	02/21/19		-	79.14	-	3,459.17
	05/22/19		-	79.15	-	3,459.16
	09/05/19		-	79.20	-	3,459.11
	11/13/19		-	79.80	-	3,458.51
	01/24/20		-	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
MW-3 (2")	02/10/16	3,538.94	-	79.80	-	3,459.14
	05/03/16		-	79.90	-	3,459.04
	11/01/16		-	79.77	-	3,459.17
	12/22/16		-	80.02	-	3,458.92
	03/01/17		-	80.00	-	3,458.94
	06/26/17		-	80.01	-	3,458.93
	09/19/17		-	80.02	-	3,458.92
	11/15/17		-	80.00	-	3,458.94
	01/16/18		-	79.96	-	3,458.98
	04/20/18		-	79.88	-	3,459.06
	08/20/18		-	80.01	-	3,458.93
	12/10/18		-	80.04	-	3,458.90
	02/21/19		-	80.07	-	3,458.87
	05/22/19		-	80.10	-	3,458.84
	09/05/19		-	80.15	-	3,458.79
	11/13/19		-	80.04	-	3,458.90
	01/24/20		-	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
MW-4 (4")	02/10/16	3,539.67	-	80.75	-	3,458.92
	05/03/16		-	80.80	-	3,458.87
	11/01/16		-	80.86	-	3,458.81
	12/22/16		-	80.93	-	3,458.74
	03/01/17		-	80.87	-	3,458.80
	06/26/17		-	80.93	-	3,458.74
	09/19/17		-	80.90	-	3,458.77
	11/15/17		-	80.94	-	3,458.73
	01/16/18		-	80.94	-	3,458.73
	04/20/18		-	80.77	-	3,458.90
	08/20/18		-	80.87	-	3,458.80
	12/10/18		-	80.88	-	3,458.79
	02/21/19		-	81.03	-	3,458.64
	05/22/19		-	81.00	-	3,458.67
	09/05/19		-	81.06	-	3,458.61
	11/13/19		-	81.39	-	3,458.28
	01/24/20		-	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

Notes:
1. PSH: Phase Separated Hydrocarbons
2. NMOCD: New Mexico Oil Conservation Division
3. TOC: Top of Casing
* Elevations based on the North American Vertical Datum of 1988.
** Corrected groundwater elevations were extrapolated using a PSH specific gravity of 0.85, if PSH was gauged in the monitoring well.

Table 1
Groundwater Elevation 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 #: AR207008
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-5 (4")	02/10/16	3,539.55	-	80.45	-	3,459.10
	05/03/16		-	80.57	-	3,458.98
	11/01/16		-	80.64	-	3,458.91
	12/22/16		-	80.66	-	3,458.89
	03/01/17		-	80.53	-	3,459.02
	06/26/17		-	80.68	-	3,458.87
	09/19/17		-	80.65	-	3,458.90
	11/15/17		-	80.68	-	3,458.87
	12/27/17		-	80.59	-	3,458.96
	01/16/18		-	80.52	-	3,459.03
	04/20/18		-	80.51	-	3,459.04
	08/20/18		-	80.61	-	3,458.94
	12/10/18		-	80.59	-	3,458.96
	02/21/19		-	80.78	-	3,458.77
	05/22/19		-	80.75	-	3,458.80
	09/05/19		-	80.80	-	3,458.75
	11/13/19		-	80.69	-	3,458.86
	01/24/20		-	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
MW-6 (2")	06/26/17	3,539.22	-	80.40	-	3,458.82
	09/19/17		-	80.32	-	3,458.90
	11/15/17		-	80.39	-	3,458.83
	01/16/18		-	80.26	-	3,458.96
	04/20/18		-	80.27	-	3,458.95
	08/20/18		-	80.32	-	3,458.90
	12/10/18		-	80.35	-	3,458.87
	02/21/19		-	80.47	-	3,458.75
	05/22/19		-	80.47	-	3,458.75
	09/05/19		-	80.53	-	3,458.69
	11/13/19		-	80.49	-	3,458.73
	01/24/20		-	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
MW-7 (4")	02/10/16	3,538.97	-	80.15	-	3,458.82
	05/03/16		-	80.22	-	3,458.75
	11/01/16		-	80.29	-	3,458.68
	12/22/16		-	80.28	-	3,458.69
	03/01/17		-	80.24	-	3,458.73
	06/26/17		-	80.36	-	3,458.61
	09/19/17		-	80.29	-	3,458.68
	11/15/17		-	80.38	-	3,458.59
	01/16/18		-	80.24	-	3,458.73
	04/20/18		-	80.23	-	3,458.74
	08/20/18		-	80.33	-	3,458.64
	12/10/18		-	80.35	-	3,458.62
	02/21/19		-	80.44	-	3,458.53
	05/22/19		-	80.43	-	3,458.54
	09/05/19		-	80.50	-	3,458.47
	11/13/19		-	80.40	-	3,458.57
	01/24/20		-	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
MW-8 (2")	08/18/20	Not Yet Surveyed	Monitor Well Installed			
	09/22/20		-	81.46	-	-
	12/16/20		-	79.23	-	-

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 #: AR207008
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	02/10/16	MW-1 Not Sample Due to PSH[5]						
	05/03/16							
	11/01/16							
	12/22/16							
	03/01/17							
	06/26/17							
	09/19/17							
	11/15/17							
	01/16/18							
	04/20/18							
	08/20/18							
	12/10/18							
	02/21/19							
	05/22/19							
	09/09/19							
	11/20/19							
	01/24/20							
	06/24/20							
	09/22/20							
	09/22/20							
MW-2	02/10/16	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	05/03/16	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	11/01/16	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	12/22/16	<0.00100	<0.00100	<0.00100	<0.00200	<0.00100	<0.00200	<0.00200
	03/01/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	06/26/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	09/19/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	11/15/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	01/16/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	04/20/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	08/20/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	12/10/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	02/21/19	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	05/22/19	<0.000480	**0.0007 J**	<0.000616	<0.000454	<0.000270	<0.000270	**0.0007 J**
	09/09/19	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	11/20/19	<0.000214	<0.000500	<0.000146	<0.000330	<0.000192	<0.000192	<0.000146
	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**
MW-3	02/10/16	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	05/03/16	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	11/01/16	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	12/22/16	<0.00100	<0.00100	<0.00100	<0.00200	<0.00100	<0.00200	<0.00200
	03/01/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	06/26/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	09/19/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	11/15/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	01/16/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	04/20/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	08/20/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	12/10/18	<0.000480	<0.000512	<0.000616	**0.000600 J**	<0.000270	**0.000600 J**	**0.000600 J**
	02/21/19	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	05/22/19	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	09/09/19	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	11/20/19	<0.000214	<0.000500	<0.000146	<0.000330	<0.000192	<0.000192	<0.000146
	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**
MW-4	02/10/16	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	05/03/16	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	11/01/16	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	12/22/16	<0.00100	<0.00100	<0.00100	<0.00200	<0.00100	<0.00200	<0.00200
	03/01/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	06/26/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	09/19/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	11/15/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	01/16/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	04/20/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	08/20/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	12/12/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	02/21/19	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	05/22/19	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	09/09/19	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	11/20/19	<0.000214	<0.000500	<0.000146	<0.000330	<0.000192	<0.000192	<0.000146
	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**

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

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 #: AR207008
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-5	02/10/16	**8.04**	**1.79**	**0.276**	**0.289**	**1.81**	**0.470**	**10.6**
	05/03/16	**2.42**	**0.631**	**0.102**	**0.120**	**0.0628**	**0.183**	**3.34**
	11/01/16	**7.42**	**2.09**	**0.393**	**0.546**	**0.271**	**0.817**	**10.7**
	12/22/16	**4.89**	**1.95**	**0.280**	**0.290**	**0.170**	**0.460**	**7.58**
	03/01/17	**0.764**	**0.0868**	<0.0500	<0.0500	<0.0500	<0.0500	**0.851**
	06/26/17	**7.91**	**3.39**	**0.441**	**0.405**	**0.255**	**0.660**	**12.4**
	09/19/17	**2.21**	**0.089**	**0.049**	**0.032**	**0.033**	**0.065**	**2.41**
	11/15/17	**1.74**	**0.110**	**0.055**	**0.032**	<0.00200	**0.035**	**1.94**
	01/16/18	**5.07**	**0.190**	<0.0308	<0.0227	<0.0135	<0.0135	**5.26**
	04/20/18	**4.47**	**0.150**	**0.130**	**0.125**	**0.0800**	**0.205**	**4.96**
	08/20/18	**3.26**	**0.145**	**0.0850**	**0.0800**	**0.0650**	**0.145**	**3.64**
	12/12/18	**0.270**	**0.0385**	**0.00630**	**0.00700**	**0.00500**	**0.0120**	**0.327**
	02/21/19	**5.29**	**0.285**	**0.265**	**0.315**	**0.245**	**0.560**	**6.40**
	DUP-1	**5.24**	**0.280**	**0.260**	**0.310**	**0.240**	**0.550**	**6.33**
	05/22/19	**0.641**	<0.00256	**0.00950**	**0.0105**	**0.00250J**	**0.0130**	**0.664**
	DUP-1	**0.673**	<0.00256	**0.0100**	**0.0120**	**0.00250J**	**0.0145**	**0.698**
	09/09/19	**1.63**	**0.0100**	**0.0345**	**0.0365**	**0.0345**	**0.0710**	**1.75**
	DUP-1	**1.51**	**0.00450 J**	**0.0280**	**0.0235**	**0.0130**	**0.0365**	**1.58**
	11/20/19	**Not Sampled due to hold on PAH being exceeded**						
	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**
MW-6	02/10/16	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	05/03/16	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	11/01/16	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	12/22/16	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000512
	03/01/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	06/26/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	09/19/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	11/15/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	01/16/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	04/20/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	08/20/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	12/11/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	02/21/19	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	05/22/19	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	09/09/19	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	11/20/19	<0.000214	<0.000500	<0.000146	<0.000330	<0.000192	<0.000192	<0.000146
	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
MW-7	02/10/16	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	05/03/16	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	11/01/16	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	12/22/16	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000512
	03/01/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	06/26/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	09/19/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	11/15/17	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	01/16/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	04/20/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	08/20/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	12/11/18	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	02/21/19	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	05/22/19	<0.000480	**0.000700J**	<0.000616	<0.000454	<0.000270	<0.000270	**0.000700J**
	09/09/19	<0.000480	<0.000512	<0.000616	<0.000454	<0.000270	<0.000270	<0.000270
	11/20/19	<0.000214	<0.000500	<0.000146	<0.000330	<0.000192	<0.000192	<0.000146
	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
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

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

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. AR207008

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	**10.551**	9.761
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	3.540	3.275
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	**14.09**	13.035
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	4.159	3.848
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	6.133	5.674
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	2.982	2.758
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	1.892	1.751
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 - 39.34	0.027	0.020
			Total BTEX - 130.7	0.089	0.067
			TPH - GRO - 2,730	1.860	1.719
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 - 244.2	0.166	0.125
			TPH - GRO - 5,410	3.683	3.407
			Year to Date Average:	5.651	5.228

1. BTEX: Benzene, toluene, ethylbenzene, total xylene analyzed by EPA Method 8021B
2. TPH: Total petroleum hydrocarbons analyzed by EPA Method 8015
3. Emission Mass calculated assuming flowrate 1.1073 (m^3/min) and constituent concentration were constant for the entirety of a year.
4. SVE Emission: Soil Vapor Extraction
NA: Indicates constituant was not analyzed
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 #: AR207008
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	01/03/2018	3,540.25	80.67	82.89	2.22	386.0	3,958.6	-	-
	01/09/2018		80.44	82.00	1.56	617.1	4,105.6	-	-
	02/06/2018		80.61	82.55	1.94	741.0	4,105.6	-	-
	02/23/2018		80.62	82.63	2.01	583.7	5,183.0	-	-
	02/28/2018		80.64	80.66	0.02	-	5,303.0	-	-
	03/08/2018		80.65	82.64	1.99	631.0	5,494.2	-	-
	03/21/2018		80.66	82.70	2.04	581.3	5,805.0	-	-
	03/27/2018		80.65	82.70	2.05	493.0	5,950.8	-	-
	04/04/2018		80.68	82.73	2.05	476.6	6,142.6	-	-
	04/13/2018		80.68	82.70	2.02	490.2	6,358.2	-	-
	05/01/2018		80.63	82.62	1.99	608.9	6,791.7	-	-
	05/10/2018		80.59	82.92	2.33	1,240.0	7,006.3	-	-
	05/17/2018		80.70	83.06	2.36	1,162.0	7,006.3	-	-
	05/21/2018		80.05	82.23	2.18	1,118.0	7,102.6	-	-
	05/31/2018		80.62	82.58	1.96	-	7,340.1	-	-
	06/07/2018		80.59	82.21	1.62	-	7,509.6	-	-
	06/12/2018		80.69	82.77	2.08	1,074.0	7,629.0	-	-
	06/22/2018		80.70	82.75	2.05	1,319.0	7,870.5	-	-
	06/28/2018		80.80	82.80	2.00	-	8,015.8	-	-
	07/10/2018		80.79	82.87	2.08	1,122.0	8,304.0	-	-
	07/19/2018		80.76	82.99	2.23	874.3	8,520.0	-	-
	07/24/2018		80.71	83.02	2.31	-	8,640.0	-	-
	08/02/2018		80.68	82.93	2.25	567.5	8,854.0	-	-
	08/08/2018		80.70	82.92	2.22	751.1	8,998.0	-	-
	09/06/2018		80.70	83.04	2.34	631.7	9,622.7	-	-
	09/13/2018		80.69	83.15	2.46	341.5	9,771.0	-	-
	09/28/2018		81.69	82.92	1.23	-	10,110.4	-	-
	10/10/2018		80.63	-	-	2,256.0	10,395.9	-	-
	10/16/2018		80.76	83.00	2.24	1,600.0	10,538.6	-	-
	10/24/2018		80.73	82.06	1.33	-	10,630.5	-	-
	10/25/2018		80.74	82.11	1.37	-	10,638.1	0.223	0.223
	11/06/2018		80.91	82.66	1.75	-	10,782.0	-	-
	11/14/2018		80.69	82.27	1.58	1,975.0	10,928.0	-	-
	12/20/2018		81.85	83.52	1.67	1,363.0	11,615.0	-	-
	02/05/2019		-	-	-	1,782.0	12,542.6	-	-
	02/06/2019		80.73	81.74	1.01	-	-	-	-
	02/14/2019		80.85	82.45	1.60	4,245.0	12,739.5	-	-
	02/21/2019		80.81	81.70	0.89	1,530.0	12,898.1	-	-
	02/26/2019		-	-	-	6,810.0	12,898.1	-	-
	03/06/2019		-	-	-	15,000+	12,898.1	-	-
	03/11/2019		-	-	-	3,082.0	13,282.7	-	-
	03/22/2019		81.03	82.23	1.20	5,261.0	13,498.9	-	-
	03/27/2019		80.89	82.30	1.41	6,290.0	13,621.0	-	-
	04/03/2019		-	-	-	3,260.0	13,789.8	-	-
	04/16/2019		80.90	81.98	1.08	2,130.0	14,097.8	5.0	0.176
	05/02/2019		81.06	81.44	0.38	4,115.0	14,266.6	3.0	0.062
	05/14/2019		81.05	82.01	0.96	15,000.0	14,531.1	4.0	0.156
	06/14/2016		81.02	81.63	0.61	13,598.0	15,057.8	3.0	0.099
	06/27/2019		81.07	81.50	0.43	3,915.0	15,371.0	3.0	0.070
	07/10/2019		80.09	80.57	0.48	1,312.0	15,680.6	3.0	0.078
	07/16/2019		-	-	-	-	15,828.5	-	-
	07/29/2019		81.17	81.85	0.68	2186.00	-	3.50	0.111
	08/12/2019		81.38	81.84	0.46	1421.00	16,162.3	3.00	0.075
	09/13/2019		-	81.21	-	-	16,903.9	2.50	-
	10/03/2019		81.29	81.39	0.10	-	-	3.00	0.016
	10/17/2019		81.03	81.26	0.23	3675.00	17,716.0	3.00	0.037
	11/01/2019		-	-	-	-	18,057.8	3.00	-
	11/06/2019		-	-	-	42.10	18,179.4	3.00	-
	11/20/2019		-	-	-	-	18,264.7	3.00	-
	11/26/2019		-	-	-	2148.00	18,389.5	-	-
	12/11/2019		81.30	81.60	0.30	1206.00	18,389.5	3.00	0.049
	12/20/2019		81.81	82.08	0.27	2132.00	18,668.0	3.00	0.044
	01/10/2020		81.23	81.50	0.27	-	18,668.0	3.00	0.044
	02/07/2020		81.23	81.50	0.27	1382.00	-	3.00	0.044
	02/20/2020		81.20	81.40	0.20	1218.00	19,173.8	5.00	0.033
	03/02/2020		81.20	81.39	0.19	-	-	4.00	0.031
	03/16/2020		-	81.35	-	1002.00	19,407.2	5.00	0.00
	03/30/2020		81.22	81.23	0.01	562.00	19,698.5	5.00	0.002
	04/16/2020		81.21	81.40	0.19	871.40	19,698.5	5.00	0.031
	04/30/2020		81.20	81.39	0.19	998.00	20,033.6	5.00	0.031
	05/28/2020		81.33	81.55	0.22	852.50	20,033.7	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	20,534.4	-	-
	06/29/2020		-	-	-	1384.10	20,658.4	-	-
	07/29/2020		81.28	81.42	0.14	1288.00	20,658.4	-	-
	08/19/2020		81.30	81.45	0.15	1348.10	21,658.4	5.00	0.024
	09/28/2020		81.31	81.40	0.09	366.00	22,021.1	5.00	0.059
	10/29/2020		81.31	81.41	0.10	584.90	20,658.4	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
			2020 Average PSH Thickness		**0.15**	**2020 Total Recovered**		**65.0**	**0.421**

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 #: AR207008
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	01/03/2018	3,539.55	80.53	3,459.02	5.0
	01/09/2018		80.50	3,459.05	20.0
	02/06/2018		80.52	3,459.03	20.0
	02/23/2018		80.51	3,459.04	20.0
	02/28/2018		80.52	3,459.03	20.0
	03/08/2018		80.67	3,458.88	20.0
	03/21/2018		80.57	3,458.98	20.0
	03/27/2018		80.53	3,459.02	20.0
	04/04/2018		80.54	3,459.01	20.0
	04/13/2018		80.59	3,458.96	20.0
	05/01/2018		80.70	3,458.85	-
	05/10/2018		80.66	3,458.89	20.0
	05/17/2018		80.68	3,458.87	20.0
	05/21/2018		80.71	3,458.84	20.0
	05/31/2018		80.65	3,458.90	20.0
	06/07/2018		80.70	3,458.85	20.0
	06/12/2018		80.68	3,458.87	20.0
	06/22/2018		80.67	3,458.88	20.0
	06/28/2018		80.72	3,458.83	20.0
	07/10/2018		80.70	3,458.85	20.0
	07/19/2018		80.64	3,458.91	20.0
	07/24/2018		80.61	3,458.94	20.0
	08/02/2018		80.60	3,458.95	20.0
	08/08/2018		80.61	3,458.94	20.0
	09/06/2018		80.58	3,458.97	20.0
	09/13/2018		80.59	3,458.96	20.0
	10/10/2018		80.63	3,458.92	20.0
	10/24/2018		80.70	3,458.85	20.0
	11/06/2018		80.68	3,458.87	20.0
	11/14/2018		80.69	3,458.86	60.0
	02/06/2019		80.64	3,458.91	60.0
	02/14/2019		80.75	3,458.80	-
	02/21/2019		80.78	3,458.77	-
	03/06/2019		80.70	3,458.85	-
	03/11/2019		80.81	3,458.74	20.0
	03/22/2019		80.73	3,458.82	20.0
	03/27/2019		80.73	3,458.82	20.0
	04/03/2019		-	-	20.0
	04/16/2019		80.74	3,458.81	20.0
	05/02/2019		81.66	3,457.89	3.0
	05/14/2019		-	-	5.0
	06/14/2019		80.69	3,458.86	3.0
	06/27/2019		80.73	3,458.82	3.0
	07/10/2019		79.81	3,459.74	3.0
	07/29/2019		80.77	3,458.78	3.0
	08/12/2019		-	-	3.0
	09/13/2019		-	-	3.0
	10/03/2019		-	-	3.0
	10/17/2019		-	-	3.0
	11/01/2019		-	-	120.0
	11/06/2019		-	-	3.0
	11/20/2019		-	-	3.0
	12/11/2019		-	-	3.0
	12/20/2019		-	-	50.0
	01/10/2020		-	-	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
				2020 Total GW Recovered	**69.5**

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 #: AR197011
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:
1Q20 Groundwater 650318 (Xenco)
2Q20 Groundwater 665420 (Xenco)
3Q20 Groundwater 673301 (Xenco)
4Q20 Groundwater 681574 (Xenco)

Copies of Certified Pace National Reports:
1Q20 Air Reports L1182454, L1193055, & L1205596
2Q20 Air Reports L1214004, L1223108, L1234655
3Q20 Air Reports L1244723, L1267313
4Q20 Air Reports L1279576

Analytical Report 650318

for

Terracon-Lubbock

Project Manager: Paige Gaona

DCP #2 (SRS#2009-009)

AR207008

06-FEB-20

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

06-FEB-20

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

Reference: XENCO Report No(s): **650318**
DCP #2 (SRS#2009-009)
Project Address:

Paige Gaona:

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 XENCO Report Number(s) 650318. 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 XENCO Laboratories. 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. 650318 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 XENCO Laboratories 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 Assistant

Sample Cross Reference 650318

Terracon-Lubbock, Lubbock, TX

DCP #2 (SRS#2009-009)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-6	W	01-24-20 10:11		650318-001
MW-7	W	01-24-20 11:07		650318-002
MW-2	W	01-24-20 12:08		650318-003
MW-3	W	01-24-20 12:52		650318-004
MW-4	W	01-24-20 13:39		650318-005
MW-5	W	01-24-20 14:12		650318-006
DUP-1	W	01-24-20 14:15		650318-007

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: DCP #2 (SRS#2009-009)

Project ID: *AR207008*
Work Order Number(s): *650318*

Report Date: *06-FEB-20*
Date Received: *01/24/2020*

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

V1.001 - Corrected project name and number, per Paige Gaona (email) JK 02/06/20

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3115322 BTEX-MTBE by EPA 8021B
Surrogate a,a,a-Trifluorotoluene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 650318-003.

Certificate of Analytical Results
650318
Terracon-Lubbock, Lubbock, TX
DCP #2 (SRS#2009-009)

Sample Id: **MW-6** Matrix: Water Sample Depth:

Lab Sample Id: 650318-001 Date Collected: 01.24.20 10.11 Date Received: 01.24.20 17.15

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3115322 Date Prep: 01.30.20 16.00

Prep seq: 7695804

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	01.31.20 15:54	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	01.31.20 15:54	U	1
Ethylbenzene	100-41-4	**0.000800**	0.00100	0.000616	mg/L	01.31.20 15:54	J	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	01.31.20 15:54	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	01.31.20 15:54	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	01.31.20 15:54	U	
Total BTEX		**0.000800**		0.000270	mg/L	01.31.20 15:54	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	95	66 - 120	%		
4-Bromofluorobenzene	85	67 - 120	%		

Sample Id: **MW-7** Matrix: Water Sample Depth:

Lab Sample Id: 650318-002 Date Collected: 01.24.20 11.07 Date Received: 01.24.20 17.15

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3115322 Date Prep: 01.30.20 16.00

Prep seq: 7695804

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	01.31.20 16:18	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	01.31.20 16:18	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	01.31.20 16:18	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	01.31.20 16:18	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	01.31.20 16:18	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	01.31.20 16:18	U	
Total BTEX		<0.000270		0.000270	mg/L	01.31.20 16:18	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	116	66 - 120	%		
4-Bromofluorobenzene	105	67 - 120	%		

Certificate of Analytical Results
650318
Terracon-Lubbock, Lubbock, TX
DCP #2 (SRS#2009-009)

Sample Id: **MW-2** Matrix: Water Sample Depth:

Lab Sample Id: 650318-003 Date Collected: 01.24.20 12.08 Date Received: 01.24.20 17.15

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3115322 Date Prep: 01.30.20 16.00

Prep seq: 7695804

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	01.31.20 16:42	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	01.31.20 16:42	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	01.31.20 16:42	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	01.31.20 16:42	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	01.31.20 16:42	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	01.31.20 16:42	U	
Total BTEX		<0.000270		0.000270	mg/L	01.31.20 16:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	122	66 - 120	%		**
4-Bromofluorobenzene	112	67 - 120	%		

Sample Id: **MW-3** Matrix: Water Sample Depth:

Lab Sample Id: 650318-004 Date Collected: 01.24.20 12.52 Date Received: 01.24.20 17.15

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3115322 Date Prep: 01.30.20 16.00

Prep seq: 7695804

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	01.31.20 17:06	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	01.31.20 17:06	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	01.31.20 17:06	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	01.31.20 17:06	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	01.31.20 17:06	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	01.31.20 17:06	U	
Total BTEX		<0.000270		0.000270	mg/L	01.31.20 17:06	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	108	66 - 120	%		
4-Bromofluorobenzene	97	67 - 120	%		

Certificate of Analytical Results
650318
Terracon-Lubbock, Lubbock, TX
DCP #2 (SRS#2009-009)

Sample Id: **MW-4** Matrix: Water Sample Depth:

Lab Sample Id: 650318-005 Date Collected: 01.24.20 13.39 Date Received: 01.24.20 17.15

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3115322 Date Prep: 01.30.20 16.00

Prep seq: 7695804

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	01.31.20 17:30	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	01.31.20 17:30	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	01.31.20 17:30	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	01.31.20 17:30	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	01.31.20 17:30	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	01.31.20 17:30	U	
Total BTEX		<0.000270		0.000270	mg/L	01.31.20 17:30	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	116	66 - 120	%		
4-Bromofluorobenzene	103	67 - 120	%		

Sample Id: **MW-5** Matrix: Water Sample Depth:

Lab Sample Id: 650318-006 Date Collected: 01.24.20 14.12 Date Received: 01.24.20 17.15

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3115298 Date Prep: 01.30.20 16.00

Prep seq: 7695798

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**4.37**	0.0500	0.0240	mg/L	01.31.20 20:09		50
Toluene	108-88-3	**0.0400**	0.0500	0.0256	mg/L	01.31.20 20:09	J	50
Ethylbenzene	100-41-4	**0.275**	0.0500	0.0308	mg/L	01.31.20 20:09		50
m,p-Xylenes	179601-23-1	**0.210**	0.100	0.0227	mg/L	01.31.20 20:09		50
o-Xylene	95-47-6	**0.140**	0.0500	0.0135	mg/L	01.31.20 20:09		50
Total Xylenes	1330-20-7	**0.350**		0.0135	mg/L	01.31.20 20:09		
Total BTEX		**5.04**		0.0135	mg/L	01.31.20 20:09		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	84	66 - 120	%		
4-Bromofluorobenzene	87	67 - 120	%		

Certificate of Analytical Results
650318

Terracon-Lubbock, Lubbock, TX

DCP #2 (SRS#2009-009)

Sample Id: **DUP-1** Matrix: Water Sample Depth:

Lab Sample Id: 650318-007 Date Collected: 01.24.20 14.15 Date Received: 01.24.20 17.15

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3115593 Date Prep: 02.03.20 14.00

Prep seq: 7696002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**3.98**	0.0200	0.00960	mg/L	02.04.20 04:45		20
Toluene	108-88-3	**0.0260**	0.0200	0.0102	mg/L	02.04.20 04:45		20
Ethylbenzene	100-41-4	**0.230**	0.0200	0.0123	mg/L	02.04.20 04:45		20
m,p-Xylenes	179601-23-1	**0.164**	0.0400	0.00908	mg/L	02.04.20 04:45		20
o-Xylene	95-47-6	**0.110**	0.0200	0.00540	mg/L	02.04.20 04:45		20
Total Xylenes	1330-20-7	**0.274**		0.00540	mg/L	02.04.20 04:45		
Total BTEX		**4.51**		0.00540	mg/L	02.04.20 04:45		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	73	66 - 120	%		
4-Bromofluorobenzene	86	67 - 120	%		

Certificate of Analytical Results
650318
Terracon-Lubbock, Lubbock, TX
DCP #2 (SRS#2009-009)

Sample Id: **7695798-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 7695798-1-BLK Date Collected: Date Received:

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3115298 Date Prep: 01.30.20 16.00

Prep seq: 7695798

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	01.31.20 17:01	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	01.31.20 17:01	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	01.31.20 17:01	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	01.31.20 17:01	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	01.31.20 17:01	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	92	66 - 120	%		
4-Bromofluorobenzene	91	67 - 120	%		

Sample Id: **7695804-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 7695804-1-BLK Date Collected: Date Received:

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3115322 Date Prep: 01.30.20 16.00

Prep seq: 7695804

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	01.31.20 04:32	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	01.31.20 04:32	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	01.31.20 04:32	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	01.31.20 04:32	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	01.31.20 04:32	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	106	66 - 120	%		
4-Bromofluorobenzene	90	67 - 120	%		

Certificate of Analytical Results
650318

Terracon-Lubbock, Lubbock, TX

DCP #2 (SRS#2009-009)

Sample Id: **7696002-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 7696002-1-BLK Date Collected: Date Received:

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3115593 Date Prep: 02.03.20 14.00

Prep seq: 7696002

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	02.03.20 23:49	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	02.03.20 23:49	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	02.03.20 23:49	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	02.03.20 23:49	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	02.03.20 23:49	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	94	66 - 120	%		
4-Bromofluorobenzene	86	67 - 120	%		

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.

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

Form 2 - Surrogate Recoveries

Project Name: DCP #2 (SRS#2009-009)

Work Orders : 650318,

Project ID: AR207008

Lab Batch #: 3115298 **Sample:** 7695798-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/31/20 15:13

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.0834	0.100	83	66-120	
4-Bromofluorobenzene	0.0826	0.100	83	67-120	

Lab Batch #: 3115298 **Sample:** 7695798-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/31/20 15:40

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.0865	0.100	87	66-120	
4-Bromofluorobenzene	0.0834	0.100	83	67-120	

Lab Batch #: 3115298 **Sample:** 7695798-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/31/20 17:01

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.0924	0.100	92	66-120	
4-Bromofluorobenzene	0.0906	0.100	91	67-120	

Lab Batch #: 3115298 **Sample:** 650675-001 S / MS **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 01/31/20 18:48

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.0772	0.100	77	66-120	
4-Bromofluorobenzene	0.0818	0.100	82	67-120	

Lab Batch #: 3115298 **Sample:** 650675-001 SD / MSD **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 01/31/20 19:15

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.0763	0.100	76	66-120	
4-Bromofluorobenzene	0.0811	0.100	81	67-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: DCP #2 (SRS#2009-009)

Work Orders : 650318,

Project ID: AR207008

Lab Batch #: 3115322 **Sample:** 7695804-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/31/20 02:55

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.0899	0.100	90	66-120	
4-Bromofluorobenzene	0.0783	0.100	78	67-120	

Lab Batch #: 3115322 **Sample:** 7695804-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/31/20 03:20

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.0933	0.100	93	66-120	
4-Bromofluorobenzene	0.0805	0.100	81	67-120	

Lab Batch #: 3115322 **Sample:** 7695804-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 01/31/20 04:32

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.106	0.100	106	66-120	
4-Bromofluorobenzene	0.0904	0.100	90	67-120	

Lab Batch #: 3115322 **Sample:** 649980-009 S / MS **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 01/31/20 05:20

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.525	0.500	105	66-120	
4-Bromofluorobenzene	0.0936	0.100	94	67-120	

Lab Batch #: 3115322 **Sample:** 649980-009 SD / MSD **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 01/31/20 05:45

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.477	0.500	95	66-120	
4-Bromofluorobenzene	0.0851	0.100	85	67-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: DCP #2 (SRS#2009-009)

Work Orders : 650318,

Project ID: AR207008

Lab Batch #: 3115593 **Sample:** 7696002-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/03/20 22:02

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.0824	0.100	82	66-120	
4-Bromofluorobenzene	0.0787	0.100	79	67-120	

Lab Batch #: 3115593 **Sample:** 7696002-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/03/20 22:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.0799	0.100	80	66-120	
4-Bromofluorobenzene	0.0804	0.100	80	67-120	

Lab Batch #: 3115593 **Sample:** 7696002-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/03/20 23:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.0939	0.100	94	66-120	
4-Bromofluorobenzene	0.0862	0.100	86	67-120	

Lab Batch #: 3115593 **Sample:** 650251-027 S / MS **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 02/04/20 00:43

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.817	1.00	82	66-120	
4-Bromofluorobenzene	0.0817	0.100	82	67-120	

Lab Batch #: 3115593 **Sample:** 650251-027 SD / MSD **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 02/04/20 01:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.782	1.00	78	66-120	
4-Bromofluorobenzene	0.0806	0.100	81	67-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: DCP #2 (SRS#2009-009)

Work Order #: 650318 **Project ID:** AR207008

Analyst: MIT **Date Prepared:** 01/30/2020 **Date Analyzed:** 01/31/2020

Lab Batch ID: 3115298 **Sample:** 7695798-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000480	0.100	0.0942	94	0.100	0.0943	94	0	74-120	20	
Toluene	<0.000512	0.100	0.0955	96	0.100	0.0959	96	0	74-120	20	
Ethylbenzene	<0.000616	0.100	0.0910	91	0.100	0.0911	91	0	74-120	20	
m,p-Xylenes	<0.000454	0.200	0.178	89	0.200	0.178	89	0	73-120	25	
o-Xylene	<0.000270	0.100	0.0887	89	0.100	0.0883	88	0	73-120	25	

Analyst: MIT **Date Prepared:** 01/30/2020 **Date Analyzed:** 01/31/2020

Lab Batch ID: 3115322 **Sample:** 7695804-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000480	0.100	0.0994	99	0.100	0.0995	100	0	74-120	20	
Toluene	<0.000512	0.100	0.104	104	0.100	0.0981	98	6	74-120	20	
Ethylbenzene	<0.000616	0.100	0.107	107	0.100	0.101	101	6	74-120	20	
m,p-Xylenes	<0.000454	0.200	0.212	106	0.200	0.200	100	6	73-120	25	
o-Xylene	<0.000270	0.100	0.106	106	0.100	0.102	102	4	73-120	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: DCP #2 (SRS#2009-009)

Work Order #: 650318 **Project ID:** AR207008

Analyst: MIT **Date Prepared:** 02/03/2020 **Date Analyzed:** 02/03/2020

Lab Batch ID: 3115593 **Sample:** 7696002-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000480	0.100	0.0939	94	0.100	0.0905	91	4	74-120	20	
Toluene	<0.000512	0.100	0.0899	90	0.100	0.0929	93	3	74-120	20	
Ethylbenzene	<0.000616	0.100	0.0869	87	0.100	0.0878	88	1	74-120	20	
m,p-Xylenes	<0.000454	0.200	0.169	85	0.200	0.172	86	2	73-120	25	
o-Xylene	<0.000270	0.100	0.0844	84	0.100	0.0859	86	2	73-120	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: DCP #2 (SRS#2009-009)

Work Order # : 650318 **Project ID:** AR207008

Lab Batch ID: 3115298 **QC- Sample ID:** 650675-001 S **Batch #:** 1 **Matrix:** Ground Water

Date Analyzed: 01/31/2020 **Date Prepared:** 01/30/2020 **Analyst:** MIT

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	0.0291	0.100	0.130	101	0.100	0.122	93	6	15-147	25	
Toluene	<0.000512	0.100	0.0942	94	0.100	0.0925	93	2	11-147	25	
Ethylbenzene	<0.000616	0.100	0.0890	89	0.100	0.0887	89	0	10-149	25	
m,p-Xylenes	<0.000454	0.200	0.172	86	0.200	0.173	87	1	62-124	25	
o-Xylene	<0.000270	0.100	0.0871	87	0.100	0.0875	88	0	62-124	25	

Lab Batch ID: 3115322 **QC- Sample ID:** 649980-009 S **Batch #:** 1 **Matrix:** Ground Water

Date Analyzed: 01/31/2020 **Date Prepared:** 01/30/2020 **Analyst:** MIT

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00240	0.500	0.499	100	0.500	0.509	102	2	15-147	25	
Toluene	0.242	0.500	0.721	96	0.500	0.757	103	5	11-147	25	
Ethylbenzene	0.688	0.500	1.18	98	0.500	1.23	108	4	10-149	25	
m,p-Xylenes	0.994	1.00	1.97	98	1.00	2.05	106	4	62-124	25	
o-Xylene	0.665	0.500	1.17	101	0.500	1.21	109	3	62-124	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: DCP #2 (SRS#2009-009)

Work Order # : 650318 **Project ID:** AR207008

Lab Batch ID: 3115593 **QC- Sample ID:** 650251-027 S **Batch #:** 1 **Matrix:** Ground Water

Date Analyzed: 02/04/2020 **Date Prepared:** 02/03/2020 **Analyst:** MIT

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	0.484	1.00	1.39	91	1.00	1.39	91	0	15-147	25	
Toluene	0.0180	1.00	0.902	88	1.00	0.927	91	3	11-147	25	
Ethylbenzene	0.551	1.00	1.37	82	1.00	1.39	84	1	10-149	25	
m,p-Xylenes	0.484	2.00	2.13	82	2.00	2.18	85	2	62-124	25	
o-Xylene	0.00800	1.00	0.832	82	1.00	0.852	84	2	62-124	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

CHAIN OF CUSTODY RECORD

Terracon

Office Location: Lubbock

Project Manager: Paige Gaona
Sampler's Names: Paige Gaona

Laboratory: Xenco Laboratories
Address: 6701 Aberdeen Avenue, Suite 9, Lubbock, TX 79424
Phone: (806) 794-1296
Contact:
PO/SO #:
Sampler's Signature

LAB USE ONLY
DUE DATE: 650318
TEMP OF COOLER WHEN RECEIVED (°C): 2.1/2.2

Page 1 of 1

Project Number: AR197012

Project Name: Livingston Ridge - HP Sims (SRS # 2001-11005)

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 40 ml VOA				ANALYSIS REQUESTED: BTEX (EPA Method 8021B)							Lab Sample ID
GW	01/24/20	1011		X	MW-6			3				x							
GW	01/24/20	1107		X	MW-7			3				x							
GW	01/24/20	1208		X	MW-2			3				x							
GW	01/24/20	1252		X	MW-3			3				x							
GW	01/24/20	1339		X	MW-4			3				x							
GW	01/24/20	1412		X	MW-5			3				x							
GW	01/24/20	1415		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
Paige [signature]	1/24/2020	17:15	Brandon Wood [signature]		
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:

E-MAIL RESULTS TO:
1. CJBRYANT@PAALP.COM
2. ALGROVES@PAALP.COM
3. ERIN.LOYD@TERRACON.COM
4. PAIGE.GAONA@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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 01.24.2020 05.15.00 PM

Work Order #: 650318

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

Temperature Measuring device used : r4

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**Yes**

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

Analyst: PH Device/Lot#:

Checklist completed by: Ashley Derstine Date: 01.27.2020

Checklist reviewed by: Jessica Kramer Date: 01.29.2020

Jessica Kramer

Analytical Report 665420

for

Terracon-Lubbock

Project Manager: Paige Gaona

DCP #2 (SRS #2009-009)

AR207008

06.30.2020

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-36), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-25), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-17)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-7)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

06.30.2020

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

Reference: XENCO Report No(s): **665420**
DCP #2 (SRS #2009-009)
Project Address: SRS #2009-009

Paige Gaona:

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 XENCO Report Number(s) 665420. 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 XENCO Laboratories. 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. 665420 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 XENCO Laboratories 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

Sample Cross Reference 665420

Terracon-Lubbock, Lubbock, TX

DCP #2 (SRS #2009-009)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-6	W	06.24.2020 11:55		665420-001
MW-7	W	06.24.2020 11:05		665420-002
MW-2	W	06.24.2020 08:45		665420-003
MW-3	W	06.24.2020 09:35		665420-004
MW-4	W	06.24.2020 10:15		665420-005
MW-5	W	06.24.2020 12:35		665420-006
DUP-1	W	06.24.2020 12:40		665420-007

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: DCP #2 (SRS #2009-009)

Project ID: *AR207008*
Work Order Number(s): *665420*

Report Date: *06.30.2020*
Date Received: *06.24.2020*

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3130191 BTEX by EPA 8021B

Surrogate 1,4-Difluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 665420-007,665420-006.

Certificate of Analytical Results
665420

Terracon-Lubbock, Lubbock, TX
DCP #2 (SRS #2009-009)

Sample Id: **MW-6** Matrix: Ground Water Sample Depth:

Lab Sample Id: 665420-001 Date Collected: 06.24.2020 11:55 Date Received: 06.24.2020 15:32

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMF % Moist: Tech: AMF

Seq Number: 3130191 Date Prep: 06.26.2020 10:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7706330

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	06.27.2020 00:57	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	06.27.2020 00:57	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	06.27.2020 00:57	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	06.27.2020 00:57	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	06.27.2020 00:57	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	06.27.2020 00:57	U	
Total BTEX		<0.000367		0.000367	mg/L	06.27.2020 00:57	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	70 - 130	%		
4-Bromofluorobenzene	96	70 - 130	%		

Sample Id: **MW-7** Matrix: Ground Water Sample Depth:

Lab Sample Id: 665420-002 Date Collected: 06.24.2020 11:05 Date Received: 06.24.2020 15:32

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMF % Moist: Tech: AMF

Seq Number: 3130191 Date Prep: 06.26.2020 10:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7706330

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	06.27.2020 01:17	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	06.27.2020 01:17	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	06.27.2020 01:17	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	06.27.2020 01:17	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	06.27.2020 01:17	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	06.27.2020 01:17	U	
Total BTEX		<0.000367		0.000367	mg/L	06.27.2020 01:17	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	70 - 130	%		
4-Bromofluorobenzene	94	70 - 130	%		

Certificate of Analytical Results
665420

Terracon-Lubbock, Lubbock, TX
DCP #2 (SRS #2009-009)

Sample Id: **MW-2** Matrix: Ground Water Sample Depth:

Lab Sample Id: 665420-003 Date Collected: 06.24.2020 08:45 Date Received: 06.24.2020 15:32

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMF % Moist: Tech: AMF

Seq Number: 3130191 Date Prep: 06.26.2020 10:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7706330

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	06.27.2020 01:37	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	06.27.2020 01:37	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	06.27.2020 01:37	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	06.27.2020 01:37	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	06.27.2020 01:37	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	06.27.2020 01:37	U	
Total BTEX		<0.000367		0.000367	mg/L	06.27.2020 01:37	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	98	70 - 130	%		
4-Bromofluorobenzene	96	70 - 130	%		

Sample Id: **MW-3** Matrix: Ground Water Sample Depth:

Lab Sample Id: 665420-004 Date Collected: 06.24.2020 09:35 Date Received: 06.24.2020 15:32

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMF % Moist: Tech: AMF

Seq Number: 3130191 Date Prep: 06.26.2020 10:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7706330

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	06.27.2020 01:58	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	06.27.2020 01:58	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	06.27.2020 01:58	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	06.27.2020 01:58	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	06.27.2020 01:58	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	06.27.2020 01:58	U	
Total BTEX		<0.000367		0.000367	mg/L	06.27.2020 01:58	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	70 - 130	%		
4-Bromofluorobenzene	108	70 - 130	%		

Certificate of Analytical Results
665420

Terracon-Lubbock, Lubbock, TX
DCP #2 (SRS #2009-009)

Sample Id: **MW-4** Matrix: Ground Water Sample Depth:

Lab Sample Id: 665420-005 Date Collected: 06.24.2020 10:15 Date Received: 06.24.2020 15:32

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMF % Moist: Tech: AMF

Seq Number: 3130191 Date Prep: 06.26.2020 10:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7706330

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	06.27.2020 02:18	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	06.27.2020 02:18	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	06.27.2020 02:18	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	06.27.2020 02:18	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	06.27.2020 02:18	U	1
Total Xylenes	1330-20-7	<0.000630		0.000630	mg/L	06.27.2020 02:18	U	
Total BTEX		<0.000367		0.000367	mg/L	06.27.2020 02:18	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	101	70 - 130	%		
4-Bromofluorobenzene	103	70 - 130	%		

Sample Id: **MW-5** Matrix: Ground Water Sample Depth:

Lab Sample Id: 665420-006 Date Collected: 06.24.2020 12:35 Date Received: 06.24.2020 15:32

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMF % Moist: Tech: AMF

Seq Number: 3130191 Date Prep: 06.26.2020 10:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7706330

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**2.38**	0.100	0.0204	mg/L	06.30.2020 15:15	D	50
Toluene	108-88-3	**0.00167**	0.00200	0.000367	mg/L	06.27.2020 02:38	J	1
Ethylbenzene	100-41-4	**0.117**	0.00200	0.000657	mg/L	06.27.2020 02:38		1
m,p-Xylenes	179601-23-1	**0.0852**	0.00400	0.000630	mg/L	06.27.2020 02:38		1
o-Xylene	95-47-6	**0.0412**	0.00200	0.000642	mg/L	06.27.2020 02:38		1
Total Xylenes	1330-20-7	**0.126**		0.000630	mg/L	06.27.2020 02:38		
Total BTEX		**2.63**		0.000367	mg/L	06.30.2020 15:15		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	153	70 - 130	%		**
4-Bromofluorobenzene	108	70 - 130	%		

Certificate of Analytical Results
665420

Terracon-Lubbock, Lubbock, TX
DCP #2 (SRS #2009-009)

Sample Id: **DUP-1** Matrix: Ground Water Sample Depth:

Lab Sample Id: 665420-007 Date Collected: 06.24.2020 12:40 Date Received: 06.24.2020 15:32

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: AMF % Moist: Tech: AMF

Seq Number: 3130191 Date Prep: 06.26.2020 10:00

Subcontractor: SUB: T104704400-19-19 Prep seq: 7706330

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**2.50**	0.100	0.0204	mg/L	06.30.2020 15:38	D	50
Toluene	108-88-3	**0.00158**	0.00200	0.000367	mg/L	06.27.2020 02:59	J	1
Ethylbenzene	100-41-4	**0.123**	0.00200	0.000657	mg/L	06.27.2020 02:59		1
m,p-Xylenes	179601-23-1	**0.0879**	0.00400	0.000630	mg/L	06.27.2020 02:59		1
o-Xylene	95-47-6	**0.0436**	0.00200	0.000642	mg/L	06.27.2020 02:59		1
Total Xylenes	1330-20-7	**0.132**		0.000630	mg/L	06.27.2020 02:59		
Total BTEX		**2.76**		0.000367	mg/L	06.30.2020 15:38		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	155	70 - 130	%		**
4-Bromofluorobenzene	108	70 - 130	%		

Certificate of Analytical Results
665420

Terracon-Lubbock, Lubbock, TX
DCP #2 (SRS #2009-009)

Sample Id:	**7706330-1-BLK**	Matrix:	Water	Sample Depth:	
Lab Sample Id:	7706330-1-BLK	Date Collected:		Date Received:	
Analytical Method:	BTEX by EPA 8021B			Prep Method:	5030B
Analyst:	AMF	% Moist:		Tech:	AMF
Seq Number:	3130191	Date Prep:	06.26.2020 10:00		
Subcontractor:	SUB: T104704400-19-19	Prep seq:	7706330		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	06.26.2020 19:07	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	06.26.2020 19:07	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	06.26.2020 19:07	U	1
m,p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	06.26.2020 19:07	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	06.26.2020 19:07	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	97	70 - 130	%		
4-Bromofluorobenzene	96	70 - 130	%		

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

Form 2 - Surrogate Recoveries

Project Name: DCP #2 (SRS #2009-009)

Work Orders : 665420 **Project ID:** AR207008

Lab Batch #: 3130191 **Sample:** 7706330-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06.26.2020 16:58 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	70-130	
4-Bromofluorobenzene	0.0306	0.0300	102	70-130	

Lab Batch #: 3130191 **Sample:** 7706330-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06.26.2020 17:19 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	70-130	
4-Bromofluorobenzene	0.0296	0.0300	99	70-130	

Lab Batch #: 3130191 **Sample:** 665226-004 S / MS **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 06.26.2020 17:41 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	70-130	
4-Bromofluorobenzene	0.0313	0.0300	104	70-130	

Lab Batch #: 3130191 **Sample:** 665226-004 SD / MSD **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 06.26.2020 18:02 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0325	0.0300	108	70-130	
4-Bromofluorobenzene	0.0329	0.0300	110	70-130	

Lab Batch #: 3130191 **Sample:** 7706330-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 06.26.2020 19:07 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0291	0.0300	97	70-130	
4-Bromofluorobenzene	0.0287	0.0300	96	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: DCP #2 (SRS #2009-009)

Work Order #: 665420 **Project ID:** AR207008

Analyst: AMF **Date Prepared:** 06.26.2020 **Date Analyzed:** 06.26.2020

Lab Batch ID: 3130191 **Sample:** 7706330-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000408	0.100	0.0941	94	0.100	0.0899	90	5	70-130	25	
Toluene	<0.000367	0.100	0.0935	94	0.100	0.0889	89	5	70-130	25	
Ethylbenzene	<0.000657	0.100	0.100	100	0.100	0.0976	98	2	70-130	25	
m,p-Xylenes	<0.000630	0.200	0.200	100	0.200	0.193	97	4	70-130	25	
o-Xylene	<0.000642	0.100	0.102	102	0.100	0.100	100	2	70-130	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: DCP #2 (SRS #2009-009)

Work Order # : 665420 **Project ID:** AR207008

Lab Batch ID: 3130191 **QC- Sample ID:** 665226-004 S **Batch #:** 1 **Matrix:** Ground Water

Date Analyzed: 06.26.2020 **Date Prepared:** 06.26.2020 **Analyst:** AMF

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	0.0115	0.100	0.0958	84	0.100	0.103	92	7	70-130	25	
Toluene	<0.000367	0.100	0.0920	92	0.100	0.0980	98	6	70-130	25	
Ethylbenzene	0.00121	0.100	0.0980	97	0.100	0.104	103	6	70-130	25	
m,p-Xylenes	0.00333	0.200	0.193	95	0.200	0.205	101	6	70-130	25	
o-Xylene	0.000860	0.100	0.104	103	0.100	0.110	109	6	70-130	25	

Matrix Spike Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200*|(C-F) / (C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A) / E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

CHAIN OF CUSTODY RECORD 665420

Terracon

Laboratory: Xenco Laboratories
Address: 6701 Aberdeen Avenue, Suite 9
Lubbock, TX 79424
Phone: (806) 794-1296
Contact:
PO/SO #:

Office Location Lubbock
Project Manager: Paige Gaona
Sampler's Names: Paige Gaona
Sampler's Signature

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C) 5.6 / 5.4 / 7
Page 1 of 1

Project Number: AR207008
Project Name: DCP #2 (SRS # 2009-009)

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 40 ml VOA				BTEX (EPA Method 8021B)							Lab Sample ID
GW	06/27/20	1155		X	MW-6			3				x							665420-001
GW	06/27/20	1105		X	MW-7			3				x							665420-002
GW	06/27/20	0845		X	MW-2			3				x							665420-003
GW	06/27/20	0935		X	MW-3			3				x							665420-004
GW	06/27/20	1015		X	MW-4			3				x							665420-005
GW	06/27/20	1235		X	MW-5			3				x							665420-006
GW	06/27/20	1240		X	DUP-1			3				x							665420-007

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

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
	6/24/20	1532	Brenda Ward	6/24/20	15:32
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:
E-MAIL RESULTS TO:
1. CJBRYANT@PAALP.COM
2. ALGROVES@PAALP.COM
3. ERIN.LOYD@TERRACON.COM
4. PAIGE.GAONA@TERRACON.COM

Matrix: WW-Wastewater, W-Water, S-Soil, A-Air Bag, C-Charcoal Tube, O-Oil
Containers: VOA-40 ml vial, A/G-Amber Glass 1L, 250 ml-Glass wide mouth, P/O-Plastic or other _____

Inter-Office Shipment

IOS Number : 65981

Date/Time: 06.24.2020
Lab# From: **Lubbock**
Lab# To: **Midland**

Created by: Michael J Turner
Delivery Priority:
Air Bill No.: 7707 9465 9967

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

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
665420-001	W	MW-6	06.24.2020 11:55	SW8021B	BTEX by EPA 8021B	06.30.2020	07.08.2020	JKR	BR4FBZ BZ BZME EBZ	
665420-002	W	MW-7	06.24.2020 11:05	SW8021B	BTEX by EPA 8021B	06.30.2020	07.08.2020	JKR	BR4FBZ BZ BZME EBZ	
665420-003	W	MW-2	06.24.2020 08:45	SW8021B	BTEX by EPA 8021B	06.30.2020	07.08.2020	JKR	BR4FBZ BZ BZME EBZ	
665420-004	W	MW-3	06.24.2020 09:35	SW8021B	BTEX by EPA 8021B	06.30.2020	07.08.2020	JKR	BR4FBZ BZ BZME EBZ	
665420-005	W	MW-4	06.24.2020 10:15	SW8021B	BTEX by EPA 8021B	06.30.2020	07.08.2020	JKR	BR4FBZ BZ BZME EBZ	
665420-006	W	MW-5	06.24.2020 12:35	SW8021B	BTEX by EPA 8021B	06.30.2020	07.08.2020	JKR	BR4FBZ BZ BZME EBZ	
665420-007	W	DUP-1	06.24.2020 12:40	SW8021B	BTEX by EPA 8021B	06.30.2020	07.08.2020	JKR	BR4FBZ BZ BZME EBZ	

Inter Office Shipment or Sample Comments:

Relinquished By: Michael J Turner

Date Relinquished: 06.24.2020

Received By: Brianna Teel

Date Received: 06.25.2020

Cooler Temperature: 1.1

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 65981

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : IR-8

Sent By: Michael J Turner **Date Sent:** 06.24.2020 04.24 PM

Received By: Brianna Teel **Date Received:** 06.25.2020 09.47 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.1	
#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: Brianna Teel Date: 06.25.2020

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 06.24.2020 03.32.00 PM

Work Order #: 665420

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

Temperature Measuring device used : IR-4

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	5.5	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Xenco Midland
#18 Water VOC samples have zero headspace?	**Yes**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Michael J Turner Date: 06.24.2020

Checklist reviewed by: Jessica Kramer Date: 06.26.2020

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Analytical Report 673301

for

Terracon-Lubbock

Project Manager: Brett Dennis

DCP #2

AR207008

09.28.2020

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 (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
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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09.28.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **673301**
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) 673301. 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. 673301 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 673301

Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2	W	09.22.2020 15:57		673301-001
MW-3	W	09.22.2020 16:40		673301-002
MW-4	W	09.22.2020 17:28		673301-003
MW-5	W	09.22.2020 18:25		673301-004
MW-6	W	09.22.2020 13:16		673301-005
MW-7	W	09.22.2020 14:08		673301-006
DUP-1	W	09.22.2020 18:30		673301-008
MW-8	W	09.22.2020 14:45		Not Analyzed

CASE NARRATIVE

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Client Name: Terracon-Lubbock

Project Name: DCP #2

Project ID: *AR207008*
Work Order Number(s): *673301*

Report Date: *09.28.2020*
Date Received: *09.23.2020*

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3138193 BTEX by EPA 8021

Surrogate 1,4-Difluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 673301-004.

Lab Sample ID 673301-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m_p-Xylenes , o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 673301-001, -002, -003, -004, -006, -008.
The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m_p-Xylenes , o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Benzene, Ethylbenzene, Toluene, m_p-Xylenes , o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.
Samples in the analytical batch are: 673301-001, -002, -003, -004, -006, -008

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Certificate of Analytical Results

673301

Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id: **MW-2** Matrix: Ground Water Sample Depth:

Lab Sample Id: 673301-001 Date Collected: 09.22.2020 15:57 Date Received: 09.23.2020 09:54

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B

Analyst: KTL % Moist: Tech: KTL

Seq Number: 3138193 Date Prep: 09.26.2020 11:00

Subcontractor: SUB: T104704400-20-21 Prep seq: 7712142

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	09.26.2020 16:45	UXF	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	09.26.2020 16:45	UXF	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	09.26.2020 16:45	UXF	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	09.26.2020 16:45	UXF	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	09.26.2020 16:45	UXF	1
Xylenes, Total	1330-20-7	<0.000630		0.000630	mg/L	09.26.2020 16:45	U	
Total BTEX		<0.000367		0.000367	mg/L	09.26.2020 16:45	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	87	70 - 130	%		
4-Bromofluorobenzene	109	70 - 130	%		

Sample Id: **MW-3** Matrix: Ground Water Sample Depth:

Lab Sample Id: 673301-002 Date Collected: 09.22.2020 16:40 Date Received: 09.23.2020 09:54

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B

Analyst: KTL % Moist: Tech: KTL

Seq Number: 3138193 Date Prep: 09.26.2020 11:00

Subcontractor: SUB: T104704400-20-21 Prep seq: 7712142

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	09.26.2020 21:42	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	09.26.2020 21:42	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	09.26.2020 21:42	U	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	09.26.2020 21:42	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	09.26.2020 21:42	U	1
Xylenes, Total	1330-20-7	<0.000630		0.000630	mg/L	09.26.2020 21:42	U	
Total BTEX		<0.000367		0.000367	mg/L	09.26.2020 21:42	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	84	70 - 130	%		
4-Bromofluorobenzene	106	70 - 130	%		

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Certificate of Analytical Results
673301
Terracon-Lubbock, Lubbock, TX
DCP #2

Sample Id: **MW-4** Matrix: Ground Water Sample Depth:

Lab Sample Id: 673301-003 Date Collected: 09.22.2020 17:28 Date Received: 09.23.2020 09:54

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B

Analyst: KTL % Moist: Tech: KTL

Seq Number: 3138193 Date Prep: 09.26.2020 11:00

Subcontractor: SUB: T104704400-20-21 Prep seq: 7712142

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	09.26.2020 22:02	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	09.26.2020 22:02	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	09.26.2020 22:02	U	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	09.26.2020 22:02	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	09.26.2020 22:02	U	1
Xylenes, Total	1330-20-7	<0.000630		0.000630	mg/L	09.26.2020 22:02	U	
Total BTEX		<0.000367		0.000367	mg/L	09.26.2020 22:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	91	70 - 130	%		
4-Bromofluorobenzene	108	70 - 130	%		

Sample Id: **MW-5** Matrix: Ground Water Sample Depth:

Lab Sample Id: 673301-004 Date Collected: 09.22.2020 18:25 Date Received: 09.23.2020 09:54

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B

Analyst: KTL % Moist: Tech: KTL

Seq Number: 3138193 Date Prep: 09.26.2020 11:00

Subcontractor: SUB: T104704400-20-21 Prep seq: 7712142

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**1.42**	0.200	0.0408	mg/L	09.28.2020 01:22	D	100
Toluene	108-88-3	**0.00192**	0.00200	0.000367	mg/L	09.26.2020 22:23	J	1
Ethylbenzene	100-41-4	**0.126**	0.00200	0.000657	mg/L	09.26.2020 22:23		1
m_p-Xylenes	179601-23-1	**0.138**	0.00400	0.000630	mg/L	09.26.2020 22:23		1
o-Xylene	95-47-6	**0.0379**	0.00200	0.000642	mg/L	09.26.2020 22:23		1
Xylenes, Total	1330-20-7	**0.176**		0.000630	mg/L	09.26.2020 22:23		
Total BTEX		**1.72**		0.000367	mg/L	09.28.2020 01:22		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	135	70 - 130	%		**
4-Bromofluorobenzene	111	70 - 130	%		

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673301

Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id: **MW-6** Matrix: Ground Water Sample Depth:

Lab Sample Id: 673301-005 Date Collected: 09.22.2020 13:16 Date Received: 09.23.2020 09:54

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B

Analyst: KTL % Moist: Tech: KTL

Seq Number: 3138210 Date Prep: 09.27.2020 11:30

Subcontractor: SUB: T104704400-20-21 Prep seq: 7712159

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	09.28.2020 00:41	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	09.28.2020 00:41	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	09.28.2020 00:41	U	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	09.28.2020 00:41	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	09.28.2020 00:41	U	1
Xylenes, Total	1330-20-7	<0.000630		0.000630	mg/L	09.28.2020 00:41	U	
Total BTEX		<0.000367		0.000367	mg/L	09.28.2020 00:41	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	100	70 - 130	%		
4-Bromofluorobenzene	106	70 - 130	%		

Sample Id: **MW-7** Matrix: Ground Water Sample Depth:

Lab Sample Id: 673301-006 Date Collected: 09.22.2020 14:08 Date Received: 09.23.2020 09:54

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B

Analyst: KTL % Moist: Tech: KTL

Seq Number: 3138193 Date Prep: 09.26.2020 11:00

Subcontractor: SUB: T104704400-20-21 Prep seq: 7712142

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	09.26.2020 23:05	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	09.26.2020 23:05	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	09.26.2020 23:05	U	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	09.26.2020 23:05	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	09.26.2020 23:05	U	1
Xylenes, Total	1330-20-7	<0.000630		0.000630	mg/L	09.26.2020 23:05	U	
Total BTEX		<0.000367		0.000367	mg/L	09.26.2020 23:05	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	92	70 - 130	%		
4-Bromofluorobenzene	110	70 - 130	%		

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Certificate of Analytical Results

673301

Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id:	**DUP-1**	Matrix:	Ground Water	Sample Depth:	
Lab Sample Id:	673301-008	Date Collected:	09.22.2020 18:30	Date Received:	09.23.2020 09:54
Analytical Method:	BTEX by EPA 8021			Prep Method:	5030B
Analyst:	KTL	% Moist:		Tech:	KTL
Seq Number:	3138193	Date Prep:	09.26.2020 11:00		
Subcontractor:	SUB: T104704400-20-21	Prep seq:	7712142		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**3.20**	0.0200	0.00408	mg/L	09.26.2020 23:25		10
Toluene	108-88-3	**0.00670**	0.0200	0.00367	mg/L	09.26.2020 23:25	J	10
Ethylbenzene	100-41-4	**0.312**	0.0200	0.00657	mg/L	09.26.2020 23:25		10
m_p-Xylenes	179601-23-1	**0.348**	0.0400	0.00630	mg/L	09.26.2020 23:25		10
o-Xylene	95-47-6	**0.106**	0.0200	0.00642	mg/L	09.26.2020 23:25		10
Xylenes, Total	1330-20-7	**0.454**		0.00630	mg/L	09.26.2020 23:25		
Total BTEX		**3.97**		0.00367	mg/L	09.26.2020 23:25		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	102	70 - 130	%		
4-Bromofluorobenzene	111	70 - 130	%		

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Certificate of Analytical Results

673301

Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id: **7712142-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 7712142-1-BLK Date Collected: Date Received:

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B

Analyst: KTL % Moist: Tech: KTL

Seq Number: 3138193 Date Prep: 09.26.2020 11:00

Subcontractor: SUB: T104704400-20-21 Prep seq: 7712142

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	09.26.2020 16:20	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	09.26.2020 16:20	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	09.26.2020 16:20	U	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	09.26.2020 16:20	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	09.26.2020 16:20	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	79	70 - 130	%		
4-Bromofluorobenzene	98	70 - 130	%		

Sample Id: **7712159-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 7712159-1-BLK Date Collected: Date Received:

Analytical Method: BTEX by EPA 8021 Prep Method: 5030B

Analyst: KTL % Moist: Tech: KTL

Seq Number: 3138210 Date Prep: 09.27.2020 11:30

Subcontractor: SUB: T104704400-20-21 Prep seq: 7712159

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	09.27.2020 21:57	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	09.27.2020 21:57	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	09.27.2020 21:57	U	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	09.27.2020 21:57	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	09.27.2020 21:57	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	97	70 - 130	%		
4-Bromofluorobenzene	103	70 - 130	%		

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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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Form 2 - Surrogate Recoveries

Project Name: DCP #2

Report Date: 09282020

Work Orders : 673301 **Project ID:** AR207008

Lab Batch #: 3138193 **Sample:** 7712142-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09.26.2020 14:07 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	70-130	
4-Bromofluorobenzene	0.0316	0.0300	105	70-130	

Lab Batch #: 3138193 **Sample:** 7712142-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09.26.2020 14:28 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	70-130	
4-Bromofluorobenzene	0.0330	0.0300	110	70-130	

Lab Batch #: 3138193 **Sample:** 673301-001 S / MS **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 09.26.2020 14:49 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	70-130	
4-Bromofluorobenzene	0.0311	0.0300	104	70-130	

Lab Batch #: 3138193 **Sample:** 673301-001 SD / MSD **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 09.26.2020 15:11 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	70-130	
4-Bromofluorobenzene	0.0337	0.0300	112	70-130	

Lab Batch #: 3138193 **Sample:** 7712142-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09.26.2020 16:20 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0236	0.0300	79	70-130	
4-Bromofluorobenzene	0.0293	0.0300	98	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

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Form 2 - Surrogate Recoveries

Project Name: DCP #2

Report Date: 09282020

Work Orders : 673301 **Project ID:** AR207008

Lab Batch #: 3138210 **Sample:** 7712159-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09.27.2020 19:57 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0299	0.0300	100	70-130	
4-Bromofluorobenzene	0.0305	0.0300	102	70-130	

Lab Batch #: 3138210 **Sample:** 7712159-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09.27.2020 20:17 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0305	0.0300	102	70-130	
4-Bromofluorobenzene	0.0297	0.0300	99	70-130	

Lab Batch #: 3138210 **Sample:** 673546-012 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09.27.2020 20:37 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	70-130	
4-Bromofluorobenzene	0.0289	0.0300	96	70-130	

Lab Batch #: 3138210 **Sample:** 673546-012 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09.27.2020 20:58 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0294	0.0300	98	70-130	
4-Bromofluorobenzene	0.0285	0.0300	95	70-130	

Lab Batch #: 3138210 **Sample:** 7712159-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09.27.2020 21:57 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	70-130	
4-Bromofluorobenzene	0.0309	0.0300	103	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

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BS / BSD Recoveries

Project Name: DCP #2

Work Order #: 673301 **Project ID:** AR207008

Analyst: KTL **Date Prepared:** 09.26.2020 **Date Analyzed:** 09.26.2020

Lab Batch ID: 3138193 **Sample:** 7712142-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000408	0.100	0.121	121	0.100	0.122	122	1	70-130	25	
Toluene	<0.000367	0.100	0.122	122	0.100	0.122	122	0	70-130	25	
Ethylbenzene	<0.000657	0.100	0.118	118	0.100	0.117	117	1	70-130	25	
m_p-Xylenes	<0.000630	0.200	0.227	114	0.200	0.226	113	0	70-130	25	
o-Xylene	<0.000642	0.100	0.115	115	0.100	0.115	115	0	70-130	25	

Analyst: KTL **Date Prepared:** 09.27.2020 **Date Analyzed:** 09.27.2020

Lab Batch ID: 3138210 **Sample:** 7712159-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000408	0.100	0.115	115	0.100	0.106	106	8	70-130	25	
Toluene	<0.000367	0.100	0.118	118	0.100	0.108	108	9	70-130	25	
Ethylbenzene	<0.000657	0.100	0.109	109	0.100	0.100	100	9	70-130	25	
m_p-Xylenes	<0.000630	0.200	0.222	111	0.200	0.205	103	8	70-130	25	
o-Xylene	<0.000642	0.100	0.109	109	0.100	0.100	100	9	70-130	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

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Form 3 - MS / MSD Recoveries

Project Name: DCP #2

Report Date: 09282020

Work Order # : 673301 **Project ID:** AR207008

Lab Batch ID: 3138193 **QC- Sample ID:** 673301-001 S **Batch #:** 1 **Matrix:** Ground Water

Date Analyzed: 09.26.2020 **Date Prepared:** 09.26.2020 **Analyst:** KTL

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000408	0.100	0.0500	50	0.100	0.0386	39	26	70-130	25	XF
Toluene	<0.000367	0.100	0.0246	25	0.100	0.0169	17	37	70-130	25	XF
Ethylbenzene	<0.000657	0.100	0.0110	11	0.100	0.00831	8	28	70-130	25	XF
m_p-Xylenes	<0.000630	0.200	0.0202	10	0.200	0.0129	6	44	70-130	25	XF
o-Xylene	<0.000642	0.100	0.0138	14	0.100	0.0102	10	30	70-130	25	XF

Lab Batch ID: 3138210 **QC- Sample ID:** 673546-012 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 09.27.2020 **Date Prepared:** 09.27.2020 **Analyst:** KTL

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	0.00140	0.100	0.107	106	0.100	0.108	107	1	70-130	25	
Toluene	<0.000367	0.100	0.103	103	0.100	0.105	105	2	70-130	25	
Ethylbenzene	0.000730	0.100	0.101	100	0.100	0.103	102	2	70-130	25	
m_p-Xylenes	0.000970	0.200	0.207	103	0.200	0.209	104	1	70-130	25	
o-Xylene	<0.000642	0.100	0.100	100	0.100	0.102	102	2	70-130	25	

Matrix Spike Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200*|(C-F) / (C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A) / E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

673301

CHAIN OF CUSTODY RECORD

Terracon

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

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 2.4/2.5 4 IR-
Page 1 of 1

Project Number: AR207008
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)	Hold	Lab Sample ID
GW	9/22/2020	15:57		X	MW 2			3	X		
GW	9/22/2020	16:40		X	MW-3			3	X		
GW	9/22/2020	17:28		X	MW-4			3	X		
GW	9/22/2020	18:25		X	MW-5			3	X		
GW	9/22/2020	13:16		X	MW-6			3	X		
GW	9/22/2020	14:08		X	MW-7			3	X		
GW	9/22/2020	14:45		X	MW-8			3	~~X~~	X	
GW	9/22/2020	18:30		X	DUP 1			3	X		

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

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
[signature]	9-23-2020	9:20am	[signature]	9/23/20	9:20

NOTES: Bill directly to Plains Pipeline

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

2.4/2.54

Matrix: WW - Wastewater; W - Water; ... ; 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

Inter-Office Shipment

IOS Number : 70835

Date/Time: 09.23.2020
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@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
673301-001	W	MW-2	09.22.2020 15:57	SW8021B	BTEX by EPA 8021B	09.29.2020	10.06.2020	JKR	BR4FBZ BZ BZME EBZ	
673301-002	W	MW-3	09.22.2020 16:40	SW8021B	BTEX by EPA 8021B	09.29.2020	10.06.2020	JKR	BR4FBZ BZ BZME EBZ	
673301-003	W	MW-4	09.22.2020 17:28	SW8021B	BTEX by EPA 8021B	09.29.2020	10.06.2020	JKR	BR4FBZ BZ BZME EBZ	
673301-004	W	MW-5	09.22.2020 18:25	SW8021B	BTEX by EPA 8021B	09.29.2020	10.06.2020	JKR	BR4FBZ BZ BZME EBZ	
673301-005	W	MW-6	09.22.2020 13:16	SW8021B	BTEX by EPA 8021B	09.29.2020	10.06.2020	JKR	BR4FBZ BZ BZME EBZ	
673301-006	W	MW-7	09.22.2020 14:08	SW8021B	BTEX by EPA 8021B	09.29.2020	10.06.2020	JKR	BR4FBZ BZ BZME EBZ	
673301-007	W	MW-8	09.22.2020 14:45	SW8021B	BTEX by EPA 8021B	HOLD	10.06.2020	JKR	BR4FBZ BZ BZME EBZ	
673301-008	W	DUP-1	09.22.2020 18:30	SW8021B	BTEX by EPA 8021B	09.29.2020	10.06.2020	JKR	BR4FBZ BZ BZME EBZ	

Inter Office Shipment or Sample Comments:

Relinquished By: Jessica Kramer
Jessica Kramer

Date Relinquished: 09.23.2020

Received By: Jessica Kramer
Jessica Kramer

Date Received: 09.24.2020

Cooler Temperature: 2.9

Eurofins Xenco, LLC

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 70835

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

Sent By: Randall Lee **Date Sent:** 09.23.2020 10.04 AM

Received By: Jessica Kramer **Date Received:** 09.24.2020 11.00 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.9	
#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
Jessica Kramer

Date: 09.24.2020

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 09.23.2020 09.54.12 AM

Work Order #: 673301

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

Temperature Measuring device used : IR-4

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?		
#2 *Shipping container in good condition?	**N/A**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Xenco Midland
#18 Water VOC samples have zero headspace?	**Yes**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Teddy Randall Lee
Randall Lee
Date: 09.23.2020

Checklist reviewed by: Jessica Kramer
Jessica Kramer
Date: 09.25.2020

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Analytical Report 681574

for

Terracon-Lubbock

Project Manager: Brett Dennis

DCP#2

AR207008

01.06.2021

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 (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
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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01.06.2021

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

Reference: Eurofins Xenco, LLC Report No(s): **681574**
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) 681574. 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. 681574 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 681574

Terracon-Lubbock, Lubbock, TX

DCP#2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2	W	12.16.2020 15:46		681574-001
MW-3	W	12.16.2020 16:22		681574-002
MW-4	W	12.16.2020 17:05		681574-003
MW-5	W	12.16.2020 17:44		681574-004
MW-6	W	12.16.2020 13:40		681574-005
MW-7	W	12.16.2020 14:19		681574-006
MW-8	W	12.16.2020 14:59		681574-007
DUP-1	W	12.16.2020 00:00		681574-008

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CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: DCP#2

Project ID: *AR207008*
Work Order Number(s): *681574*

Report Date: *01.06.2021*
Date Received: *12.17.2020*

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3146400 PAHs by SW846 8270D SIM

Surrogate Terphenyl-D14 recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7717820-1-BLK.

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Certificate of Analytical Results

681574

Terracon-Lubbock, Lubbock, TX

DCP#2

Sample Id: **MW-2** Matrix: Water Sample Depth:

Lab Sample Id: 681574-001 Date Collected: 12.16.2020 15:46 Date Received: 12.17.2020 11:19

Analytical Method: PAHs by SW846 8270D SIM Prep Method: SW3511

Analyst: DNE % Moist:

Seq Number: 3146400 Date Prep: 12.23.2020 17:51 Tech: DNE

Subcontractor: SUB: T104704215-20-38 Prep seq: 7717820

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Acenaphthene	83-32-9	<0.000107	0.000194	0.000107	mg/L	12.30.2020 21:34	U	1
Acenaphthylene	208-96-8	<0.0000899	0.000194	0.0000899	mg/L	12.30.2020 21:34	U	1
Anthracene	120-12-7	<0.0000925	0.000194	0.0000925	mg/L	12.30.2020 21:34	U	1
Benzo(a)anthracene	56-55-3	<0.000144	0.000194	0.000144	mg/L	12.30.2020 21:34	U	1
Benzo(a)pyrene	50-32-8	<0.0000609	0.000194	0.0000609	mg/L	12.30.2020 21:34	U	1
Benzo(b)fluoranthene	205-99-2	<0.0000759	0.000194	0.0000759	mg/L	12.30.2020 21:34	U	1
Benzo(g,h,i)perylene	191-24-2	<0.000121	0.000194	0.000121	mg/L	12.30.2020 21:34	U	1
Benzo(k)fluoranthene	207-08-9	<0.000124	0.000194	0.000124	mg/L	12.30.2020 21:34	U	1
Chrysene	218-01-9	<0.000167	0.000194	0.000167	mg/L	12.30.2020 21:34	U	1
Dibenz(a,h)anthracene	53-70-3	<0.0000812	0.000194	0.0000812	mg/L	12.30.2020 21:34	U	1
Fluoranthene	206-44-0	<0.000168	0.000194	0.000168	mg/L	12.30.2020 21:34	U	1
Fluorene	86-73-7	<0.000108	0.000194	0.000108	mg/L	12.30.2020 21:34	U	1
Indeno(1,2,3-c,d)Pyrene	193-39-5	<0.0000975	0.000194	0.0000975	mg/L	12.30.2020 21:34	U	1
Naphthalene	91-20-3	<0.000104	0.000388	0.000104	mg/L	12.30.2020 21:34	U	1
Phenanthrene	85-01-8	<0.0000908	0.000194	0.0000908	mg/L	12.30.2020 21:34	U	1
Pyrene	129-00-0	<0.000139	0.000194	0.000139	mg/L	12.30.2020 21:34	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
2-Fluorobiphenyl	137	54 - 146	%		
Nitrobenzene-d5	125	46 - 151	%		
Terphenyl-D14	124	51 - 139	%		

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Certificate of Analytical Results

681574

Terracon-Lubbock, Lubbock, TX

DCP#2

Sample Id:	**MW-2**	Matrix:	Water	Sample Depth:	
Lab Sample Id:	681574-001	Date Collected:	12.16.2020 15:46	Date Received:	12.17.2020 11:19
Analytical Method:	BTEX by EPA 8021			Prep Method:	5030B
Analyst:	KTL	% Moist:			
Seq Number:	3145478	Date Prep:	12.18.2020 16:00	Tech:	KTL
Subcontractor:	SUB: T104704400-20-21	Prep seq:	7717526		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**0.00174**	0.00200	0.000408	mg/L	12.19.2020 21:29	J	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	12.19.2020 21:29	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	12.19.2020 21:29	U	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	12.19.2020 21:29	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	12.19.2020 21:29	U	1
Xylenes, Total	1330-20-7	<0.000630		0.000630	mg/L	12.19.2020 21:29	U	
Total BTEX		**0.00174**		0.000367	mg/L	12.19.2020 21:29	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	85	70 - 130	%		
4-Bromofluorobenzene	104	70 - 130	%		

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Certificate of Analytical Results

681574

Terracon-Lubbock, Lubbock, TX

DCP#2

Sample Id: **MW-3** Matrix: Water Sample Depth:

Lab Sample Id: 681574-002 Date Collected: 12.16.2020 16:22 Date Received: 12.17.2020 11:19

Analytical Method: PAHs by SW846 8270D SIM Prep Method: SW3511

Analyst: DNE % Moist:

Seq Number: 3146400 Date Prep: 12.23.2020 17:54 Tech: DNE

Subcontractor: SUB: T104704215-20-38 Prep seq: 7717820

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Acenaphthene	83-32-9	<0.000109	0.000199	0.000109	mg/L	12.30.2020 21:51	U	1
Acenaphthylene	208-96-8	<0.0000920	0.000199	0.0000920	mg/L	12.30.2020 21:51	U	1
Anthracene	120-12-7	<0.0000946	0.000199	0.0000946	mg/L	12.30.2020 21:51	U	1
Benzo(a)anthracene	56-55-3	<0.000147	0.000199	0.000147	mg/L	12.30.2020 21:51	U	1
Benzo(a)pyrene	50-32-8	<0.0000623	0.000199	0.0000623	mg/L	12.30.2020 21:51	U	1
Benzo(b)fluoranthene	205-99-2	<0.0000777	0.000199	0.0000777	mg/L	12.30.2020 21:51	U	1
Benzo(g,h,i)perylene	191-24-2	<0.000124	0.000199	0.000124	mg/L	12.30.2020 21:51	U	1
Benzo(k)fluoranthene	207-08-9	<0.000127	0.000199	0.000127	mg/L	12.30.2020 21:51	U	1
Chrysene	218-01-9	<0.000171	0.000199	0.000171	mg/L	12.30.2020 21:51	U	1
Dibenz(a,h)anthracene	53-70-3	<0.0000830	0.000199	0.0000830	mg/L	12.30.2020 21:51	U	1
Fluoranthene	206-44-0	<0.000172	0.000199	0.000172	mg/L	12.30.2020 21:51	U	1
Fluorene	86-73-7	<0.000110	0.000199	0.000110	mg/L	12.30.2020 21:51	U	1
Indeno(1,2,3-c,d)Pyrene	193-39-5	<0.0000998	0.000199	0.0000998	mg/L	12.30.2020 21:51	U	1
Naphthalene	91-20-3	<0.000106	0.000397	0.000106	mg/L	12.30.2020 21:51	U	1
Phenanthrene	85-01-8	<0.0000929	0.000199	0.0000929	mg/L	12.30.2020 21:51	U	1
Pyrene	129-00-0	<0.000142	0.000199	0.000142	mg/L	12.30.2020 21:51	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
2-Fluorobiphenyl	120	54 - 146	%		
Nitrobenzene-d5	107	46 - 151	%		
Terphenyl-D14	110	51 - 139	%		

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Certificate of Analytical Results

681574

Terracon-Lubbock, Lubbock, TX

DCP#2

Sample Id:	**MW-3**	Matrix:	Water	Sample Depth:	
Lab Sample Id:	681574-002	Date Collected:	12.16.2020 16:22	Date Received:	12.17.2020 11:19
Analytical Method:	BTEX by EPA 8021			Prep Method:	5030B
Analyst:	KTL	% Moist:			
Seq Number:	3145478	Date Prep:	12.18.2020 16:00	Tech:	KTL
Subcontractor:	SUB: T104704400-20-21	Prep seq:	7717526		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**0.00148**	0.00200	0.000408	mg/L	12.19.2020 21:55	J	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	12.19.2020 21:55	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	12.19.2020 21:55	U	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	12.19.2020 21:55	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	12.19.2020 21:55	U	1
Xylenes, Total	1330-20-7	<0.000630		0.000630	mg/L	12.19.2020 21:55	U	
Total BTEX		**0.00148**		0.000367	mg/L	12.19.2020 21:55	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	89	70 - 130	%		
4-Bromofluorobenzene	104	70 - 130	%		

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Terracon-Lubbock, Lubbock, TX

DCP#2

Sample Id: **MW-4** Matrix: Water Sample Depth:

Lab Sample Id: 681574-003 Date Collected: 12.16.2020 17:05 Date Received: 12.17.2020 11:19

Analytical Method: PAHs by SW846 8270D SIM Prep Method: SW3511

Analyst: DNE % Moist:

Seq Number: 3146400 Date Prep: 12.23.2020 17:57 Tech: DNE

Subcontractor: SUB: T104704215-20-38 Prep seq: 7717820

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Acenaphthene	83-32-9	<0.000112	0.000203	0.000112	mg/L	12.31.2020 19:02	U	1
Acenaphthylene	208-96-8	<0.0000939	0.000203	0.0000939	mg/L	12.31.2020 19:02	U	1
Anthracene	120-12-7	<0.0000966	0.000203	0.0000966	mg/L	12.31.2020 19:02	U	1
Benzo(a)anthracene	56-55-3	<0.000150	0.000203	0.000150	mg/L	12.31.2020 19:02	U	1
Benzo(a)pyrene	50-32-8	<0.0000637	0.000203	0.0000637	mg/L	12.31.2020 19:02	U	1
Benzo(b)fluoranthene	205-99-2	<0.0000793	0.000203	0.0000793	mg/L	12.31.2020 19:02	U	1
Benzo(g,h,i)perylene	191-24-2	<0.000126	0.000203	0.000126	mg/L	12.31.2020 19:02	U	1
Benzo(k)fluoranthene	207-08-9	<0.000130	0.000203	0.000130	mg/L	12.31.2020 19:02	U	1
Chrysene	218-01-9	<0.000174	0.000203	0.000174	mg/L	12.31.2020 19:02	U	1
Dibenz(a,h)anthracene	53-70-3	<0.0000848	0.000203	0.0000848	mg/L	12.31.2020 19:02	U	1
Fluoranthene	206-44-0	<0.000175	0.000203	0.000175	mg/L	12.31.2020 19:02	U	1
Fluorene	86-73-7	<0.000112	0.000203	0.000112	mg/L	12.31.2020 19:02	U	1
Indeno(1,2,3-c,d)Pyrene	193-39-5	<0.000102	0.000203	0.000102	mg/L	12.31.2020 19:02	U	1
Naphthalene	91-20-3	<0.000108	0.000406	0.000108	mg/L	12.31.2020 19:02	U	1
Phenanthrene	85-01-8	<0.0000949	0.000203	0.0000949	mg/L	12.31.2020 19:02	U	1
Pyrene	129-00-0	<0.000145	0.000203	0.000145	mg/L	12.31.2020 19:02	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
2-Fluorobiphenyl	125	54 - 146	%		
Nitrobenzene-d5	95	46 - 151	%		
Terphenyl-D14	108	51 - 139	%		

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DCP#2

Sample Id:	**MW-4**	Matrix:	Water	Sample Depth:	
Lab Sample Id:	681574-003	Date Collected:	12.16.2020 17:05	Date Received:	12.17.2020 11:19
Analytical Method:	BTEX by EPA 8021			Prep Method:	5030B
Analyst:	KTL	% Moist:			
Seq Number:	3145478	Date Prep:	12.18.2020 16:00	Tech:	KTL
Subcontractor:	SUB: T104704400-20-21	Prep seq:	7717526		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**0.00140**	0.00200	0.000408	mg/L	12.19.2020 22:22	J	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	12.19.2020 22:22	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	12.19.2020 22:22	U	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	12.19.2020 22:22	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	12.19.2020 22:22	U	1
Xylenes, Total	1330-20-7	<0.000630		0.000630	mg/L	12.19.2020 22:22	U	
Total BTEX		**0.00140**		0.000367	mg/L	12.19.2020 22:22	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	86	70 - 130	%		
4-Bromofluorobenzene	112	70 - 130	%		

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DCP#2

Sample Id: **MW-5** Matrix: Water Sample Depth:

Lab Sample Id: 681574-004 Date Collected: 12.16.2020 17:44 Date Received: 12.17.2020 11:19

Analytical Method: PAHs by SW846 8270D SIM Prep Method: SW3511

Analyst: DNE % Moist:

Seq Number: 3146400 Date Prep: 12.23.2020 18:00 Tech: DNE

Subcontractor: SUB: T104704215-20-38 Prep seq: 7717820

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Acenaphthene	83-32-9	<0.000101	0.000184	0.000101	mg/L	12.31.2020 19:20	U	1
Acenaphthylene	208-96-8	<0.0000854	0.000184	0.0000854	mg/L	12.31.2020 19:20	U	1
Anthracene	120-12-7	<0.0000879	0.000184	0.0000879	mg/L	12.31.2020 19:20	U	1
Benzo(a)anthracene	56-55-3	<0.000136	0.000184	0.000136	mg/L	12.31.2020 19:20	U	1
Benzo(a)pyrene	50-32-8	<0.0000579	0.000184	0.0000579	mg/L	12.31.2020 19:20	U	1
Benzo(b)fluoranthene	205-99-2	<0.0000721	0.000184	0.0000721	mg/L	12.31.2020 19:20	U	1
Benzo(g,h,i)perylene	191-24-2	<0.000115	0.000184	0.000115	mg/L	12.31.2020 19:20	U	1
Benzo(k)fluoranthene	207-08-9	<0.000118	0.000184	0.000118	mg/L	12.31.2020 19:20	U	1
Chrysene	218-01-9	<0.000158	0.000184	0.000158	mg/L	12.31.2020 19:20	U	1
Dibenz(a,h)anthracene	53-70-3	<0.0000771	0.000184	0.0000771	mg/L	12.31.2020 19:20	U	1
Fluoranthene	206-44-0	<0.000159	0.000184	0.000159	mg/L	12.31.2020 19:20	U	1
Fluorene	86-73-7	<0.000102	0.000184	0.000102	mg/L	12.31.2020 19:20	U	1
Indeno(1,2,3-c,d)Pyrene	193-39-5	<0.0000926	0.000184	0.0000926	mg/L	12.31.2020 19:20	U	1
Naphthalene	91-20-3	<0.0000986	0.000369	0.0000986	mg/L	12.31.2020 19:20	U	1
Phenanthrene	85-01-8	<0.0000863	0.000184	0.0000863	mg/L	12.31.2020 19:20	U	1
Pyrene	129-00-0	<0.000132	0.000184	0.000132	mg/L	12.31.2020 19:20	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
2-Fluorobiphenyl	131	54 - 146	%		
Nitrobenzene-d5	95	46 - 151	%		
Terphenyl-D14	110	51 - 139	%		

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Sample Id:	**MW-5**	Matrix:	Water	Sample Depth:	
Lab Sample Id:	681574-004	Date Collected:	12.16.2020 17:44	Date Received:	12.17.2020 11:19
Analytical Method:	BTEX by EPA 8021			Prep Method:	5030B
Analyst:	KTL	% Moist:			
Seq Number:	3145478	Date Prep:	12.18.2020 16:00	Tech:	KTL
Subcontractor:	SUB: T104704400-20-21	Prep seq:	7717526		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**0.00495**	0.00200	0.000408	mg/L	12.19.2020 22:48		1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	12.19.2020 22:48	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	12.19.2020 22:48	U	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	12.19.2020 22:48	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	12.19.2020 22:48	U	1
Xylenes, Total	1330-20-7	<0.000630		0.000630	mg/L	12.19.2020 22:48	U	
Total BTEX		**0.00495**		0.000367	mg/L	12.19.2020 22:48		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	92	70 - 130	%		
4-Bromofluorobenzene	121	70 - 130	%		

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DCP#2

Sample Id:	**MW-6**	Matrix:	Water	Sample Depth:	
Lab Sample Id:	681574-005	Date Collected:	12.16.2020 13:40	Date Received:	12.17.2020 11:19
Analytical Method:	PAHs by SW846 8270D SIM			Prep Method:	SW3511
Analyst:	DNE	% Moist:			
Seq Number:	3146400	Date Prep:	12.23.2020 18:03	Tech:	DNE
Subcontractor:	SUB: T104704215-20-38	Prep seq:	7717820		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Acenaphthene	83-32-9	<0.000122	0.000222	0.000122	mg/L	12.31.2020 19:38	U	1
Acenaphthylene	208-96-8	<0.000103	0.000222	0.000103	mg/L	12.31.2020 19:38	U	1
Anthracene	120-12-7	<0.000106	0.000222	0.000106	mg/L	12.31.2020 19:38	U	1
Benzo(a)anthracene	56-55-3	<0.000164	0.000222	0.000164	mg/L	12.31.2020 19:38	U	1
Benzo(a)pyrene	50-32-8	<0.0000698	0.000222	0.0000698	mg/L	12.31.2020 19:38	U	1
Benzo(b)fluoranthene	205-99-2	<0.0000869	0.000222	0.0000869	mg/L	12.31.2020 19:38	U	1
Benzo(g,h,i)perylene	191-24-2	<0.000138	0.000222	0.000138	mg/L	12.31.2020 19:38	U	1
Benzo(k)fluoranthene	207-08-9	<0.000142	0.000222	0.000142	mg/L	12.31.2020 19:38	U	1
Chrysene	218-01-9	<0.000191	0.000222	0.000191	mg/L	12.31.2020 19:38	U	1
Dibenz(a,h)anthracene	53-70-3	<0.0000929	0.000222	0.0000929	mg/L	12.31.2020 19:38	U	1
Fluoranthene	206-44-0	<0.000192	0.000222	0.000192	mg/L	12.31.2020 19:38	U	1
Fluorene	86-73-7	<0.000123	0.000222	0.000123	mg/L	12.31.2020 19:38	U	1
Indeno(1,2,3-c,d)Pyrene	193-39-5	<0.000112	0.000222	0.000112	mg/L	12.31.2020 19:38	U	1
Naphthalene	91-20-3	<0.000119	0.000445	0.000119	mg/L	12.31.2020 19:38	U	1
Phenanthrene	85-01-8	<0.000104	0.000222	0.000104	mg/L	12.31.2020 19:38	U	1
Pyrene	129-00-0	<0.000159	0.000222	0.000159	mg/L	12.31.2020 19:38	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
2-Fluorobiphenyl	127	54 - 146	%		
Nitrobenzene-d5	92	46 - 151	%		
Terphenyl-D14	120	51 - 139	%		

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DCP#2

Sample Id:	**MW-6**	Matrix:	Water	Sample Depth:	
Lab Sample Id:	681574-005	Date Collected:	12.16.2020 13:40	Date Received:	12.17.2020 11:19
Analytical Method:	BTEX by EPA 8021			Prep Method:	5030B
Analyst:	KTL	% Moist:			
Seq Number:	3145478	Date Prep:	12.18.2020 16:00	Tech:	KTL
Subcontractor:	SUB: T104704400-20-21	Prep seq:	7717526		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	12.19.2020 23:14	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	12.19.2020 23:14	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	12.19.2020 23:14	U	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	12.19.2020 23:14	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	12.19.2020 23:14	U	1
Xylenes, Total	1330-20-7	<0.000630		0.000630	mg/L	12.19.2020 23:14	U	
Total BTEX		<0.000367		0.000367	mg/L	12.19.2020 23:14	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	89	70 - 130	%		
4-Bromofluorobenzene	114	70 - 130	%		

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DCP#2

Sample Id: **MW-7** Matrix: Water Sample Depth:

Lab Sample Id: 681574-006 Date Collected: 12.16.2020 14:19 Date Received: 12.17.2020 11:19

Analytical Method: PAHs by SW846 8270D SIM Prep Method: SW3511

Analyst: DNE % Moist:

Seq Number: 3146400 Date Prep: 12.23.2020 18:06 Tech: DNE

Subcontractor: SUB: T104704215-20-38 Prep seq: 7717820

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Acenaphthene	83-32-9	<0.000113	0.000205	0.000113	mg/L	12.31.2020 19:55	U	1
Acenaphthylene	208-96-8	<0.0000951	0.000205	0.0000951	mg/L	12.31.2020 19:55	U	1
Anthracene	120-12-7	<0.0000978	0.000205	0.0000978	mg/L	12.31.2020 19:55	U	1
Benzo(a)anthracene	56-55-3	<0.000152	0.000205	0.000152	mg/L	12.31.2020 19:55	U	1
Benzo(a)pyrene	50-32-8	<0.0000644	0.000205	0.0000644	mg/L	12.31.2020 19:55	U	1
Benzo(b)fluoranthene	205-99-2	<0.0000803	0.000205	0.0000803	mg/L	12.31.2020 19:55	U	1
Benzo(g,h,i)perylene	191-24-2	<0.000128	0.000205	0.000128	mg/L	12.31.2020 19:55	U	1
Benzo(k)fluoranthene	207-08-9	<0.000131	0.000205	0.000131	mg/L	12.31.2020 19:55	U	1
Chrysene	218-01-9	<0.000176	0.000205	0.000176	mg/L	12.31.2020 19:55	U	1
Dibenz(a,h)anthracene	53-70-3	<0.0000858	0.000205	0.0000858	mg/L	12.31.2020 19:55	U	1
Fluoranthene	206-44-0	<0.000177	0.000205	0.000177	mg/L	12.31.2020 19:55	U	1
Fluorene	86-73-7	<0.000114	0.000205	0.000114	mg/L	12.31.2020 19:55	U	1
Indeno(1,2,3-c,d)Pyrene	193-39-5	<0.000103	0.000205	0.000103	mg/L	12.31.2020 19:55	U	1
Naphthalene	91-20-3	<0.000110	0.000411	0.000110	mg/L	12.31.2020 19:55	U	1
Phenanthrene	85-01-8	<0.0000960	0.000205	0.0000960	mg/L	12.31.2020 19:55	U	1
Pyrene	129-00-0	<0.000147	0.000205	0.000147	mg/L	12.31.2020 19:55	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
2-Fluorobiphenyl	130	54 - 146	%		
Nitrobenzene-d5	93	46 - 151	%		
Terphenyl-D14	116	51 - 139	%		

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Sample Id:	**MW-7**	Matrix:	Water	Sample Depth:	
Lab Sample Id:	681574-006	Date Collected:	12.16.2020 14:19	Date Received:	12.17.2020 11:19
Analytical Method:	BTEX by EPA 8021			Prep Method:	5030B
Analyst:	KTL	% Moist:			
Seq Number:	3145478	Date Prep:	12.18.2020 16:00	Tech:	KTL
Subcontractor:	SUB: T104704400-20-21	Prep seq:	7717526		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	12.19.2020 23:41	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	12.19.2020 23:41	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	12.19.2020 23:41	U	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	12.19.2020 23:41	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	12.19.2020 23:41	U	1
Xylenes, Total	1330-20-7	<0.000630		0.000630	mg/L	12.19.2020 23:41	U	
Total BTEX		<0.000367		0.000367	mg/L	12.19.2020 23:41	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	92	70 - 130	%		
4-Bromofluorobenzene	116	70 - 130	%		

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DCP#2

Sample Id: **MW-8** Matrix: Water Sample Depth:

Lab Sample Id: 681574-007 Date Collected: 12.16.2020 14:59 Date Received: 12.17.2020 11:19

Analytical Method: PAHs by SW846 8270D SIM Prep Method: SW3511

Analyst: DNE % Moist:

Seq Number: 3146400 Date Prep: 12.23.2020 18:09 Tech: DNE

Subcontractor: SUB: T104704215-20-38 Prep seq: 7717820

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Acenaphthene	83-32-9	<0.000113	0.000206	0.000113	mg/L	12.31.2020 20:13	U	1
Acenaphthylene	208-96-8	<0.0000954	0.000206	0.0000954	mg/L	12.31.2020 20:13	U	1
Anthracene	120-12-7	<0.0000981	0.000206	0.0000981	mg/L	12.31.2020 20:13	U	1
Benzo(a)anthracene	56-55-3	<0.000152	0.000206	0.000152	mg/L	12.31.2020 20:13	U	1
Benzo(a)pyrene	50-32-8	<0.0000646	0.000206	0.0000646	mg/L	12.31.2020 20:13	U	1
Benzo(b)fluoranthene	205-99-2	<0.0000805	0.000206	0.0000805	mg/L	12.31.2020 20:13	U	1
Benzo(g,h,i)perylene	191-24-2	<0.000128	0.000206	0.000128	mg/L	12.31.2020 20:13	U	1
Benzo(k)fluoranthene	207-08-9	<0.000132	0.000206	0.000132	mg/L	12.31.2020 20:13	U	1
Chrysene	218-01-9	<0.000177	0.000206	0.000177	mg/L	12.31.2020 20:13	U	1
Dibenz(a,h)anthracene	53-70-3	<0.0000861	0.000206	0.0000861	mg/L	12.31.2020 20:13	U	1
Fluoranthene	206-44-0	<0.000178	0.000206	0.000178	mg/L	12.31.2020 20:13	U	1
Fluorene	86-73-7	<0.000114	0.000206	0.000114	mg/L	12.31.2020 20:13	U	1
Indeno(1,2,3-c,d)Pyrene	193-39-5	<0.000103	0.000206	0.000103	mg/L	12.31.2020 20:13	U	1
Naphthalene	91-20-3	<0.000110	0.000412	0.000110	mg/L	12.31.2020 20:13	U	1
Phenanthrene	85-01-8	<0.0000963	0.000206	0.0000963	mg/L	12.31.2020 20:13	U	1
Pyrene	129-00-0	<0.000148	0.000206	0.000148	mg/L	12.31.2020 20:13	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
2-Fluorobiphenyl	109	54 - 146	%		
Nitrobenzene-d5	76	46 - 151	%		
Terphenyl-D14	121	51 - 139	%		

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DCP#2

Sample Id:	**MW-8**	Matrix:	Water	Sample Depth:	
Lab Sample Id:	681574-007	Date Collected:	12.16.2020 14:59	Date Received:	12.17.2020 11:19
Analytical Method:	BTEX by EPA 8021			Prep Method:	5030B
Analyst:	KTL	% Moist:			
Seq Number:	3145478	Date Prep:	12.18.2020 16:00	Tech:	KTL
Subcontractor:	SUB: T104704400-20-21	Prep seq:	7717526		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	12.20.2020 00:07	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	12.20.2020 00:07	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	12.20.2020 00:07	U	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	12.20.2020 00:07	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	12.20.2020 00:07	U	1
Xylenes, Total	1330-20-7	<0.000630		0.000630	mg/L	12.20.2020 00:07	U	
Total BTEX		<0.000367		0.000367	mg/L	12.20.2020 00:07	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	94	70 - 130	%		
4-Bromofluorobenzene	115	70 - 130	%		

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Certificate of Analytical Results

681574

Terracon-Lubbock, Lubbock, TX

DCP#2

Sample Id: **DUP-1** Matrix: Water Sample Depth:

Lab Sample Id: 681574-008 Date Collected: 12.16.2020 00:00 Date Received: 12.17.2020 11:19

Analytical Method: PAHs by SW846 8270D SIM Prep Method: SW3511

Analyst: DNE % Moist:

Seq Number: 3146400 Date Prep: 12.23.2020 18:12 Tech: DNE

Subcontractor: SUB: T104704215-20-38 Prep seq: 7717820

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Acenaphthene	83-32-9	<0.000116	0.000211	0.000116	mg/L	12.31.2020 20:31	U	1
Acenaphthylene	208-96-8	<0.0000975	0.000211	0.0000975	mg/L	12.31.2020 20:31	U	1
Anthracene	120-12-7	<0.000100	0.000211	0.000100	mg/L	12.31.2020 20:31	U	1
Benzo(a)anthracene	56-55-3	<0.000156	0.000211	0.000156	mg/L	12.31.2020 20:31	U	1
Benzo(a)pyrene	50-32-8	<0.0000661	0.000211	0.0000661	mg/L	12.31.2020 20:31	U	1
Benzo(b)fluoranthene	205-99-2	<0.0000824	0.000211	0.0000824	mg/L	12.31.2020 20:31	U	1
Benzo(g,h,i)perylene	191-24-2	<0.000131	0.000211	0.000131	mg/L	12.31.2020 20:31	U	1
Benzo(k)fluoranthene	207-08-9	<0.000135	0.000211	0.000135	mg/L	12.31.2020 20:31	U	1
Chrysene	218-01-9	<0.000181	0.000211	0.000181	mg/L	12.31.2020 20:31	U	1
Dibenz(a,h)anthracene	53-70-3	<0.0000880	0.000211	0.0000880	mg/L	12.31.2020 20:31	U	1
Fluoranthene	206-44-0	<0.000182	0.000211	0.000182	mg/L	12.31.2020 20:31	U	1
Fluorene	86-73-7	<0.000117	0.000211	0.000117	mg/L	12.31.2020 20:31	U	1
Indeno(1,2,3-c,d)Pyrene	193-39-5	<0.000106	0.000211	0.000106	mg/L	12.31.2020 20:31	U	1
Naphthalene	91-20-3	<0.000113	0.000421	0.000113	mg/L	12.31.2020 20:31	U	1
Phenanthrene	85-01-8	<0.0000985	0.000211	0.0000985	mg/L	12.31.2020 20:31	U	1
Pyrene	129-00-0	<0.000151	0.000211	0.000151	mg/L	12.31.2020 20:31	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
2-Fluorobiphenyl	107	54 - 146	%		
Nitrobenzene-d5	70	46 - 151	%		
Terphenyl-D14	117	51 - 139	%		

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Certificate of Analytical Results

681574

Terracon-Lubbock, Lubbock, TX

DCP#2

Sample Id:	**DUP-1**	Matrix:	Water	Sample Depth:	
Lab Sample Id:	681574-008	Date Collected:	12.16.2020 00:00	Date Received:	12.17.2020 11:19
Analytical Method:	BTEX by EPA 8021			Prep Method:	5030B
Analyst:	KTL	% Moist:			
Seq Number:	3145478	Date Prep:	12.18.2020 16:00	Tech:	KTL
Subcontractor:	SUB: T104704400-20-21	Prep seq:	7717526		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**0.00409**	0.00200	0.000408	mg/L	12.20.2020 00:33		1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	12.20.2020 00:33	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	12.20.2020 00:33	U	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	12.20.2020 00:33	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	12.20.2020 00:33	U	1
Xylenes, Total	1330-20-7	<0.000630		0.000630	mg/L	12.20.2020 00:33	U	
Total BTEX		**0.00409**		0.000367	mg/L	12.20.2020 00:33		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	91	70 - 130	%		
4-Bromofluorobenzene	114	70 - 130	%		

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Certificate of Analytical Results

681574

Terracon-Lubbock, Lubbock, TX

DCP#2

Sample Id:	**7717526-1-BLK**	Matrix:	Water	Sample Depth:	
Lab Sample Id:	7717526-1-BLK	Date Collected:		Date Received:	
Analytical Method:	BTEX by EPA 8021			Prep Method:	5030B
Analyst:	KTL	% Moist:			
Seq Number:	3145478	Date Prep:	12.18.2020 16:00	Tech:	KTL
Subcontractor:	SUB: T104704400-20-21	Prep seq:	7717526		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000408	0.00200	0.000408	mg/L	12.19.2020 15:20	U	1
Toluene	108-88-3	<0.000367	0.00200	0.000367	mg/L	12.19.2020 15:20	U	1
Ethylbenzene	100-41-4	<0.000657	0.00200	0.000657	mg/L	12.19.2020 15:20	U	1
m_p-Xylenes	179601-23-1	<0.000630	0.00400	0.000630	mg/L	12.19.2020 15:20	U	1
o-Xylene	95-47-6	<0.000642	0.00200	0.000642	mg/L	12.19.2020 15:20	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1,4-Difluorobenzene	88	70 - 130	%		
4-Bromofluorobenzene	71	70 - 130	%		

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Certificate of Analytical Results
681574

Terracon-Lubbock, Lubbock, TX
DCP#2

Sample Id: **7717820-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 7717820-1-BLK Date Collected: Date Received:

Analytical Method: PAHs by SW846 8270D SIM Prep Method: SW3511

Analyst: EKL % Moist:

Seq Number: 3146400 Date Prep: 12.23.2020 17:42 Tech: EKL

Subcontractor: SUB: T104704215-20-38 Prep seq: 7717820

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Acenaphthene	83-32-9	<0.000100	0.000182	0.0001000	mg/L	12.28.2020 11:08	U	1
Acenaphthylene	208-96-8	<0.0000842	0.000182	0.0000842	mg/L	12.28.2020 11:08	U	1
Anthracene	120-12-7	<0.0000866	0.000182	0.0000866	mg/L	12.28.2020 11:08	U	1
Benzo(a)anthracene	56-55-3	<0.000134	0.000182	0.000134	mg/L	12.28.2020 11:08	U	1
Benzo(a)pyrene	50-32-8	<0.0000571	0.000182	0.0000571	mg/L	12.28.2020 11:08	U	1
Benzo(b)fluoranthene	205-99-2	<0.0000711	0.000182	0.0000711	mg/L	12.28.2020 11:08	U	1
Benzo(g,h,i)perylene	191-24-2	<0.000113	0.000182	0.000113	mg/L	12.28.2020 11:08	U	1
Benzo(k)fluoranthene	207-08-9	<0.000116	0.000182	0.000116	mg/L	12.28.2020 11:08	U	1
Chrysene	218-01-9	<0.000156	0.000182	0.000156	mg/L	12.28.2020 11:08	U	1
Dibenz(a,h)anthracene	53-70-3	<0.0000760	0.000182	0.0000760	mg/L	12.28.2020 11:08	U	1
Fluoranthene	206-44-0	<0.000157	0.000182	0.000157	mg/L	12.28.2020 11:08	U	1
Fluorene	86-73-7	<0.000101	0.000182	0.000101	mg/L	12.28.2020 11:08	U	1
Indeno(1,2,3-c,d)Pyrene	193-39-5	<0.0000913	0.000182	0.0000913	mg/L	12.28.2020 11:08	U	1
Naphthalene	91-20-3	<0.0000972	0.000364	0.0000972	mg/L	12.28.2020 11:08	U	1
Phenanthrene	85-01-8	<0.0000850	0.000182	0.0000850	mg/L	12.28.2020 11:08	U	1
Pyrene	129-00-0	<0.000130	0.000182	0.000130	mg/L	12.28.2020 11:08	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
2-Fluorobiphenyl	143	54 - 146	%		
Nitrobenzene-d5	114	46 - 151	%		
Terphenyl-D14	152	51 - 139	%		**

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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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Form 2 - Surrogate Recoveries

Project Name: DCP#2

Report Date: 01062021

Work Orders : 681574 **Project ID:** AR207008

Lab Batch #: 3145478 **Sample:** 7717526-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 12.19.2020 05:47 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0299	0.0300	100	70-130	
4-Bromofluorobenzene	0.0273	0.0300	91	70-130	

Lab Batch #: 3145478 **Sample:** 7717526-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 12.19.2020 06:14 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	70-130	
4-Bromofluorobenzene	0.0299	0.0300	100	70-130	

Lab Batch #: 3145478 **Sample:** 680972-001 S / MS **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 12.19.2020 13:37 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	70-130	

Lab Batch #: 3145478 **Sample:** 680972-001 SD / MSD **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 12.19.2020 14:03 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0291	0.0300	97	70-130	
4-Bromofluorobenzene	0.0277	0.0300	92	70-130	

Lab Batch #: 3145478 **Sample:** 7717526-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 12.19.2020 15:20 **SURROGATE RECOVERY STUDY**

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0264	0.0300	88	70-130	
4-Bromofluorobenzene	0.0213	0.0300	71	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

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Form 2 - Surrogate Recoveries

Project Name: DCP#2

Report Date: 01062021

Work Orders : 681574 **Project ID:** AR207008

Lab Batch #: 3146400 **Sample:** 7717820-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 12.28.2020 10:33 **SURROGATE RECOVERY STUDY**

PAHs by SW846 8270D SIM Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.652	0.500	130	54-146	
Nitrobenzene-d5	0.589	0.500	118	46-151	
Terphenyl-D14	0.626	0.500	125	51-139	

Lab Batch #: 3146400 **Sample:** 7717820-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 12.28.2020 10:51 **SURROGATE RECOVERY STUDY**

PAHs by SW846 8270D SIM Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.582	0.500	116	54-146	
Nitrobenzene-d5	0.524	0.500	105	46-151	
Terphenyl-D14	0.595	0.500	119	51-139	

Lab Batch #: 3146400 **Sample:** 7717820-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 12.28.2020 11:08 **SURROGATE RECOVERY STUDY**

PAHs by SW846 8270D SIM Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	0.714	0.500	143	54-146	
Nitrobenzene-d5	0.569	0.500	114	46-151	
Terphenyl-D14	0.758	0.500	152	51-139	**

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

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BS / BSD Recoveries

Project Name: DCP#2

Work Order #: 681574 **Project ID:** AR207008

Analyst: KTL **Date Prepared:** 12.18.2020 **Date Analyzed:** 12.19.2020

Lab Batch ID: 3145478 **Sample:** 7717526-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000408	0.100	0.0919	92	0.100	0.0936	94	2	70-130	25	
Toluene	<0.000367	0.100	0.0978	98	0.100	0.0987	99	1	70-130	25	
Ethylbenzene	<0.000657	0.100	0.0945	95	0.100	0.0938	94	1	70-130	25	
m_p-Xylenes	<0.000630	0.200	0.191	96	0.200	0.190	95	1	70-130	25	
o-Xylene	<0.000642	0.100	0.0950	95	0.100	0.0966	97	2	70-130	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

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BS / BSD Recoveries

Project Name: DCP#2

Work Order #: 681574 **Project ID:** AR207008

Analyst: EKL **Date Prepared:** 12.23.2020 **Date Analyzed:** 12.28.2020

Lab Batch ID: 3146400 **Sample:** 7717820-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

PAHs by SW846 8270D SIM Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Acenaphthene	<0.000100	0.0182	0.0205	113	0.0182	0.0185	102	10	75-127	30	
Acenaphthylene	<0.0000842	0.0182	0.0218	120	0.0182	0.0195	107	11	78-133	30	
Anthracene	<0.0000866	0.0182	0.0211	116	0.0182	0.0187	103	12	73-145	30	
Benzo(a)anthracene	<0.000134	0.0182	0.0196	108	0.0182	0.0177	97	10	77-131	30	
Benzo(a)pyrene	<0.0000571	0.0182	0.0177	97	0.0182	0.0159	87	11	56-163	30	
Benzo(b)fluoranthene	<0.0000711	0.0182	0.0184	101	0.0182	0.0163	90	12	74-138	30	
Benzo(g,h,i)perylene	<0.000113	0.0182	0.0164	90	0.0182	0.0150	82	9	77-127	30	
Benzo(k)fluoranthene	<0.000116	0.0182	0.0218	120	0.0182	0.0204	112	7	67-142	30	
Chrysene	<0.000156	0.0182	0.0201	110	0.0182	0.0183	101	9	66-126	30	
Dibenz(a,h)anthracene	<0.0000760	0.0182	0.0170	93	0.0182	0.0155	85	9	71-142	30	
Fluoranthene	<0.000157	0.0182	0.0211	116	0.0182	0.0187	103	12	78-138	30	
Fluorene	<0.000101	0.0182	0.0209	115	0.0182	0.0187	103	11	79-128	30	
Indeno(1,2,3-c,d)Pyrene	<0.0000913	0.0182	0.0170	93	0.0182	0.0156	86	9	76-140	30	
Naphthalene	<0.0000972	0.0182	0.0200	110	0.0182	0.0185	102	8	72-122	30	
Phenanthrene	<0.0000850	0.0182	0.0202	111	0.0182	0.0182	100	10	76-129	30	
Pyrene	<0.000130	0.0182	0.0226	124	0.0182	0.0202	111	11	74-138	30	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

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Project Name: DCP#2

Work Order # : 681574

Report Date: 01062021

Project ID: AR207008

Lab Batch ID: 3145478

QC- Sample ID: 680972-001 S

Batch #: 1

Matrix: Ground Water

Date Analyzed: 12.19.2020

Date Prepared: 12.18.2020

Analyst: KTL

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	8.68	0.100	0.112	0	0.100	0.103	0	8	70-130	25	X
Toluene	0.0108	0.100	0.101	90	0.100	0.0939	83	7	70-130	25	
Ethylbenzene	0.0991	0.100	0.0981	0	0.100	0.0913	0	7	70-130	25	X
m_p-Xylenes	0.116	0.200	0.195	40	0.200	0.184	34	6	70-130	25	X
o-Xylene	0.00222	0.100	0.104	102	0.100	0.0887	86	16	70-130	25	

Matrix Spike Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200*|(C-F) / (C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A) / E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

681574

CHAIN OF CUSTODY RECORD

Terracon

Office Location	Lubbock
Project Manager	Brett Dennis
Sampler's Name	Aaron Adams
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): 0.8/0.7 77

Page 1 of 1

Project Number: AR207008
Project Name: DCP #2

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	40 ml VOA	60 ml VOA			BTEX (EPA Method 8021)	PAHs (EPA Method 8270 SIM)	Lab Sample ID
GW	12/16/2020	15:45		X	MW-2			3	2			X	X	681574-001
GW	12/16/2020	16:22		X	MW-3			3	2			X	X	-002
GW	12/16/2020	17:05		X	MW 4			3	2			X	X	-003
GW	12/16/2020	17:44		X	MW-5			3	2			X	X	-004
GW	12/16/2020	13:40		X	MW-6			3	2			X	X	-005
GW	12/16/2020	14:19		X	MW-7			3	2			X	X	-006
GW	12/16/2020	14:59		X	MW-8			3	2			X	X	-007
GW	12/16/2020	-		X	DUP-1			3	2			X	X	-008

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]	12-17-20	11:18	[signature]	12/17/20	11:19

NOTES: Bill directly to Plains Pipeline

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

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

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

Inter-Office Shipment

IOS Number : 75131

Date/Time: 12.17.2020
Created by: Michael J Turner
Please send report to: Jessica Kramer
Lab# From: **Lubbock**
Delivery Priority:
Address: 6701 Aberdeen, Suite 9 Lubbock, TX 79424
Lab# To: **Midland**
Air Bill No.:
E-Mail: jessica.kramer@eurofinset.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
681574-001	W	MW-2	12.16.2020 15:46	SW8021B	BTEX by EPA 8021	12.23.2020	12.30.2020	JKR	BR4FBZ BZ BZME EBZ	
681574-002	W	MW-3	12.16.2020 16:22	SW8021B	BTEX by EPA 8021	12.23.2020	12.30.2020	JKR	BR4FBZ BZ BZME EBZ	
681574-003	W	MW-4	12.16.2020 17:05	SW8021B	BTEX by EPA 8021	12.23.2020	12.30.2020	JKR	BR4FBZ BZ BZME EBZ	
681574-004	W	MW-5	12.16.2020 17:44	SW8021B	BTEX by EPA 8021	12.23.2020	12.30.2020	JKR	BR4FBZ BZ BZME EBZ	
681574-005	W	MW-6	12.16.2020 13:40	SW8021B	BTEX by EPA 8021	12.23.2020	12.30.2020	JKR	BR4FBZ BZ BZME EBZ	
681574-006	W	MW-7	12.16.2020 14:19	SW8021B	BTEX by EPA 8021	12.23.2020	12.30.2020	JKR	BR4FBZ BZ BZME EBZ	
681574-007	W	MW-8	12.16.2020 14:59	SW8021B	BTEX by EPA 8021	12.23.2020	12.30.2020	JKR	BR4FBZ BZ BZME EBZ	
681574-008	W	DUP-1	12.16.2020 00:00	SW8021B	BTEX by EPA 8021	12.23.2020	12.30.2020	JKR	BR4FBZ BZ BZME EBZ	

Inter Office Shipment or Sample Comments:

Relinquished By: Michael J Turner
Date Relinquished: 12.17.2020

Received By: Jessica Kramer
Date Received: 12.18.2020
Cooler Temperature: 5.9

Inter-Office Shipment

IOS Number : 75132

Date/Time:	12.17.2020	Created by:	Michael J Turner	Please send report to:	Jessica Kramer
Lab# From:	**Lubbock**	Delivery Priority:		Address:	6701 Aberdeen, Suite 9 Lubbock, TX 79424
Lab# To:	**Houston**	Air Bill No.:	772411350672	E-Mail:	jessica.kramer@eurofinset.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
681574-001	W	MW-2	12.16.2020 15:46	SIM_PAH_D	PAHs by 8270D SIM	12.23.2020	**12.23.2020 15:46**	JKR	ACNP ACNPY ANTH BZ	
681574-002	W	MW-3	12.16.2020 16:22	SIM_PAH_D	PAHs by 8270D SIM	12.23.2020	**12.23.2020 16:22**	JKR	ACNP ACNPY ANTH BZ	
681574-003	W	MW-4	12.16.2020 17:05	SIM_PAH_D	PAHs by 8270D SIM	12.23.2020	**12.23.2020 17:05**	JKR	ACNP ACNPY ANTH BZ	
681574-004	W	MW-5	12.16.2020 17:44	SIM_PAH_D	PAHs by 8270D SIM	12.23.2020	**12.23.2020 17:44**	JKR	ACNP ACNPY ANTH BZ	
681574-005	W	MW-6	12.16.2020 13:40	SIM_PAH_D	PAHs by 8270D SIM	12.23.2020	**12.23.2020 13:40**	JKR	ACNP ACNPY ANTH BZ	
681574-006	W	MW-7	12.16.2020 14:19	SIM_PAH_D	PAHs by 8270D SIM	12.23.2020	**12.23.2020 14:19**	JKR	ACNP ACNPY ANTH BZ	
681574-007	W	MW-8	12.16.2020 14:59	SIM_PAH_D	PAHs by 8270D SIM	12.23.2020	**12.23.2020 14:59**	JKR	ACNP ACNPY ANTH BZ	
681574-008	W	DUP-1	12.16.2020 00:00	SIM_PAH_D	PAHs by 8270D SIM	12.23.2020	**12.23.2020 00:00**	JKR	ACNP ACNPY ANTH BZ	

Inter Office Shipment or Sample Comments:

Relinquished By: Michael J Turner

Date Relinquished: 12.17.2020

Received By: Hypatia Keys

Date Received: 12.17.2020

Cooler Temperature: 2.5

Eurofins Xenco, LLC

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 75131

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

Sent By: Michael J Turner **Date Sent:** 12.17.2020 11.44 AM

Received By: Jessica Kramer **Date Received:** 12.18.2020 12.38 PM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	5.9	
#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: 12.18.2020

Jessica Kramer

Eurofins Xenco, LLC

Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 75132

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : hou-188

Sent By: Michael J Turner **Date Sent:** 12.17.2020 11.44 AM

Received By: Hypatia Keys **Date Received:** 12.17.2020 09.30 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.5	
#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: Hypatia Keys Date: 12.17.2020

Hypatia Keys

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 12.17.2020 11.19.00 AM

Work Order #: 681574

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

Temperature Measuring device used : IR-4

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.8	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	BTEX to Xenco Midland. PAH to Xenco Stafford.
#18 Water VOC samples have zero headspace?	**Yes**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Michael J Turner Date: 12.17.2020

Checklist reviewed by: Jessica Kramer Date: 12.17.2020

Jessica Kramer

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

February 03, 2020

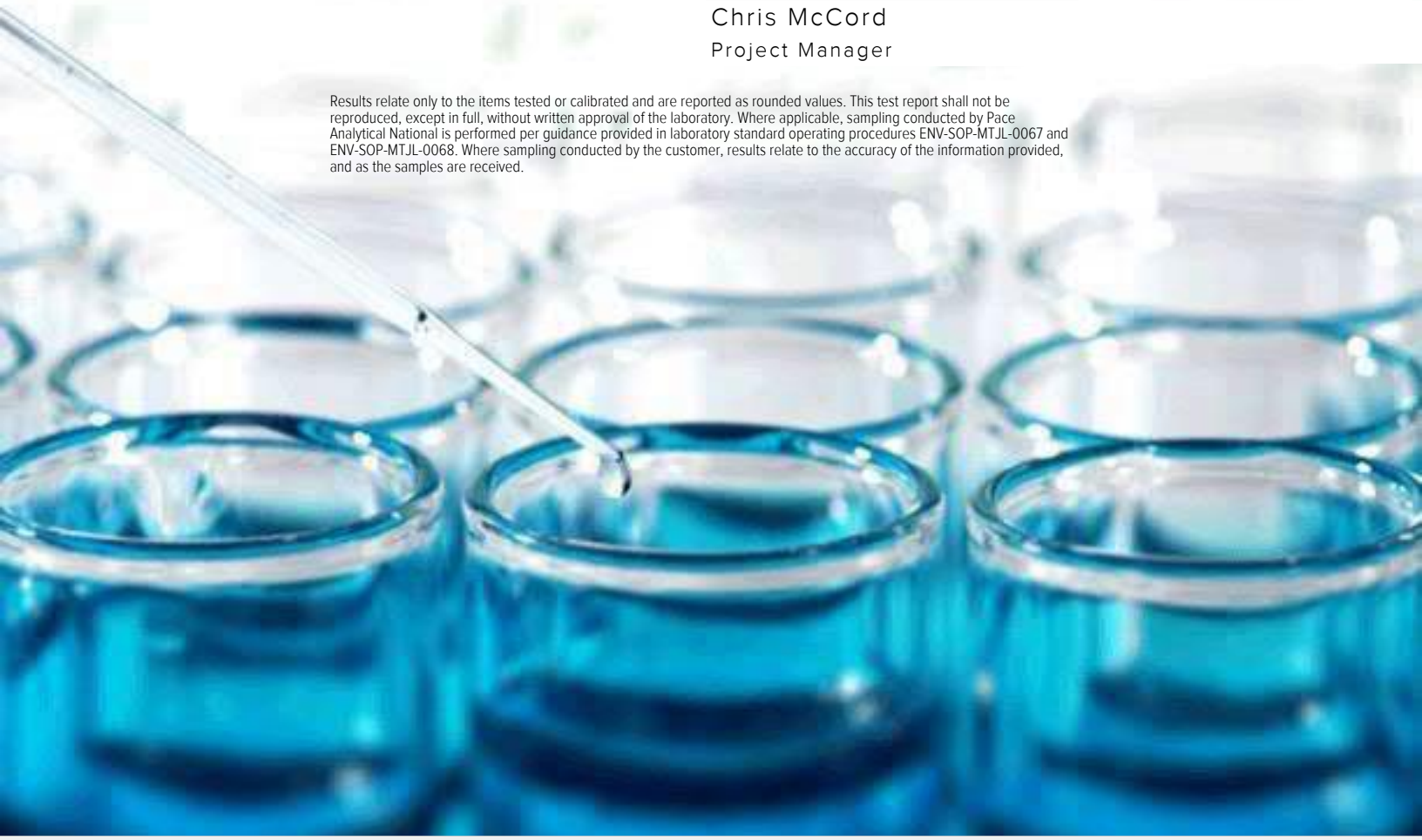
Plains All American Pipeline - Terracon

Sample Delivery Group:	L1182454
Samples Received:	01/24/2020
Project Number:	AR197008
Description:	DCP #2
Site:	SRS # 2009-039
Report To:	Paige Gaona 5827 50th St. Suite 1 Lubbock, TX 79424

Entire Report Reviewed By:

Chris McCord
Project Manager

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



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SAMPLE SUMMARY

EF-1 (20200120) L1182454-01 Air

Collected by: Aaron Adams
Collected date/time: 01/22/20 17:10
Received date/time: 01/24/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1416487	2000	01/24/20 15:09	01/24/20 15:09	CAW	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.

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	26100	83400		2000	WG1416487
Toluene	108-88-3	92.10	400	1510	140000	527000		2000	WG1416487
Ethylbenzene	100-41-4	106	400	1730	15500	67200		2000	WG1416487
m&p-Xylene	1330-20-7	106	800	3470	36400	158000		2000	WG1416487
o-Xylene	95-47-6	106	400	1730	9450	41000		2000	WG1416487
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1416487
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	3750000	15500000		2000	WG1416487
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.1*				WG1416487

Method Blank (MB)

(MB) R3493836-3 01/24/20 10:18

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0460	0.200
Ethylbenzene	U		0.0506	0.200
MTBE	U		0.0505	0.200
Toluene	U		0.0499	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
TPH (GC/MS) Low Fraction	16.4	J	6.91	200
(S) 1,4-Bromofluorobenzene	*92.9*			*60.0-140*

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

(LCS) R3493836-1 01/24/20 09:03 • (LCSD) R3493836-2 01/24/20 09:41

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	4.51	4.62	120	123	70.0-130			2.41	25
Benzene	3.75	4.74	4.68	126	125	70.0-130			1.27	25
Toluene	3.75	4.74	4.85	126	129	70.0-130			2.29	25
Ethylbenzene	3.75	4.75	4.80	127	128	70.0-130			1.05	25
m&p-Xylene	7.50	9.65	9.78	129	130	70.0-130			1.34	25
o-Xylene	3.75	4.86	4.86	130	130	70.0-130			0.000	25
TPH (GC/MS) Low Fraction	203	241	247	119	122	70.0-130			2.46	25
(S) 1,4-Bromofluorobenzene				*102*	*101*	*60.0-140*				

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

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

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

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

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

Our Locations

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

ACCOUNT:	PROJECT:	SDG:	DATE/TIME:	PAGE:
Plains All American Pipeline - Terracon	AR197008	L1182454	02/03/20 09:42	8 of 9

D111

Terracon

CHAIN OF CUSTODY RECORD

Office Location: Lubbock

Project Manager: Paige Gaona

Sampler's Names: Aaron Adams

Laboratory: Xenco Laboratories
Address: 6701 Aberdeen Avenue, Suite 9, Lubbock, TX 79424
Phone: (806) 794-1296
Contact: 806-300-0140
PO/SO #:
Sampler's Signature

Project Number: AR197008

Project Name: DCP #2

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: Taller				BTEX (EPA Method 8021B)	TPH 8015 extended							Lab Sample ID
A	01/22/20	1710		X	EF-1 (20200120)			1				x	x							1182454-01

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 1

Lab Sample ID

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]	1/22/20	2100			
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
			[signature]	1/24/2020	0900

NOTES:

E-MAIL RESULTS TO:
CJBRYANT@PAALP.COM
ERIN.LOYD@TERRACON.COM
PAIGE.GAONA@TERRACON
ALGROVES@PAALP.COM

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

779832843288 AMB

02

RAD SCREEN: <0.5 mR/hr

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

February 27, 2020

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1193055
Samples Received:	02/26/2020
Project Number:	AR207008
Description:	DCP Plant to Lea Station 6" #2 (SRS # 2009-039)
Site:	SRS # 2009-039
Report To:	Paige Gaona 5827 50th St. Suite 1 Lubbock, TX 79424

Entire Report Reviewed By:

Chris McCord
Project Manager

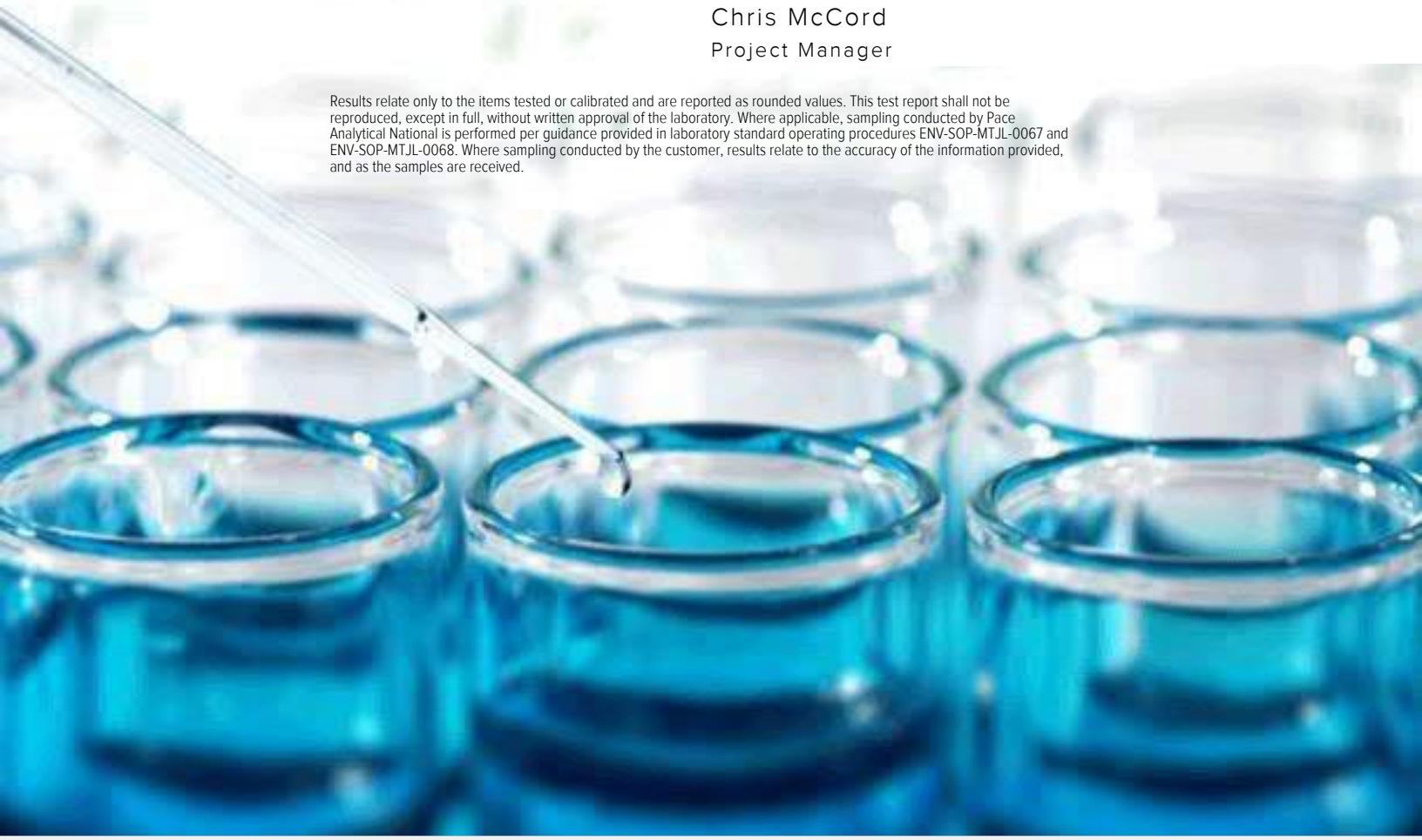

TABLE OF CONTENTS

SAMPLE SUMMARY

EFF-1 (20202020) L1193055-01 Air

Collected by: Aaron Adams
Collected date/time: 02/20/20 15:45
Received date/time: 02/26/20 10:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1434206	2000	02/26/20 22:17	02/26/20 22:17	CAW	Mt. Juliet, TN

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

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	6170	19700		2000	WG1434206
Toluene	108-88-3	92.10	400	1510	37500	141000		2000	WG1434206
Ethylbenzene	100-41-4	106	400	1730	5430	23500		2000	WG1434206
m&p-Xylene	1330-20-7	106	800	3470	12700	55100		2000	WG1434206
o-Xylene	95-47-6	106	400	1730	3450	15000		2000	WG1434206
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1434206
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	1260000	5200000		2000	WG1434206
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.4*				WG1434206

Method Blank (MB)

(MB) R3503290-3 02/26/20 10:03

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0460	0.200
Ethylbenzene	U		0.0506	0.200
MTBE	U		0.0505	0.200
Toluene	U		0.0499	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
TPH (GC/MS) Low Fraction	U		6.91	200
(S) 1,4-Bromofluorobenzene	*101*			*60.0-140*

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

(LCS) R3503290-1 02/26/20 08:48 • (LCSD) R3503290-2 02/26/20 09:26

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	3.89	3.91	104	104	70.0-130			0.513	25
Benzene	3.75	3.86	3.90	103	104	70.0-130			1.03	25
Toluene	3.75	3.92	3.92	105	105	70.0-130			0.000	25
Ethylbenzene	3.75	3.91	3.90	104	104	70.0-130			0.256	25
m&p-Xylene	7.50	8.02	8.00	107	107	70.0-130			0.250	25
o-Xylene	3.75	3.95	3.99	105	106	70.0-130			1.01	25
TPH (GC/MS) Low Fraction	203	228	229	112	113	70.0-130			0.438	25
(S) 1,4-Bromofluorobenzene				*99.4*	*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.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

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

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

Our Locations

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

CHAIN OF CUSTODY RECORD

Terracon

Office Location: Lubbock

Project Manager: Paige Gaona

Sampler's Name: Aaron Adams

Project Number: AR207008

Project Name: DCP Plant to Lea Station 6" #2 (SRS # 2009-039)

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

Phone: (800) 767-5859
Contact:
PO/SO #:
Sampler's Signature

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				BTEX (EPA Method 8021B)	TPH 8015 Extended						Lab Sample ID
GW	02/20/20	1545		X	EFF-1 (20202020)			1				X	X						L1193055-01
					**********END OF COC**********														

J065

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:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date: 4/6/20	Time: 10:15
			W Taylor		

NOTES:

1. CJBRYANT@PAALP.COM
2. ALGROVES@PAALP.COM
3. PAIGE.GAONA@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 _____

Am b

Containers Received 1

RAD SCREEN: <0.5 mR/hr

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client:	L1193055	
Cooler Received/Opened On: 2 /26 / 20 Temperature:	Amb	
Received by: Willie Taylor 10:15		
Signature: Willie Taylor		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

April 10, 2020

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1205596
Samples Received:	04/02/2020
Project Number:	AR207008
Description:	DCP #2 (SRS # 2009-039)
Site:	SRS # 2009-039
Report To:	Paige Gaona 5827 50th St. Suite 1 Lubbock, TX 79424

Entire Report Reviewed By:

Chris McCord
Project Manager

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

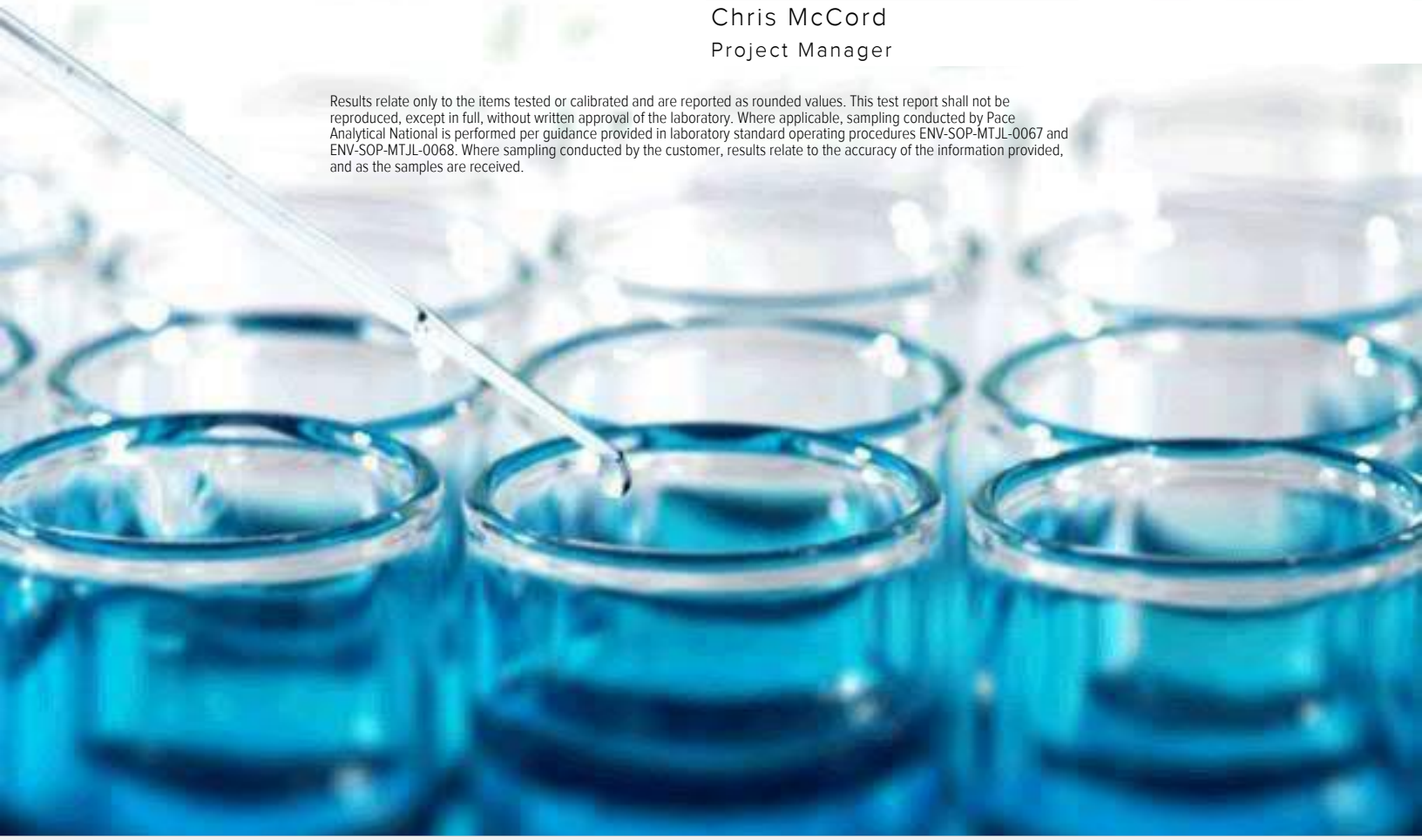

TABLE OF CONTENTS

SAMPLE SUMMARY

EF-1 (20200331) L1205596-01 Air

Collected by: Aaron Adams
Collected date/time: 03/31/20 13:35
Received date/time: 04/02/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1455611	2000	04/04/20 13:07	04/04/20 13:07	MBF	Mt. Juliet, TN

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

Chris McCord
Project Manager

Volatile Organic Compounds (MS) by Method M18-Mod

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	400	1280	5340	17100		2000	WG1455611
Toluene	108-88-3	92.10	400	1510	30200	114000		2000	WG1455611
Ethylbenzene	100-41-4	106	400	1730	4030	17500		2000	WG1455611
m&p-Xylene	1330-20-7	106	800	3470	10200	44200		2000	WG1455611
o-Xylene	95-47-6	106	400	1730	2580	11200		2000	WG1455611
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*90.6*				WG1455611

Method Blank (MB)

(MB) R3515742-3 04/04/20 11:12

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0460	0.200
Ethylbenzene	U		0.0506	0.200
Toluene	U		0.0499	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
(S) 1,4-Bromofluorobenzene	*93.2*			*60.0-140*

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

(LCS) R3515742-1 04/04/20 09:48 • (LCSD) R3515742-2 04/04/20 10:31

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	3.38	3.48	90.1	92.8	70.0-130			2.92	25
Toluene	3.75	3.42	3.42	91.2	91.2	70.0-130			0.000	25
Ethylbenzene	3.75	3.52	3.59	93.9	95.7	70.0-130			1.97	25
m&p-Xylene	7.50	7.20	7.34	96.0	97.9	70.0-130			1.93	25
o-Xylene	3.75	3.61	3.67	96.3	97.9	70.0-130			1.65	25
(S) 1,4-Bromofluorobenzene				*95.8*	*96.3*	*60.0-140*				

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State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

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

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

Our Locations

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CHAIN OF CUSTODY RECORD

Terracon

Office Location Lubbock

Project Manager: Paige Gaona

Sampler's Names: Aaron Adams

Laboratory: Xenco Laboratories
Address: 6701 Aberdeen Avenue, Suite 9
Lubbock, TX 79424

Phone: (806) 794-1296
Contact: 806-300-0140
PO/SO #:
Sampler's Signature

Project Number: AR207008

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 8021B)							Lab Sample ID
A	03/31/20	1335		X	EF-1 (20200331)			1				x							-01

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 1

1205596

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:
				4/1/20	8:30
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
				4/2/20	
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:

NOTES:

E-MAIL RESULTS TO:
CJBRYANT@PAALP.COM
ERIN.LOYD@TERRACON.COM
PAIGE.GAONA@TERRACON
ALGROVES@PAALP.COM

Matrix: WW-Wastewater W - Water S - Soil L - Liquid A - Air Bag C - Charcoal tube SL - Sludge

Container: VOA - 40 ml vial A/G - Amber Glass 1L 250 ml = Glass wide mouth P/O - Plastic or other _____

NCF

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: TERRACON	120559c	
Cooler Received/Opened On: 4 / 2 / 20 Temperature:	Amb	
Received By: Carol Kemp		
Signature: Carol Kemp		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	~		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

Kelsey Stephenson

Pace Analytical®
National Center for Testing & Innovation

Login #: 1205596	Client: TERRLTX	Date: 4/2/20	Evaluated by: Troy Dunlap

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time		Login Clarification Needed		**If Broken Container:**
	Temperature not in range		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type		Please specify Metals requested.		Insufficient packing material inside cooler
	pH not in range.		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Courie
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
	Broken container		Client did not "X" analysis.		Received by:
	Broken container:	X	Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH: Amb / 2 Tedlars
					Carrier: FedEx
					Tracking# 3914 8609 1107

Login Comments: COC is missing. EFF-1 DCP #2 and EFF-1 DCP Sec 31.

Client informed by:		Call	x	Email		Voice Mail		Date: 4/2/20	Time: 16:24
TSR Initials: CM	Client Contact: Paige Goana								

Login Instructions:

COCs attached.

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

May 05, 2020

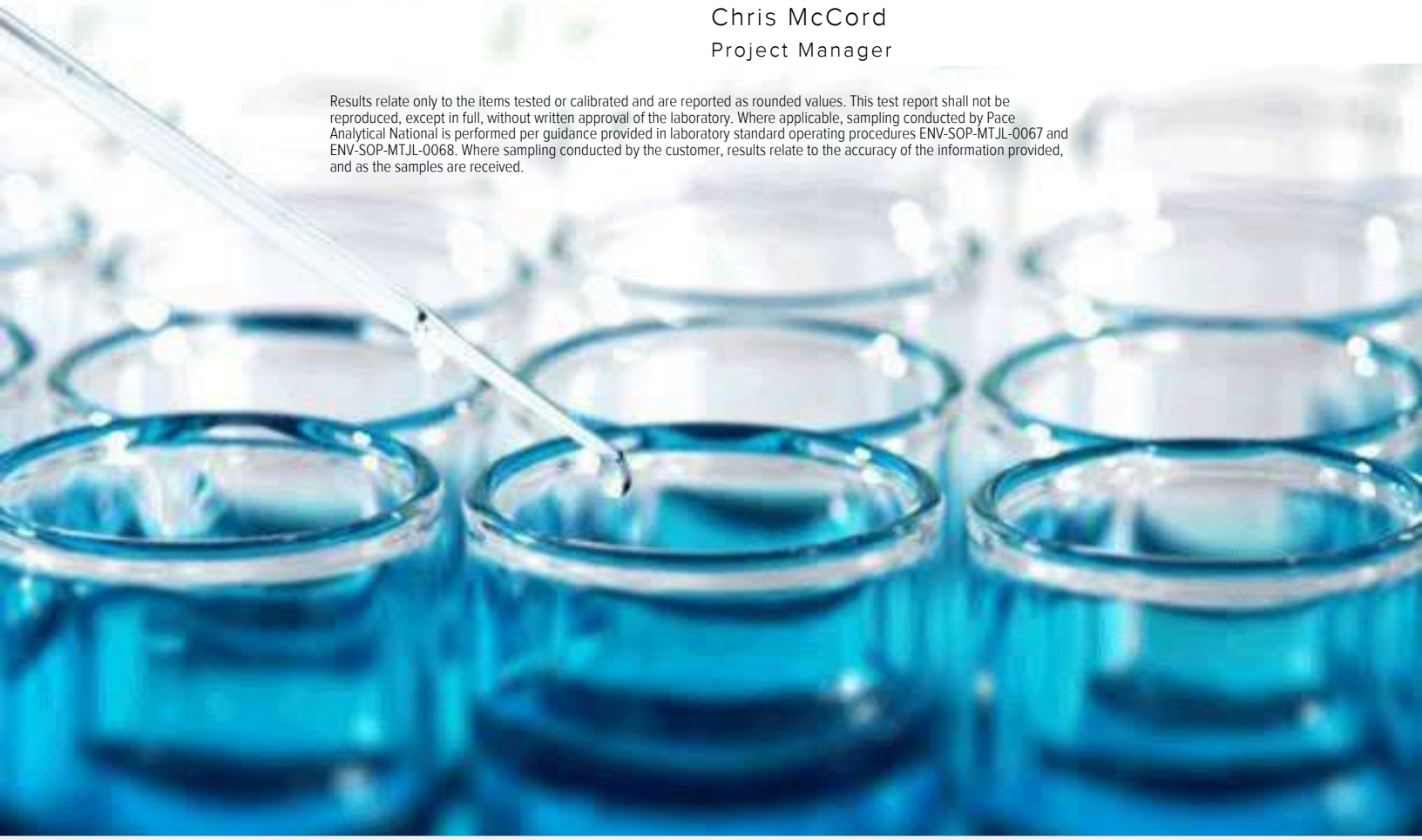
Plains All American Pipeline - Terracon

Sample Delivery Group:	L1214004
Samples Received:	05/01/2020
Project Number:	AR207008
Description:	DCP #2 (SRS # 2009-039)
Site:	SRS # 2009-039
Report To:	Paige Gaona 5827 50th St. Suite 1 Lubbock, TX 79424

Entire Report Reviewed By:

Chris McCord
Project Manager

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



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SAMPLE SUMMARY

EF-1 (20200430) L1214004-01 Air

			Collected by	Collected date/time	Received date/time
			Aaron Adams	04/30/20 12:30	05/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1469209	2000	05/02/20 00:54	05/02/20 00:54	MBF	Mt. Juliet, TN

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

Chris McCord
Project Manager

Volatile Organic Compounds (MS) by Method M18-Mod

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	400	1280	19900	63600		2000	WG1469209
Toluene	108-88-3	92.10	400	1510	120000	452000		2000	WG1469209
Ethylbenzene	100-41-4	106	400	1730	18800	81500		2000	WG1469209
m&p-Xylene	1330-20-7	106	800	3470	42400	184000		2000	WG1469209
o-Xylene	95-47-6	106	400	1730	11300	49000		2000	WG1469209
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1469209
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	5020000	20700000		2000	WG1469209
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*87.8*				WG1469209

Method Blank (MB)

(MB) R3524215-3 05/01/20 07:25

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	0.200
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	*93.1*			*60.0-140*

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

(LCS) R3524215-1 05/01/20 06:10 • (LCSD) R3524215-2 05/01/20 06:48

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	3.48	3.62	92.8	96.5	70.0-130			3.94	25
Benzene	3.75	3.34	3.51	89.1	93.6	70.0-130			4.96	25
Toluene	3.75	3.38	3.56	90.1	94.9	70.0-130			5.19	25
Ethylbenzene	3.75	3.34	3.57	89.1	95.2	70.0-130			6.66	25
m&p-Xylene	7.50	6.69	7.15	89.2	95.3	70.0-130			6.65	25
o-Xylene	3.75	3.31	3.55	88.3	94.7	70.0-130			7.00	25
TPH (GC/MS) Low Fraction	203	196	210	96.6	103	70.0-130			6.90	25
(S) 1,4-Bromofluorobenzene				*93.8*	*96.8*	*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.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

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

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

Our Locations

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

G118

CHAIN OF CUSTODY RECORD

Terracon

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

Phone: (800) 767-5859
Contact: 806-300-0140
PO/SO #:

Office Location Lubbock

Project Manager: Paige Gaona

Sampler's Names: Aaron Adams

Sampler's Signature

Project Number: AR207008

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 8021B)	TPH 8015 Extended						Lab Sample ID
A	04/30/20	1230		X	EF-1 (20200430)			1				x	x						L1214004-01

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:
	4-30-2020	4:45pm		5/1/20	8:45

NOTES:

E-MAIL RESULTS TO:
CJBRYANT@PAALP.COM
ERIN.LOYD@TERRACON.COM
PAIGE.GAONA@TERRACON
ALGROVES@PAALP.COM

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

AMB

RAD SCREEN: <0.5 mR/hr

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: TGRRLTX		L1214004
Cooler Received/Opened On: 5 / 1 / 20	Temperature:	Amb
Received By: Carol Kemp		
Signature: Carol Kemp		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?			
COC Signed / Accurate?			
Bottles arrive intact?			
Correct bottles used?			
Sufficient volume sent?			
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

June 02, 2020

Terracon - Lubbock, TX

Sample Delivery Group:	L1223108
Samples Received:	05/29/2020
Project Number:	AR207008
Description:	DCP #2

Report To: Paige Gaona
5847 50th St.
Lubbock, TX 79424

Entire Report Reviewed By:

Jason Romer
Project Manager

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SAMPLE SUMMARY

EF-1 (20200528) L1223108-01 Air

			Collected by	Collected date/time	Received date/time
			Paige Gaona	05/28/20 12:00	05/29/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1484085	2000	05/29/20 15:15	05/29/20 15:15	CAW	Mt. Juliet, TN

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

Jason Romer
Project Manager

Sample Delivery Group (SDG) Narrative

Analysis was performed from an improper container.

Lab Sample ID	Project Sample ID	Method
L1223108-01	EF-1 (20200528)	TO-15

Laboratory Data Package Cover Page

This data package consists of this signature page, the laboratory review checklist, and the following reportable data as applicable:

R1 - Field chain-of-custody documentation;

R2 - Sample identification cross-reference;

R3 - Test reports (analytical data sheets) for each environmental sample that includes:

a. Items consistent with NELAC Chapter 5,

b. dilution factors,

c. preparation methods,

d. cleanup methods, and

e. if required for the project, tentatively identified compounds (TICs).

R4 - Surrogate recovery data including:

a. Calculated recovery (%R), and

b. The laboratory's surrogate QC limits.

R5 - Test reports/summary forms for blank samples;

R6 - Test reports/summary forms for laboratory control samples (LCSs) including:

a. LCS spiking amounts,

b. Calculated %R for each analyte, and

c. The laboratory's LCS QC limits.

R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a. Samples associated with the MS/MSD clearly identified,

b. MS/MSD spiking amounts,

c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,

d. Calculated %Rs and relative percent differences (RPDs), and

e. The laboratory's MS/MSD QC limits

R8 - Laboratory analytical duplicate (if applicable) recovery and precision:

a. The amount of analyte measured in the duplicate,

b. The calculated RPD, and

c. The laboratory's QC limits for analytical duplicates.

R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 - Other problems or anomalies.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Jason Romer
Project Manager

Laboratory Review Checklist: Reportable Data

ONE LAB. NATIONWIDE.

Laboratory Name: Pace Analytical National	LRC Date: 06/02/2020 11:35
Project Name: DCP #2	Laboratory Job Number: L1223108-01
Reviewer Name: Jason Romer	Prep Batch Number(s): WG1484085

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X			1
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?			X		
		Were MS/MSD analyzed at the appropriate frequency?			X		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
		Were MS/MSD RPDs within laboratory QC limits?			X		
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Supporting Data

Laboratory Name: Pace Analytical National	LRC Date: 06/02/2020 11:35
Project Name: DCP #2	Laboratory Job Number: L1223108-01
Reviewer Name: Jason Romer	Prep Batch Number(s): WG1484085

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?			X		
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports

Laboratory Name: Pace Analytical National	LRC Date: 06/02/2020 11:35
Project Name: DCP #2	Laboratory Job Number: L1223108-01
Reviewer Name: Jason Romer	Prep Batch Number(s): WG1484085

ER #[1]	Description
1	TO-15 WG1484085 L1223108-01: Analysis was performed from an improper container.

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
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5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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	1620	5170		2000	WG1484085
Ethylbenzene	100-41-4	106	400	1730	1150	4990		2000	WG1484085
Toluene	108-88-3	92.10	400	1510	11500	43300		2000	WG1484085
m&p-Xylene	1330-20-7	106	800	3470	17300	75000		2000	WG1484085
o-Xylene	95-47-6	106	400	1730	4750	20600		2000	WG1484085
Xylenes, Total	1330-20-7	106.16	1200	5210	22100	96000		2000	WG1484085
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	1210000	5000000		2000	WG1484085
TPH-GRO (C5-C10)	8006-61-9	101	400000	1650000	1480000	6110000		2000	WG1484085
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*95.2*				WG1484085

Method Blank (MB)

(MB) R3532980-3 05/29/20 07:34

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	0.200
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
Xylenes, Total	U		0.135	0.600
TPH-GRO (C5-C10)	U		39.7	200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*94.0*			*60.0-140*

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

(LCS) R3532980-1 05/29/20 06:06 • (LCSD) R3532980-2 05/29/20 06:50

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	4.05	4.03	108	107	70.0-130			0.495	25
Toluene	3.75	4.01	4.00	107	107	70.0-130			0.250	25
Ethylbenzene	3.75	4.03	4.01	107	107	70.0-130			0.498	25
m&p-Xylene	7.50	8.01	8.04	107	107	70.0-130			0.374	25
o-Xylene	3.75	3.90	3.89	104	104	70.0-130			0.257	25
Xylenes, Total	11.3	11.9	11.9	105	105	70.0-130			0.000	25
TPH (GC/MS) Low Fraction	203	212	212	104	104	70.0-130			0.000	25
TPH-GRO (C5-C10)	293	299	300	102	102	70.0-130			0.334	25
(S) 1,4-Bromofluorobenzene				*97.2*	*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.
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 Tr
6 Sr
7 Qc
8 Gl
9 Al
10 Sc

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

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

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

Our Locations

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

ACCOUNT:	PROJECT:	SDG:	DATE/TIME:	PAGE:
Terracon - Lubbock, TX	AR207008	L1223108	06/02/20 11:35	12 of 17

CHAIN OF CUSTODY RECORD

Terracon

Office Location: Lubbock

Project Manager: Paige Gaona

Sampler's Names: Paige Gaona

Laboratory: Xenco Laboratories
Address: 6701 Aberdeen Avenue, Suite 9, Lubbock, TX 79424
Phone: (806) 794-1296
Contact: 806-300-0140
PO/SO #:
Sampler's Signature

ANALYSIS REQUESTED

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

Page 1 of 1

D135

Project Number: AR207008

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 8021B)	TPH 8015 extended						Lab Sample ID
A	05/28/20	1200		X	EF-1 (20200528)			1				x	x						1223108-01

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:
	5/28/20	345			
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: 5/29/20	Time: 0900

NOTES:

E-MAIL RESULTS TO:
CJBRYANT@PAALP.COM
ERIN.LOYD@TERRACON.COM
PAIGE.GAONA@TERRACON
ALGROVES@PAALP.COM

Matrix: WW-Wastewater; W - Water; S - Soil; L - Liquid; A - Air Bag; C - Charcoal tube; SL - Sludge

Container: VOA - 40 ml vial; A/G - Amber Glass 1L; 250 ml = Glass wide mouth; P/O - Plastic or other _____

AMB
RAD SCREEN: <0.5 mR/hr

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client:	Tetra Tech	122308
Cooler Received/Opened On: 5 / 29 / 20	Temperature:	AR
Received By: joey brent		
Signature:		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?		/	
COC Signed / Accurate?		/	
Bottles arrive intact?		/	
Correct bottles used?		/	
Sufficient volume sent?		/	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

Method: TO-15 Instrument: AIRMS5
Laboratory: Pace Analytical - National Matrix: air
Date: 19-Feb-20

DCS Full List Study

Analyte	Result (ppbv)	Conc/TV	% Rec	MDL (ppbv)
1,1,1-Trichloroethane	0.1774321	0.19	93%	0.0665
1,1,2,2-Tetrachloroethane	0.1829994	0.19	96%	0.0576
1,1,2-Trichloroethane	0.1846284	0.19	97%	0.0287
1,1,2-Trichlorotrifluoroethane	0.194383	0.19	102%	0.0687
1,1-Dichloroethane	0.1864587	0.19	98%	0.0514
1,1-Dichloroethene	0.1585912	0.19	83%	0.049
1,1-DIFLUOROETHANE	0.232045	0.19	122%	0.0325
1,2,3-TRIMETHYLBENZENE	0.182866	0.19	96%	0.0325
1,2,4-Trichlorobenzene	0.1713116	0.19	90%	0.148
1,2,4-Trimethylbenzene	0.1744547	0.19	92%	0.0483
1,2-Dibromoethane	0.1603244	0.19	84%	0.0185
1,2-Dichlorobenzene	0.2020523	0.19	106%	0.0603
1,2-Dichloroethane	0.1806403	0.19	95%	0.0616
1,2-Dichloropropane	0.1772389	0.19	93%	0.0599
1,2-Dichlorotetrafluoroethane	0.1706286	0.19	90%	0.0458
1,3,5-Trimethylbenzene	0.1704482	0.19	90%	0.0631
1,3-Butadiene	0.2116338	0.19	111%	0.0563
1,3-Dichlorobenzene	0.153701	0.19	81%	0.0597
1,4-Dichlorobenzene	0.1495967	0.19	79%	0.0557
1,4-Dioxane	0.2635595	0.19	139%	0.0554
2,2,4-Trimethylpentane	0.196511	0.19	103%	0.0456
2-Butanone (MEK)	0.2116884	0.19	111%	0.0493
2-Chlorotoluene	0.1781749	0.19	94%	0.0605
2-Propanol	0.1978158	0.19	104%	0.0882
4-Ethyltoluene	0.1493678	0.19	79%	0.0666
4-Methyl-2-Pentanone (MIBK)	0.2026842	0.19	107%	0.065
Acetone	0.3543713	0.31	114%	0.0569
ACETONITRILE	1.0195043	0.95	107%	0.235
ACROLEIN	0.547786	0.63	87%	0.463
ACRYLONITRILE	0.2250914	0.19	118%	0.226
Allyl Chloride	0.2102532	0.19	111%	0.0546
Benzene	0.1838874	0.19	97%	0.046
Benzyl Chloride	0.1536139	0.19	81%	0.0598
Bromodichloromethane	0.1736225	0.19	91%	0.0436
BROMOETHANE	0.2059552	0.19	108%	0.216
Bromoform	0.1737244	0.19	91%	0.0786
Bromomethane	0.2708657	0.19	143%	0.0609

BUTANE	0.2084738	0.19	110%	0.0522
Carbon Disulfide	0.1960115	0.19	103%	0.0544
Carbon Tetrachloride	0.1820535	0.19	96%	0.0585
Chlorobenzene	0.1963707	0.19	103%	0.0601
Chlorodibromomethane	0.1606392	0.19	85%	0.0494
CHLORODIFLUOROMETHANE	0.2124994	0.19	112%	0.0325
Chloroethane	0.2457064	0.19	129%	0.0489
Chloroform	0.1905529	0.19	100%	0.0574
Chloromethane	0.3293977	0.19	173%	0.0544
cis-1,2-Dichloroethene	0.2042601	0.19	108%	0.0389
cis-1,3-Dichloropropene	0.1966453	0.19	103%	0.0588
Cyclohexane	0.1653806	0.19	87%	0.0534
Dichlorodifluoromethane	0.160785	0.19	85%	0.0601
Ethanol	0.4269142	0.31	138%	0.0832
ETHYL ACETATE	0.1889729	0.19	99%	0.0325
Ethylbenzene	0.1869033	0.19	98%	0.0506
Heptane	0.1675852	0.19	88%	0.0626
Hexachloro-1,3-Butadiene	0.1911814	0.19	101%	0.0656
Isopropylbenzene	0.1738152	0.19	91%	0.0563
M&P-Xylene	0.3676241	0.38	97%	0.0946
Methyl Butyl Ketone	0.1731268	0.19	91%	0.0682
METHYL CYCLOHEXANE	0.1596825	0.19	84%	0.0325
Methyl Methacrylate	0.1834985	0.19	97%	0.0773
Methyl Tert-Butyl Ether	0.235084	0.19	124%	0.0505
Methylene Chloride	0.2090965	0.19	110%	0.0465
Naphthalene	0.1880317	0.19	99%	0.154
n-Butylbenzene	0.1689805	0.19	89%	0.0531
n-Hexane	0.1617532	0.19	85%	0.0457
NONANE	0.1652734	0.19	87%	0.0363
n-Propylbenzene	0.166379	0.19	88%	0.0789
O-Xylene	0.1915443	0.19	101%	0.0633
PENTANE	0.2812409	0.19	148%	0.0503
Propene	0.2134797	0.31	69%	0.0932
sec-Butylbenzene	0.1779381	0.19	94%	0.0789
Styrene	0.1656425	0.19	87%	0.0465
TERT-AMYL ETHYL ETHER	0.2577867	0.19	136%	0.0325
TERT-BUTYL ALCOHOL	0.2089331	0.19	110%	0.0581
Tert-Butylbenzene	0.1777468	0.19	94%	0.0789
Tetrachloroethene	0.1930238	0.19	102%	0.0497
Tetrahydrofuran	0.2179606	0.19	115%	0.0508
Toluene	0.1729867	0.19	91%	0.0499
TPH (GC/MS) Low Fraction	17.4491794	16.74	104%	6.91
Trans-1,2-Dichloroethene	0.17094	0.19	90%	0.0464
trans-1,3-Dichloropropene	0.1927766	0.19	101%	0.0435
Trichloroethene	0.2030736	0.19	107%	0.0545

Trichlorofluoromethane	0.1797262	0.19	95%	0.0673
Vinyl Acetate	0.2305951	0.19	121%	0.0639
Vinyl Bromide	0.1990514	0.19	105%	0.0727
Vinyl Chloride	0.2582345	0.19	136%	0.0457

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

July 06, 2020

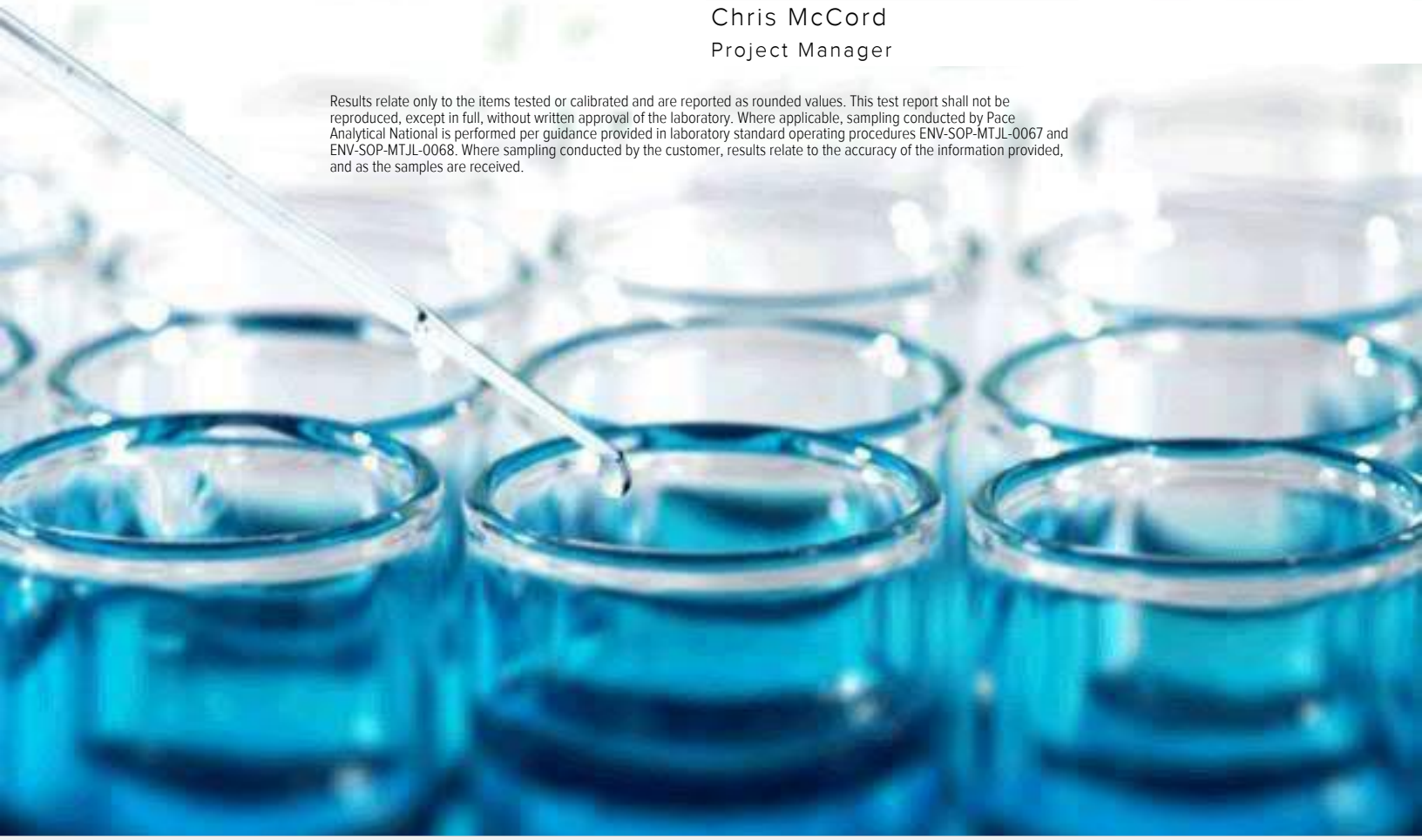
Plains All American Pipeline - Terracon

Sample Delivery Group:	L1234655
Samples Received:	06/30/2020
Project Number:	AR207008
Description:	DCP PLant to Lea Station 6" #2 (SRS # 2009-039)
Site:	SRS# 2009-039
Report To:	Paige Gaona 5827 50th St. Suite 1 Lubbock, TX 79424

Entire Report Reviewed By:

Chris McCord
Project Manager

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



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SAMPLE SUMMARY

EFF-1 (06292020) L1234655-01 Air

Collected by	Collected date/time	Received date/time
Aaron Adams	06/29/20 13:22	06/30/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1502376	4000	07/01/20 22:20	07/01/20 22:20	CAW	Mt. Juliet, TN

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

Chris McCord
Project Manager

Volatile Organic Compounds (MS) by Method M18-Mod

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	800	2560	10200	32600		4000	WG1502376
Toluene	108-88-3	92.10	800	3010	68400	258000		4000	WG1502376
Ethylbenzene	100-41-4	106	800	3470	9320	40400		4000	WG1502376
m&p-Xylene	1330-20-7	106	1600	6940	22700	98400		4000	WG1502376
o-Xylene	95-47-6	106	800	3470	6070	26300		4000	WG1502376
Methyl tert-butyl ether	1634-04-4	88.10	800	2880	ND	ND		4000	WG1502376
TPH (GC/MS) Low Fraction	8006-61-9	101	800000	3300000	2180000	9010000		4000	WG1502376
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.4*				WG1502376

Method Blank (MB)

(MB) R3545265-3 07/01/20 10:08

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	0.200
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	*85.6*			*60.0-140*

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

(LCS) R3545265-1 07/01/20 08:40 • (LCSD) R3545265-2 07/01/20 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 %
MTBE	3.75	4.38	4.42	117	118	70.0-130			0.909	25
Benzene	3.75	4.50	4.53	120	121	70.0-130			0.664	25
Toluene	3.75	4.54	4.45	121	119	70.0-130			2.00	25
Ethylbenzene	3.75	4.50	4.54	120	121	70.0-130			0.885	25
m&p-Xylene	7.50	9.11	9.17	121	122	70.0-130			0.656	25
o-Xylene	3.75	4.42	4.45	118	119	70.0-130			0.676	25
TPH (GC/MS) Low Fraction	203	238	241	117	119	70.0-130			1.25	25
(S) 1,4-Bromofluorobenzene				*97.0*	*97.6*	*60.0-140*				

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Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
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Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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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
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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.
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Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
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ACCOUNT:	PROJECT:	SDG:	DATE/TIME:	PAGE:
Plains All American Pipeline - Terracon	AR207008	L1234655	07/06/20 17:52	8 of 13

B105

CHAIN OF CUSTODY RECORD

Terracon

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

Office Location: Lubbock
Project Manager: Paige Gaona
Sampler's Name: Aaron Adams
Sampler's Signature:

Project Number: AR207008
Project Name: DCP Plant to Lea Station 6" #2 (SRS # 2009-039)

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C)
Page 1 of 1
L1234655

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: Tedlar				BTEX (EPA Method 8021B)	TPH 8015 Extended						Lab Sample ID
A	06/29/20	1322		X	EFF-1 (06292020)			1				X	X						-01
					**********END OF COC**********														

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

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
	6-29-2020	5:00pm			
				6/30/20	8:45

NOTES:
1. CJBRYANT@PAALP.COM
2. ALGROVES@PAALP.COM
3. PAIGE.GAONA@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 _____

Cont=1

OK

AMB

RAD SCREEN: <0.5 mR/hr

Feder#: 3943 4237 4213

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: TERRLTX	L1234655	
Cooler Received/Opened On: 6 /30 / 20 Temperature:		
Received By: Monica Rifenberrick		
Signature:		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

Method: TO-15 Instrument: AIRMS1

Laboratory: Pace Analytical - National Matrix: AIR

Date: 14-May-20

DCS TO-15 Study

Analyte	Result (ppbv)	Conc/TV	% Rec	MDL (ppbv)
1,1,1-Trichloroethane	0.1708	0.19	90%	0.0736
1,1,2,2-Tetrachloroethane	0.1715	0.19	90%	0.0743
1,1,2-Trichloroethane	0.1604	0.19	84%	0.0775
1,1,2-Trichlorotrifluoroethane	0.179	0.19	94%	0.0793
1,1-Dichloroethane	0.1628	0.19	86%	0.0723
1,1-Dichloroethene	0.1593	0.19	84%	0.0762
1,1-DIFLUOROETHANE	0.1862	0.19	98%	0.129
1,2,3-TRIMETHYLBENZENE	0.1493	0.19	79%	0.0805
1,2,4-Trichlorobenzene	0.1665	0.19	88%	0.148
1,2,4-Trimethylbenzene	0.1406	0.19	74%	0.0764
1,2-DIBROMO-3-CHLOROPROPANE	0.166	0.19	87%	
1,2-Dibromoethane	0.1616	0.19	85%	0.0721
1,2-Dichlorobenzene	0.178	0.19	94%	0.128
1,2-Dichloroethane	0.166	0.19	87%	0.07
1,2-Dichloropropane	0.1684	0.19	89%	0.076
1,2-Dichlorotetrafluoroethane	0.1696	0.19	89%	0.089
1,3,5-Trimethylbenzene	0.1468	0.19	77%	0.0779
1,3-Butadiene	0.1887	0.19	99%	0.104
1,3-Dichlorobenzene	0.165	0.19	87%	0.182
1,4-Dichlorobenzene	0.1608	0.19	85%	0.0557
1,4-Dioxane	0.1809	0.19	95%	0.0833
2,2,4-Trimethylpentane	0.1622	0.19	85%	0.133
2-Butanone (MEK)	0.1757	0.19	92%	0.0814
2-Chlorotoluene	0.1584	0.19	83%	0.0828
2-Propanol	0.1684	0.19	89%	0.264
4-Ethyltoluene	0.1496	0.19	79%	0.0783
4-Methyl-2-Pentanone (MIBK)	0.1511	0.19	80%	0.0765
Acetone	0.1999	0.19	105%	0.584
ACETONITRILE	0.7827	0.95	82%	
ACROLEIN	0.1736	0.19	91%	
ACRYLONITRILE	0.1701	0.19	90%	
Allyl Chloride	0.1632	0.19	86%	0.114
Benzene	0.1726	0.19	91%	0.0715
Benzyl Chloride	0.1521	0.19	80%	0.0598
Bromodichloromethane	0.1679	0.19	88%	0.0702
BROMOETHANE	0.1754	0.19	92%	
Bromoform	0.1553	0.19	82%	0.0732

Bromomethane	0.1857	0.19	98%	0.0982
BUTANE	0.1893	0.19	100%	
Carbon Disulfide	0.1735	0.19	91%	0.102
Carbon Tetrachloride	0.1749	0.19	92%	0.0732
Chlorobenzene	0.1676	0.19	88%	0.0832
Chlorodibromomethane	0.1587	0.19	84%	0.0727
CHLORODIFLUOROMETHANE	0.1678	0.19	88%	0.131
Chloroethane	0.1884	0.19	99%	0.0996
Chloroform	0.1673	0.19	88%	0.0717
Chloromethane	0.1794	0.19	94%	0.103
CHLOROPENTAFLUOROETHANE	0.2118	0.19	111%	
cis-1,2-Dichloroethene	0.169	0.19	89%	0.0784
Cyclohexane	0.1627	0.19	86%	0.0753
Dichlorodifluoromethane	0.1678	0.19	88%	0.137
DI-ISOPROPYL ETHER	0.161	0.19	85%	
Ethanol	0.2244	0.19	118%	0.265
ETHYL ACETATE	0.1744	0.19	92%	0.1
ETHYL TERT-BUTYL ETHER	0.1551	0.19	82%	
Ethylbenzene	0.1654	0.19	87%	0.0835
Heptane	0.1451	0.19	76%	0.104
Hexachloro-1,3-Butadiene	0.1755	0.19	92%	0.105
ISOPENTANE	0.2017	0.19	106%	
Isopropylbenzene	0.1472	0.19	77%	0.0777
M&P-Xylene	0.3051	0.38	80%	0.135
METHYL ACETATE	0.1757	0.19	92%	
Methyl Butyl Ketone	0.1465	0.19	77%	0.133
METHYL CYCLOHEXANE	0.1409	0.19	74%	0.0813
Methyl Methacrylate	0.1547	0.19	81%	0.0876
Methyl Tert-Butyl Ether	0.1701	0.19	90%	0.0647
Methylene Chloride	0.1919	0.19	101%	0.0979
Naphthalene	0.1576	0.19	83%	0.35
n-Butylbenzene	0.1537	0.19	81%	0.0817
n-DECANE	0.1511	0.19	80%	
n-Hexane	0.16	0.19	84%	0.206
n-OCTANE	0.1577	0.19	83%	
NONANE	0.1632	0.19	86%	
n-Propylbenzene	0.1629	0.19	86%	0.0773
O-Xylene	0.1527	0.19	80%	0.0828
PENTANE	0.1906	0.19	100%	
P-ISOPROPYLTOLUENE	0.1458	0.19	77%	
Propene	0.2241	0.19	118%	0.0932
sec-Butylbenzene	0.1553	0.19	82%	0.0775
Styrene	0.1359	0.19	72%	0.0788
TERT-AMYL ETHYL ETHER	0.1586	0.19	83%	0.0778
TERT-AMYL METHYL ETHER	0.1602	0.19	84%	

TERT-BUTYL ALCOHOL	0.1597	0.19	84%	0.0581
tert-Butylbenzene	0.1489	0.19	78%	0.0738
Tetrachloroethene	0.1718	0.19	90%	0.0814
Tetrahydrofuran	0.1718	0.19	90%	0.0734
Toluene	0.1607	0.19	85%	0.087
TPH (GC/MS) Low Fraction	54.361	68.75	79%	39.7
Trans-1,2-Dichloroethene	0.1684	0.19	89%	0.0673
trans-1,3-Dichloropropene	0.1497	0.19	79%	0.0728
Trichloroethene	0.1656	0.19	87%	0.068
Trichlorofluoromethane	0.1703	0.19	90%	0.0819
Vinyl Acetate	0.1563	0.19	82%	0.116
Vinyl Bromide	0.1772	0.19	93%	0.0852
Vinyl Chloride	0.1701	0.19	90%	0.0949

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

August 03, 2020

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1244723
Samples Received:	07/30/2020
Project Number:	AR207008
Description:	DCP #2 (SRS # 2009-039)
Site:	SRS # 2009-039
Report To:	Paige Gaona
	5847 50th St.
	Suite 1
	Lubbock, TX 79424

Entire Report Reviewed By:

Chris McCord
Project Manager

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

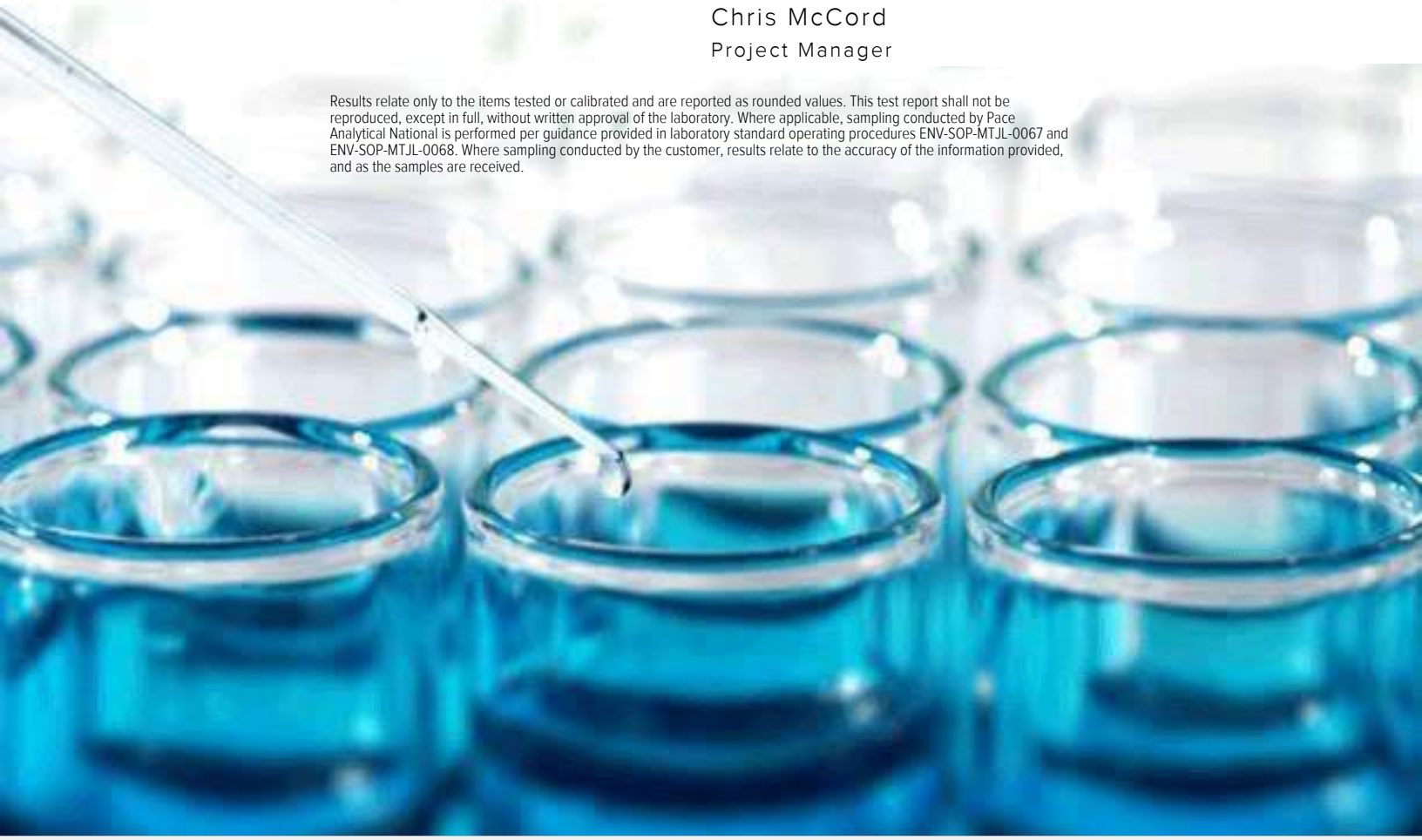

TABLE OF CONTENTS

SAMPLE SUMMARY

EF-1 (07292020) L1244723-01 Air

			Collected by	Collected date/time	Received date/time
			Aaron Adams	07/29/20 12:27	07/30/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1517727	2000	07/30/20 18:29	07/30/20 18:29	CAW	Mt. Juliet, TN

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

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	4660	14900		2000	WG1517727
Toluene	108-88-3	92.10	400	1510	35400	133000		2000	WG1517727
Ethylbenzene	100-41-4	106	400	1730	4970	21500		2000	WG1517727
m&p-Xylene	1330-20-7	106	800	3470	11500	49900		2000	WG1517727
o-Xylene	95-47-6	106	400	1730	3020	13100		2000	WG1517727
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1517727
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	1060000	4380000		2000	WG1517727
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*91.0*				WG1517727

Method Blank (MB)

(MB) R3555023-3 07/30/20 10:35

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	0.200
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	*90.2*			*60.0-140*

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

(LCS) R3555023-1 07/30/20 09:18 • (LCSD) R3555023-2 07/30/20 09:57

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	3.78	3.71	101	98.9	70.0-130			1.87	25
Benzene	3.75	3.78	3.82	101	102	70.0-130			1.05	25
Toluene	3.75	3.79	3.84	101	102	70.0-130			1.31	25
Ethylbenzene	3.75	3.90	3.84	104	102	70.0-130			1.55	25
m&p-Xylene	7.50	7.83	7.80	104	104	70.0-130			0.384	25
o-Xylene	3.75	3.87	3.81	103	102	70.0-130			1.56	25
TPH (GC/MS) Low Fraction	203	214	212	105	104	70.0-130			0.939	25
(S) 1,4-Bromofluorobenzene				*98.3*	*98.2*	*60.0-140*				

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
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Qualifier	Description
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Alaska	17-026	Nevada	TN-03-2002-34
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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]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

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

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

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CHAIN OF CUSTODY RECORD

Terracon

Office Location: Lubbock

Project Manager: Paige Gaona

Sampler's Names: Aaron Adams

Laboratory: Xenco Laboratories
Address: 6701 Aberdeen Avenue, Suite 9
Lubbock, TX 79424

Phone: (806) 794-1296
Contact: 806-300-0140
PO/SO #:

Sampler's Signature:

Project Number: AR207008

Project Name: DCP #2

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers				BTEX (EPA Method 8021B)	TPH 8015 Extended						Lab Sample ID
A	07/29/20	1227		X	EF-1 (07292020)			1				x	x						124723-01

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 1

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:
	7-29-2020	5:15pm			
				7/30	9:00

NOTES:

E-MAIL RESULTS TO:
CJBRYANT@PAALP.COM
ERIN.LOYD@TERRACON.COM
PAIGE.GAONA@TERRACON
ALGROVES@PAALP.COM

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

C142

3952 9552 1407

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client:	Terra Tech	124723
Cooler Received/Opened On: 7/30/20	Temperature:	A/M6
Received By: LUCAS GREEN		
Signature:		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

September 30, 2020

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1267313
Samples Received:	09/29/2020
Project Number:	AR187003
Description:	DCP #2 (SRS# 2009-039)
Site:	SRS# 2009-039
Report To:	Brett Dennis
	5827 50th St.
	Suite 1
	Lubbock, TX 79424

Entire Report Reviewed By:

Chris McCord
Project Manager

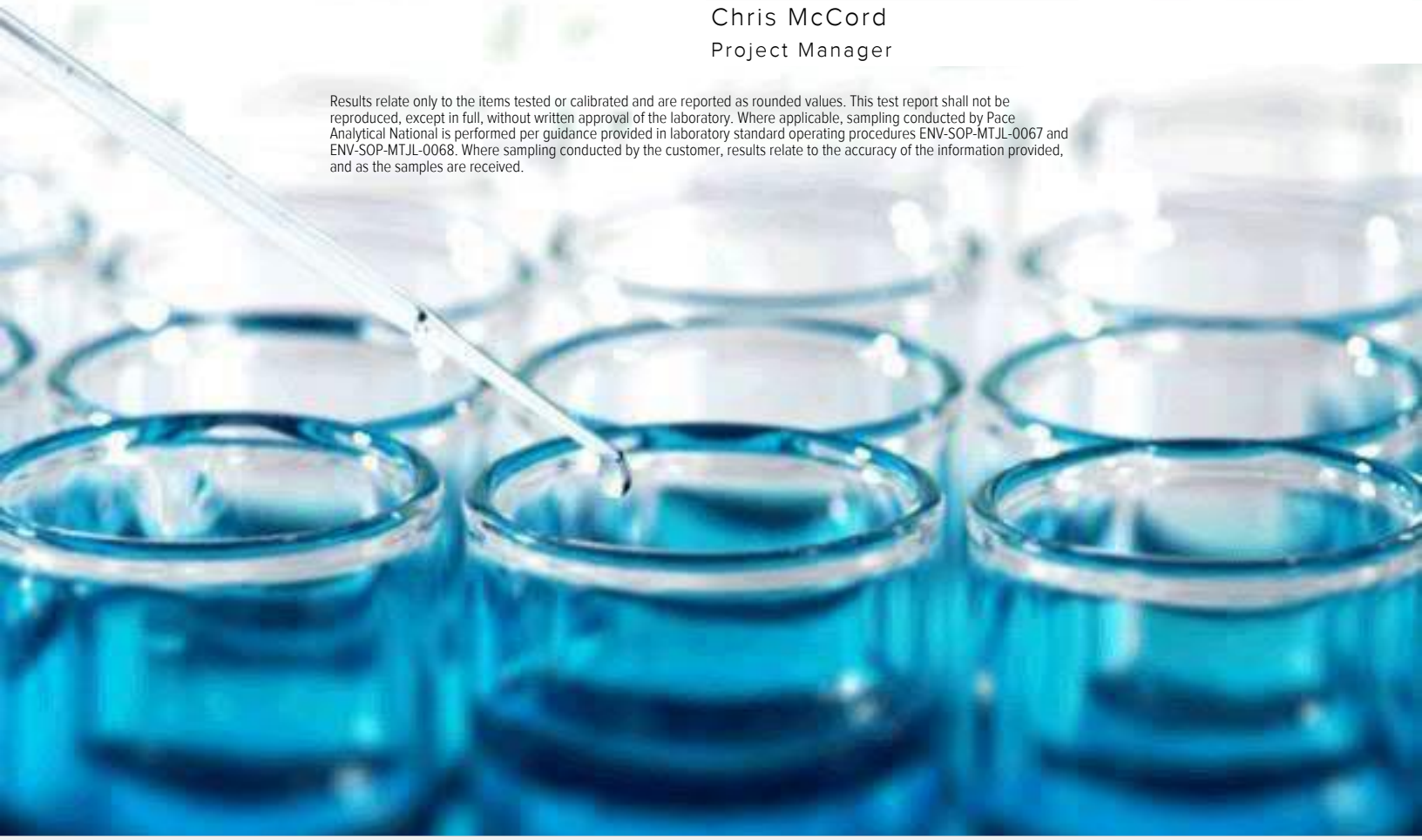

TABLE OF CONTENTS

SAMPLE SUMMARY

EFF-1 (09282020) L1267313-01 Air

Collected by	Collected date/time	Received date/time
Aaron Adams	09/28/20 12:52	09/29/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1551095	1000	09/30/20 07:44	09/30/20 07:44	MBF	Mt. Juliet, TN

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

Chris McCord
Project Manager

Volatile Organic Compounds (MS) by Method M18-Mod

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Benzene	71-43-2	78.10	200	639	2560	8180		1000	WG1551095
Toluene	108-88-3	92.10	200	753	18700	70400		1000	WG1551095
Ethylbenzene	100-41-4	106	200	867	2960	12800		1000	WG1551095
m&p-Xylene	1330-20-7	106	400	1730	7110	30800		1000	WG1551095
o-Xylene	95-47-6	106	200	867	1970	8540		1000	WG1551095
TPH (GC/MS) Low Fraction	8006-61-9	101	200000	826000	662000	2730000		1000	WG1551095
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*95.1*				WG1551095

Method Blank (MB)

(MB) R3575991-3 09/29/20 20:03

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	0.200
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	*97.4*			*60.0-140*

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

(LCS) R3575991-1 09/29/20 18:48 • (LCSD) R3575991-2 09/29/20 19:26

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	3.72	3.70	99.2	98.7	70.0-130			0.539	25
Toluene	3.75	3.73	3.70	99.5	98.7	70.0-130			0.808	25
Ethylbenzene	3.75	3.76	3.72	100	99.2	70.0-130			1.07	25
m&p-Xylene	7.50	7.72	7.59	103	101	70.0-130			1.70	25
o-Xylene	3.75	3.86	3.80	103	101	70.0-130			1.57	25
TPH (GC/MS) Low Fraction	203	209	216	103	106	70.0-130			3.29	25
(S) 1,4-Bromofluorobenzene				*100*	*99.6*	*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.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

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

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

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

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

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

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

Our Locations

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

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 (°C)

Page 1 of 1

E113

Project Number: AR187003
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 8015 extended						Lab Sample ID
A	9/28/2020	12:52		X	EFF-1 (09282020)			X				X	X						1267313 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:
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:
				9-24	9:10

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 _____

3472 88189620

Amb

RAD SCREEN: <0.5 mR/hr

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

November 05, 2020

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1279576
Samples Received:	10/30/2020
Project Number:	AR207008
Description:	DCP #2 (SRS # 2009-039)
Site:	SRS # 2009-039
Report To:	Paige Gaona 5847 50th St. Suite 1 Lubbock, TX 79424

Entire Report Reviewed By:

Chris McCord
Project Manager

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

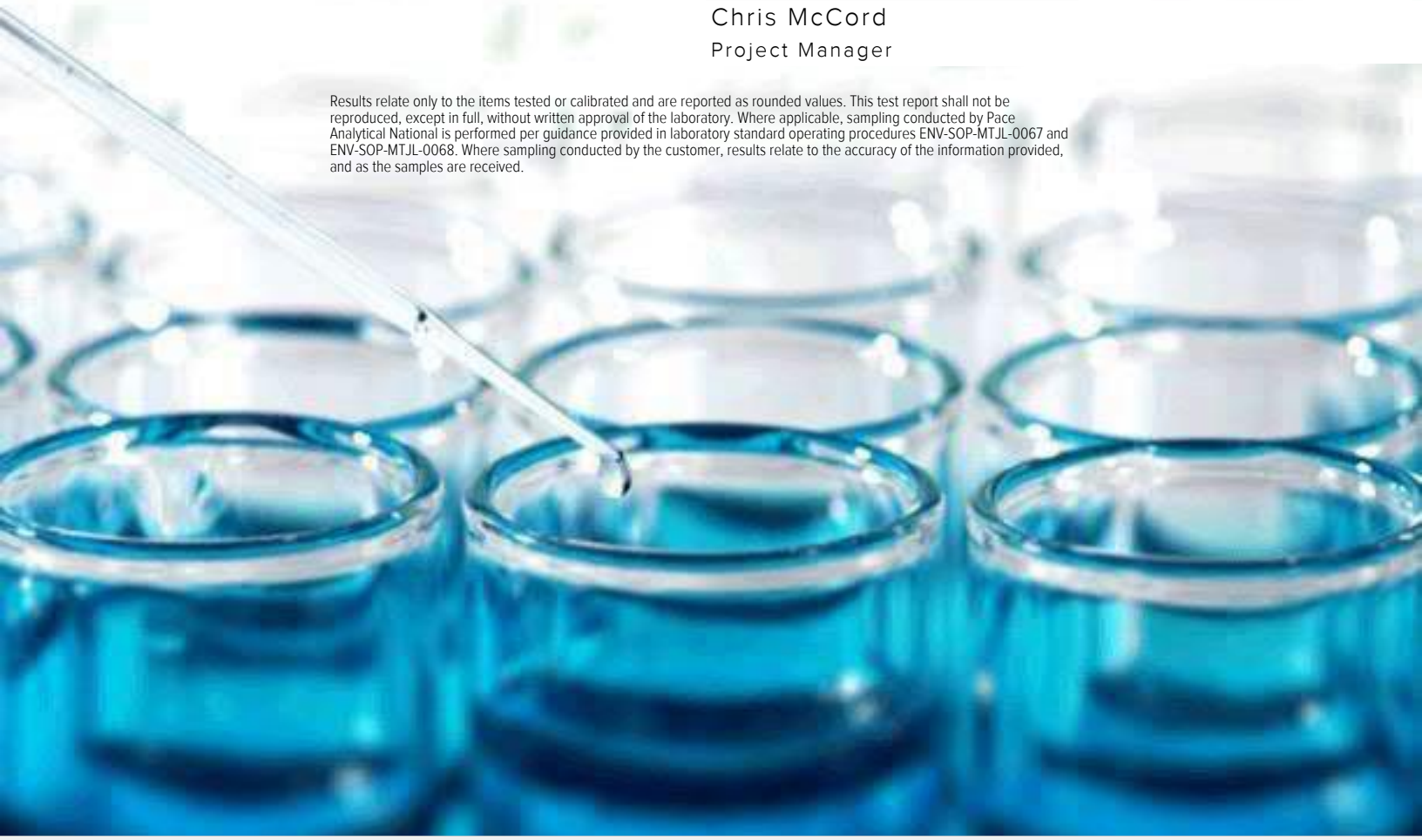

TABLE OF CONTENTS

SAMPLE SUMMARY

EFF-1 (10292020) L1279576-01 Air			Collected by	Collected date/time 10/29/20 12:00	Received date/time 10/30/20 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1568323	2000	10/30/20 14:26	10/30/20 14:26	CAW	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.

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	4630	14800		2000	WG1568323
Toluene	108-88-3	92.10	400	1510	33600	127000		2000	WG1568323
Ethylbenzene	100-41-4	106	400	1730	5800	25100		2000	WG1568323
m&p-Xylene	1330-20-7	106	800	3470	13700	59400		2000	WG1568323
o-Xylene	95-47-6	106	400	1730	4130	17900		2000	WG1568323
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1568323
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	1310000	5410000	J4	2000	WG1568323
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*104*				WG1568323

Method Blank (MB)

(MB) R3588072-3 10/30/20 10:07

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	0.200
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	*100*			*60.0-140*

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

(LCS) R3588072-1 10/30/20 08:41 • (LCSD) R3588072-2 10/30/20 09:24

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	4.21	4.29	112	114	70.0-130			1.88	25
Benzene	3.75	4.36	4.46	116	119	70.0-130			2.27	25
Toluene	3.75	4.08	4.18	109	111	70.0-130			2.42	25
Ethylbenzene	3.75	4.14	4.21	110	112	70.0-130			1.68	25
m&p-Xylene	7.50	7.94	8.05	106	107	70.0-130			1.38	25
o-Xylene	3.75	4.05	4.15	108	111	70.0-130			2.44	25
TPH (GC/MS) Low Fraction	203	265	263	131	130	70.0-130	J4		0.758	25
(S) 1,4-Bromofluorobenzene				*103*	*103*	*60.0-140*				

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Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
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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
J4	The associated batch QC was outside the established quality control range for accuracy.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

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* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
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]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

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

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

Our Locations

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

ACCOUNT:	PROJECT:	SDG:	DATE/TIME:	PAGE:
Plains All American Pipeline - Terracon	AR207008	L1279576	11/05/20 22:13	8 of 9

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 #: 2009-039
Sampler's Signature:

Project Number: AR207008
Project Name: DCP #2 (SRS# 2009-039)

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 1

E004

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	10/29/2020	12:00		X	EFF-1 (10292020)			X	X	X	1279576-01

NFE

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

TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
	10-29-2020	5:00pm			

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 _____

Amb 4876 1078 3646

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		

RAD SCREEN: <0.5 mR/hr

APPENDIX D

Boring Log – Monitor Well MW-8

SOIL BORING / MONITORING WELL LOG

PROJECT:	DCP 6-Inch #2 to Lea Station (SRS# 2009-039)	DRILLING COMPANY:	Talon LPE
PROJECT NUMBER:	AR207008	DRILLER:	Devon Londagin
CLIENT:	Plains All American Pipeline, L.P.	DRILLING METHOD:	Air Rotary
BORING/WELL NUMBER:	MW-8	BORE HOLE DIAMETER:	2"
TOTAL DEPTH:	100'	SCREEN:	Diam.: 2" Length: 40' Slot Size: 0.01"
TOP OF CASING:	N/A	CASING:	Diam.: 2" Length: 60' Type: PVC
PERSONNEL:	B.Dennis/P. Gaona	DATE DRILLED:	8/18/2020

Paige 1 of 4

DEPTH (FT)	SOIL SYMBOL	WELL CONSTRUCTION	PID	SAMPLES	SAMPLE INTERVAL	DESCRIPTION INTERVAL	DESCRIPTION OF STRATUM	DEPTH (FT)
0		Concrete	2.0			0-5	Sand with some caliche, reddish brown, dry, no odor	0
5			1.6			5-20	Sand with caliche, pale red, dry, no odor	5
10		Bentonite / Riser	1.6					10
15			0.9					15
20			1.3			20-30	Caliche, pink, dry, no odor	20
25			0.6					25
30								30

REMARKS:

THIS LOG SHOULD NOT BE USED SEPARATELY FROM THE ORIGINAL REPORT.

Terracon

SOIL BORING / MONITORING WELL LOG

PROJECT:	DCP 6-Inch #2 to Lea Station (SRS# 2009-039)	DRILLING COMPANY:	Talon LPE
PROJECT NUMBER:	AR207008	DRILLER:	Devon Londagin
CLIENT:	Plains All American Pipeline, L.P.	DRILLING METHOD:	Air Rotary
BORING/WELL NUMBER:	MW-8	BORE HOLE DIAMETER:	2"
TOTAL DEPTH:	100'	SCREEN:	Diam.: 2" Length: 40' Slot Size: 0.01"
TOP OF CASING:	N/A	CASING:	Diam.: 2" Length: 60' Type: PVC
PERSONNEL:	B.Dennis/P. Gaona	DATE DRILLED:	8/18/2020

Paige 2 of 4

DEPTH (FT)	SOIL SYMBOL	WELL CONSTRUCTION	PID	SAMPLES	SAMPLE INTERVAL	DESCRIPTION INTERVAL	DESCRIPTION OF STRATUM	DEPTH (FT)
35		Bintonite / Riser	0.9			30-100	Fine sand, light reddish brown, dry, no odor	35
40			1.9					40
45			0.6					45
50			1.3					50
55			0.7					55
60		Sand	0.8					60

REMARKS:

THIS LOG SHOULD NOT BE USED SEPARATELY FROM THE ORIGINAL REPORT.

Terracon

SOIL BORING / MONITORING WELL LOG

PROJECT:	DCP 6-Inch #2 to Lea Station (SRS# 2009-039)	DRILLING COMPANY:	Talon LPE
PROJECT NUMBER:	AR207008	DRILLER:	Devon Londagin
CLIENT:	Plains All American Pipeline, L.P.	DRILLING METHOD:	Air Rotary
BORING/WELL NUMBER:	MW-8	BORE HOLE DIAMETER:	2"
TOTAL DEPTH:	100'	SCREEN:	Diam.: 2" Length: 40' Slot Size: 0.01"
TOP OF CASING:	N/A	CASING:	Diam.: 2" Length: 60' Type: PVC
PERSONNEL:	B.Dennis/P. Gaona	DATE DRILLED:	8/18/2020

Paige 3 of 4

DEPTH (FT)	SOIL SYMBOL	WELL CONSTRUCTION	PID	SAMPLES	SAMPLE INTERVAL	DESCRIPTION INTERVAL	DESCRIPTION OF STRATUM	DEPTH (FT)
65		Sand / Screen	0.8					65
70			1.2					70
75			1.0				Transition to slightly moist	75
80			0.6					80
85			0.7				Transition to moist	85
90			0.8					90

REMARKS:

THIS LOG SHOULD NOT BE USED SEPARATELY FROM THE ORIGINAL REPORT.

Terracon

SOIL BORING / MONITORING WELL LOG

PROJECT:	DCP 6-Inch #2 to Lea Station (SRS# 2009-039)	DRILLING COMPANY:	Talon LPE
PROJECT NUMBER:	AR207008	DRILLER:	Devon Londagin
CLIENT:	Plains All American Pipeline, L.P.	DRILLING METHOD:	Air Rotary
BORING/WELL NUMBER:	MW-8	BORE HOLE DIAMETER:	2"
TOTAL DEPTH:	100'	SCREEN:	Diam.: 2" Length: 40' Slot Size: 0.01"
TOP OF CASING:	N/A	CASING:	Diam.: 2" Length: 60' Type: PVC
PERSONNEL:	B.Dennis/P. Gaona	DATE DRILLED:	8/18/2020

Paige 4 of 4

DEPTH (FT)	SOIL SYMBOL	WELL CONSTRUCTION	PID	SAMPLES	SAMPLE INTERVAL	DESCRIPTION INTERVAL	DESCRIPTION OF STRATUM	DEPTH (FT)
95		Sand / Screen	0.6					95
100			0.4					100
							Bottom of Borring @ 100'	

REMARKS:

THIS LOG SHOULD NOT BE USED SEPARATELY FROM THE ORIGINAL REPORT.

Terracon

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.

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

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

CONDITIONS

Action 23575

CONDITIONS

Operator:	OGRID:
PLAINS MARKETING L.P. 333 Clay St, Ste 1600 Houston, TX 77002	34053
	Action Number: 23575
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Review of 2020 ANNUAL GROUNDWATER MONITORING REPORT: Content satisfactory Contractor anticipated actions approved by OCD and are as follows; 1. Continue quarterly gauging, purging, and sampling of monitoring wells 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, during 2021 3. Monthly manual PSH recovery, if applicable, will continue on monitoring well MW-1 4. Continue monthly recovery of hydrocarbon impacted groundwater from monitoring well MW-5 5. Submit annual report to OCD no later than March 31,2022.	1/12/2022