2019 Annual Groundwater Monitoring Report

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

Terracon Project No. AR197008

March 25, 2020

Prepared for:

Plains All American Pipeline, L.P.
10 Desta Drive, Suite 550E
Midland, Texas 79705

Prepared by:

Terracon Consultants, Inc.
Lubbock, Texas

Terracon

March 17, 2020

Plains All American Pipeline, LP
10 Desta Drive, Suite 550E
Midland, Texas 79705

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

Re: 2019 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
Plains All American Pipeline, L.P. SRS No. 2009-039
Terracon Project No. AR197008

Dear Mrs. Bryant:

Terracon is pleased to submit one electronic copy and one CD attached to the cover page of the 2019 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:

Paige Gaona
Project Manager
Lubbock

Reviewed by:

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

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1.0 INTRODUCTION

1.1 Site Description

The legal description of the DCP Plant to Lea Station 6-Inch #2 release site is Unit Letter "F" (SE/NW), Section 31, Township 20 South, Range 37 East, in Lea County, New Mexico. The property affected by the release is owned by the State of New Mexico and administered by the New Mexico State Land Office (NMSLO). The geographic coordinates of the release site are 32.531660° North latitude and 103.291110° West longitude. A "Topographic Map" depicting the site's location is provided as Exhibit 1 in Appendix A.

Site Name	DCP Plant to Lea Station 6-Inch #2
Site Location	Latitude 32.531442° North, Longitude 103.291115° 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 well 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.

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 February 21, May 22, September 9, and November 20, 2019.

2.0 GROUNDWATER REMEDIATION PROGRAM

2.1 Groundwater Monitoring

Quarterly groundwater monitoring events were conducted on February 21 (1Q2019), May 22 (2Q2019), September 9 (3Q2019) and November 20, 2019 (4Q2019). 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 benzene, toluene, ethylbenzene, and total xylenes (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 to the south-southeast for each quarter of 2019. Groundwater elevation and PSH thickness data is summarized in Table 1 of Appendix B.

During the 3rd quarterly meeting, it was decided to begin shutting the SVE unit off and back on every other week. Results can be seen in Exhibit 6 of Appendix A. No significant change be seen on Groundwater elevation and PSH thickness data in Table 4 in Appendix B.

3.0 LABORATORY ANALYTICAL METHODS

The groundwater samples collected from the on-site monitoring wells were analyzed for BTEX using EPA SW-846 Method 8021B. Laboratory 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 0.89 ft. (1Q2019), 0.88 ft. (2Q2019), 0.35 ft. (3Q2019), and 0.39 ft. (4Q2019), 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 except for the samples collected from monitoring wells MW-2 and MW-7 in the 2nd quarter event in which each sample exhibited estimated toluene concentrations of 0.00700 milligrams per liter (mg/L).

4.1.3 Monitoring Well MW-5

- Laboratory analytical results indicated benzene concentrations exceeded the NMOCD regulatory standard during each quarterly monitoring event. The detected benzene concentrations ranged from 5.24 mg/L for the 1st quarter to 0.641 mg/L for the 2nd 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 each quarterly monitoring event.
- Monitoring well MW-5 was sampled in the 4th quarter and submitted for analysis. Due to inadvertent error, samples were not executed. Once discovered, the samples were outside of the applicable hold time for the requested constituents. As a result, data is not available for monitoring well MW-5 for the 4th quarter.

5.0 CORRECTIVE ACTION

5.1 Product Recovery

An estimated 0.975 gallons (<0.023 bbls) of PSH were recovered from monitoring well MW-1, by manual recovery, in 2019. During the last recovery event the PSH thickness in monitoring well MW-1 measured 0.27 feet. An estimated 51 gallons (1.214 bbls) of hydrocarbon impacted groundwater were recovered manually from monitoring well MW-1 for 2019. To date, an estimated 6,097 gallons (145.2 bbls) of PSH has been manually recovered from monitoring well MW-1 since recovery operations began in April 2009. Monitoring well MW-1 groundwater gauging and PSH recovery data is summarized in 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. Between October to November of this year, emission mass calculations resulted in a reduction in emissions from of 4.840 tons/year in 2018 to 1.593 tons/year in 2019 and emission volume of 4.477 gal/day to 1.474 gal/day and continued to decrease in December. Monitoring well MW-1 SVE air emissions analytical results for BTEX and TPH is summarized in Table 3 of Appendix B.

5.2 Groundwater Recovery

For 2019, an estimated 371 gallons (8.833 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 2,312 gallons (55.07 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-1 groundwater gauging and PSH recovery data is summarized in Table 3 of Appendix B.

6.0 SUMMARY OF FINDINGS

The findings of the 2019 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 with the exception of MW-5 in 4th quarter.
- 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 total xylenes being detected in MW-2 during the 2nd quarterly monitoring event.
- The benzene concentration in monitoring well MW-5 exceeded the NMOCD regulatory standard for the three quarterly monitoring events. Monitoring well MW-5 was sampled in the 4th quarter and submitted for analysis. Due to inadvertent error, samples for BTEX and PAHs were not executed, therefore data is not available for the 4th quarter.
- Concentrations of toluene, ethylbenzene, and total xylenes were above the SDL but below the NMOCD regulatory standard for each respective constituent for the 4th quarterly monitoring events.
- The PSH thickness in monitoring well MW-1 was 0.30 ft. during the last recovery event conducted on December 11, 2019.
- 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 0.975 gallons (<0.023 bbls) 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. Air samples have progressively decreased in magnitude since last year. Between October to November of this year, emission mass calculations resulted in a reduction in emissions

from of 4.840 tons/year in 2018 to 1.593 tons/year in 2019 and emission volume of 4.477 gal/day to 1.474 gal/day and continued to decrease in December.

- An estimated 129 gallons (3.07 bbls) of hydrocarbon impacted groundwater were recovered manually from monitoring well MW-5 for 2019.

7.0 ANTICIPATED ACTIONS

- Monitoring well MW-2 through MW-7 will continue to be gauged, purged, and sampled quarterly for the presence of PSH and BTEX in 2019.
- Collect PAH samples during the annual monitoring event scheduled for the 4th quarter of 2020.
- PSH recovery by SVE will continue on monitoring well MW-1, with emission sampling events occurring monthly, during 2019.
- Bi-weekly manual PSH recovery, if applicable, will continue on monitoring well MW-1.
- Bi-weekly 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.
- A Work Plan was prepared and submitted to NMOCD and subsequently approved. Amendment application approved, however waiting receipt with SLO for NMOSE approval.
- An *Annual Groundwater Monitoring Report* will be prepared detailing field activities and the results of groundwater monitoring activities conducted during the 2020 reporting period.

8.0 DISTRIBUTION

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

APPENDIX A

Exhibit 1 – Topographic Map
Exhibit 2 – Site Diagram
Exhibit 3 – 1Q19 Groundwater Gradient Map (02/21/19)
Exhibit 4 – 2Q19 Groundwater Gradient Map (05/22/19)
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Exhibit 6 – 4Q19 Groundwater Gradient Map (11/13/19)
Exhibit 7 – 1Q19 Groundwater Contaminant Concentration Map (02/21/19)
Exhibit 8 – 2Q19 Groundwater Contaminant Concentration Map (05/22/19)
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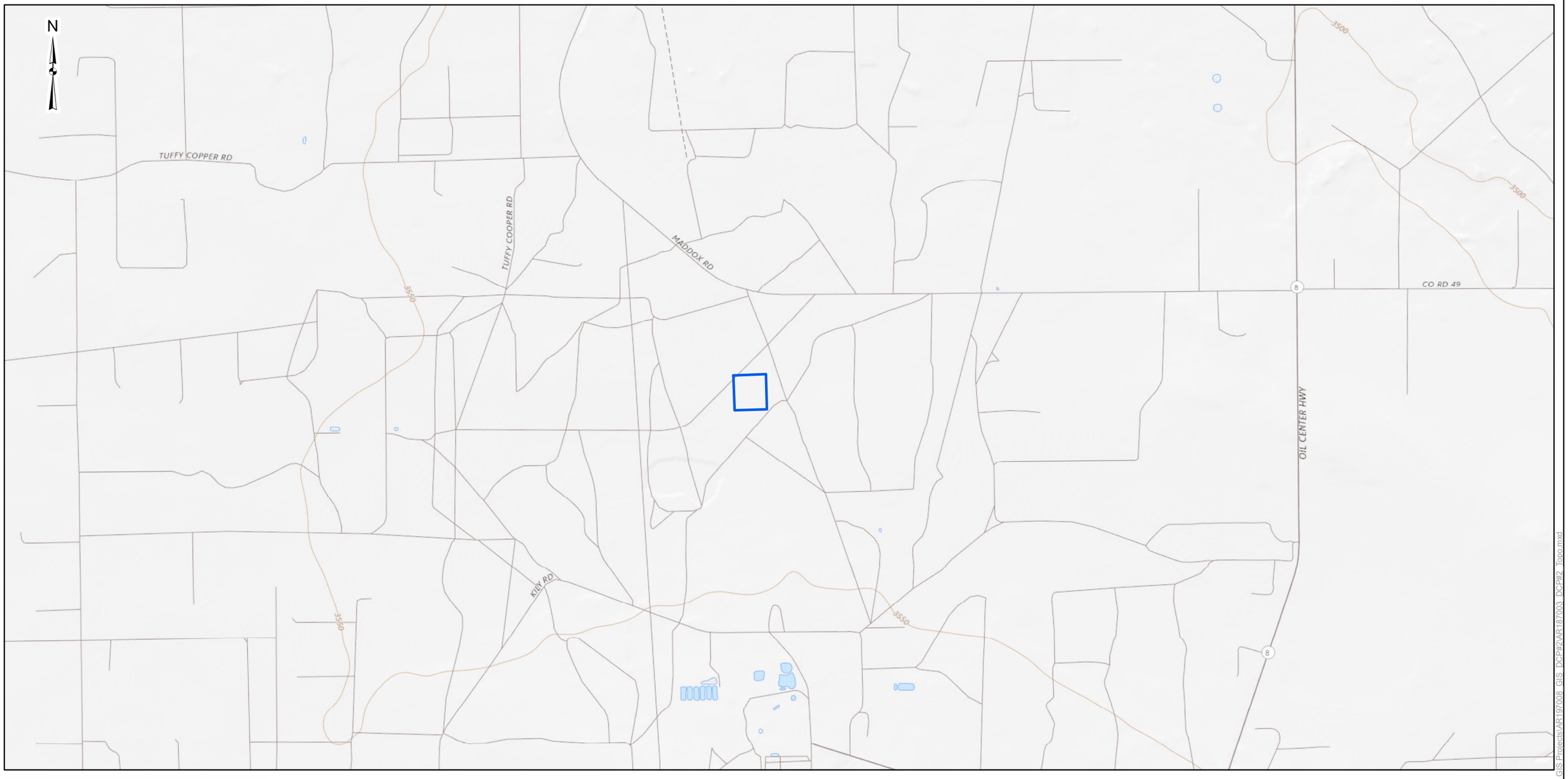
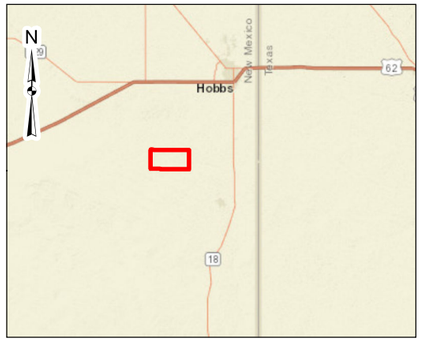
Exhibit 10 – 4Q19 Groundwater Contaminant Concentration Map (11/13/19)
Exhibit 11 – DCP Plant to Lea Station 6" #2 Proposed Monitoring Well Location Map





Groundwater Monitoring Site

Release Site

Notes:
- Exhibit is for general location only, is not indended for construction purposes, and should not be used separately from original report.

0 1,000 2,000 4,000 Feet

Fractional Scale: 1:1,684,950

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

Project No.:	AR197008
Date:	Sep 2019
Drawn By:	SW
Reviewed By:	ELL

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

Topographic Map

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

Exhibit

1

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Groundwater Monitoring Site

Recovery Well w/ Soil Vapor Extraction (SVE) Unit

Monitoring Well (MW)

Notes:
- Exhibit is for general location only, is not indended for construction purposes, and should not be used separately from original report.
- Proposed monitoring well GPS location was derived from the GIS map and will be surveyed after installation.

0 50 100 Feet

Fractional Scale: 1:450

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

Project No.:	AR197008
Date:	Sep 2019
Drawn By:	SW
Reviewed By:	ELL

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

Site Diagram	Exhibit
DCP Plant to Lea Station 6" #2 Plains SRS # 2009-039 NMOCD Ref. # 1R-2136 Plains Pipeline, LP U/L "F", Sec. 31, T20S, R37E Lea County, New Mexico GPS: 32.531660°, -103.291110°	2

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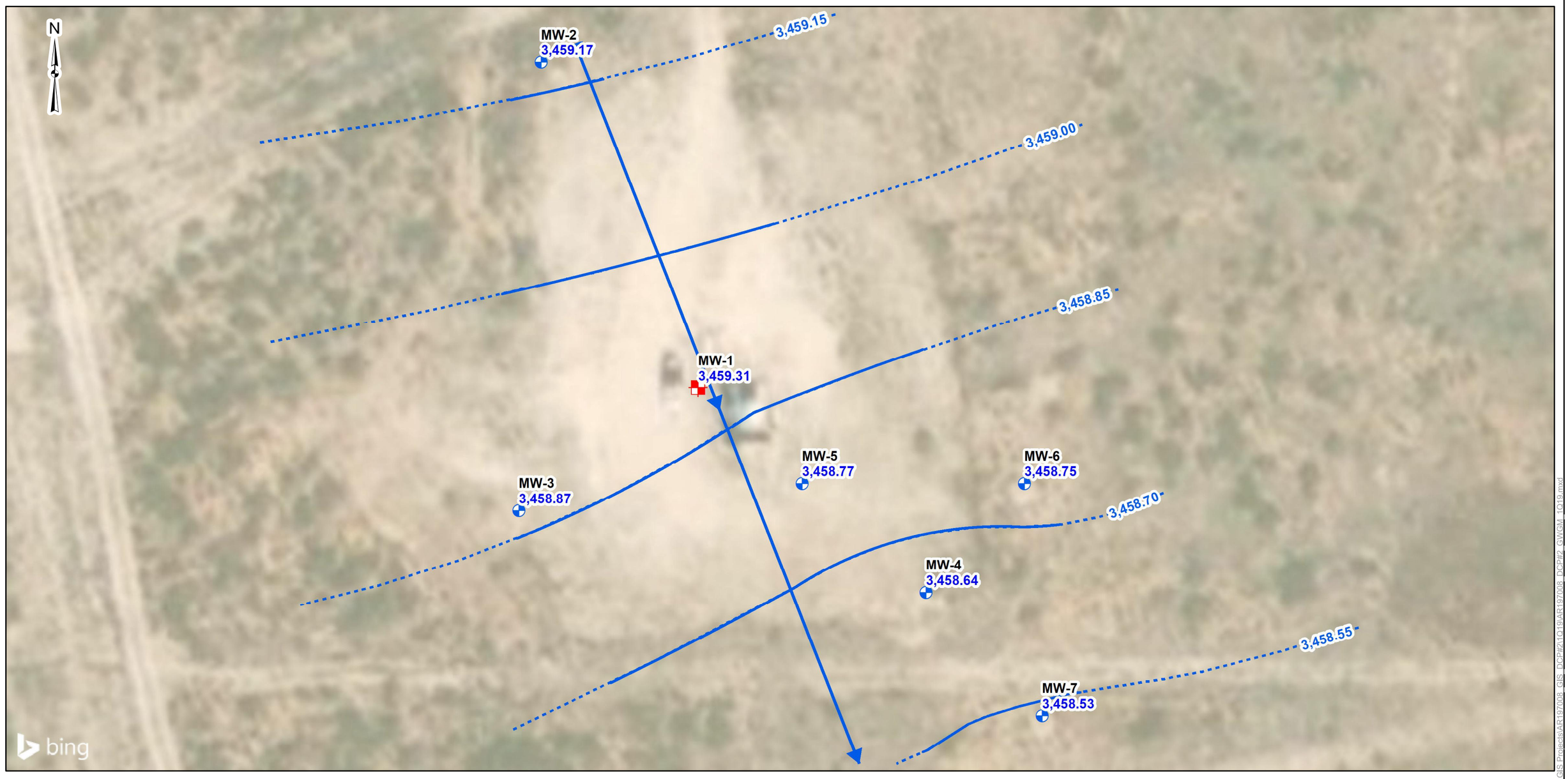

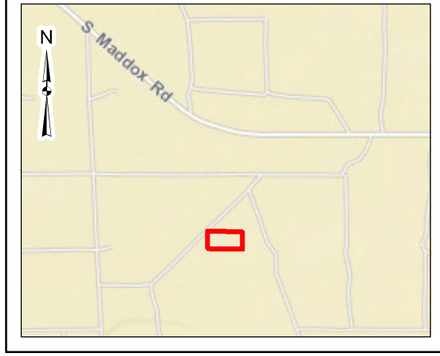

Groundwater Monitoring Site

- 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.
- MW-1 not honored in contouring interpolation.

0 50 100 Feet

Fractional Scale: 1:36,970

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

Project No.:	AR197008
Date:	Apr 2019
Drawn By:	SW
Reviewed By:	ELL

Terracon
5847 50th St. Lubbock, TX 79424
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1Q19 Groundwater Gradient Map (02/21/19)

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

Exhibit

3

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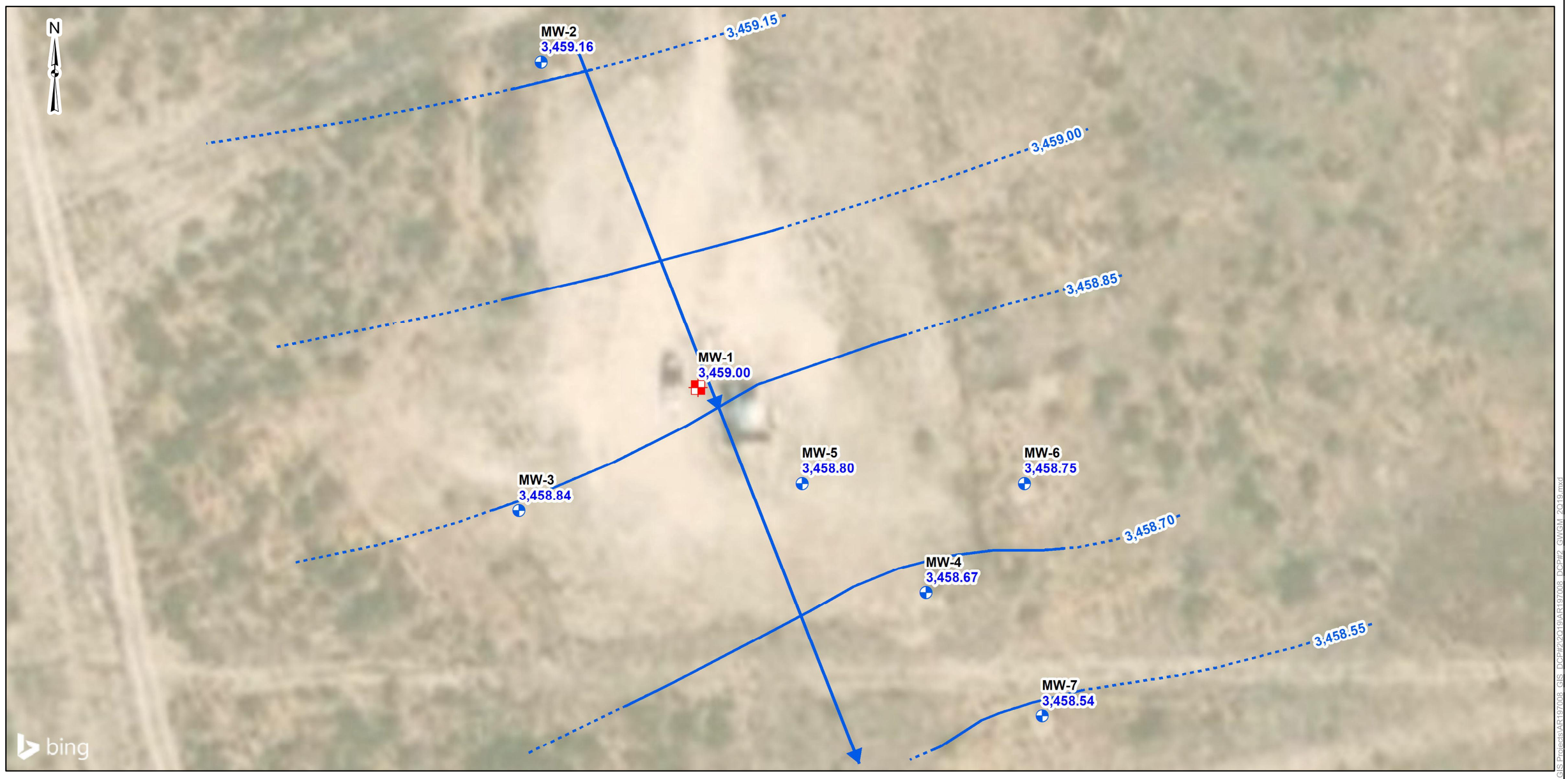

Groundwater Monitoring Site

- 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: 0.002 ft/ft
- MW-1 not honored in contouring interpolation.

0 50 100 Feet

Fractional Scale: 1:450

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

Project No.:	AR197008
Date:	Jul 2019
Drawn By:	SW
Reviewed By:	ELL

Terracon
5847 50th St. Lubbock, TX 79424
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2Q19 Groundwater Gradient Map (05/22/19)

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

Exhibit

4

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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: 0.002 ft/ft
- MW-1 not honored in contouring interpolation.

0 50 100 Feet

Fractional Scale: 1:36,970

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

Project No.:	AR197008
Date:	Sep 2019
Drawn By:	SW
Reviewed By:	ELL

Terracon
5847 50th St. Lubbock, TX 79424
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3Q19 Groundwater Gradient Map (09/05/19)

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

5

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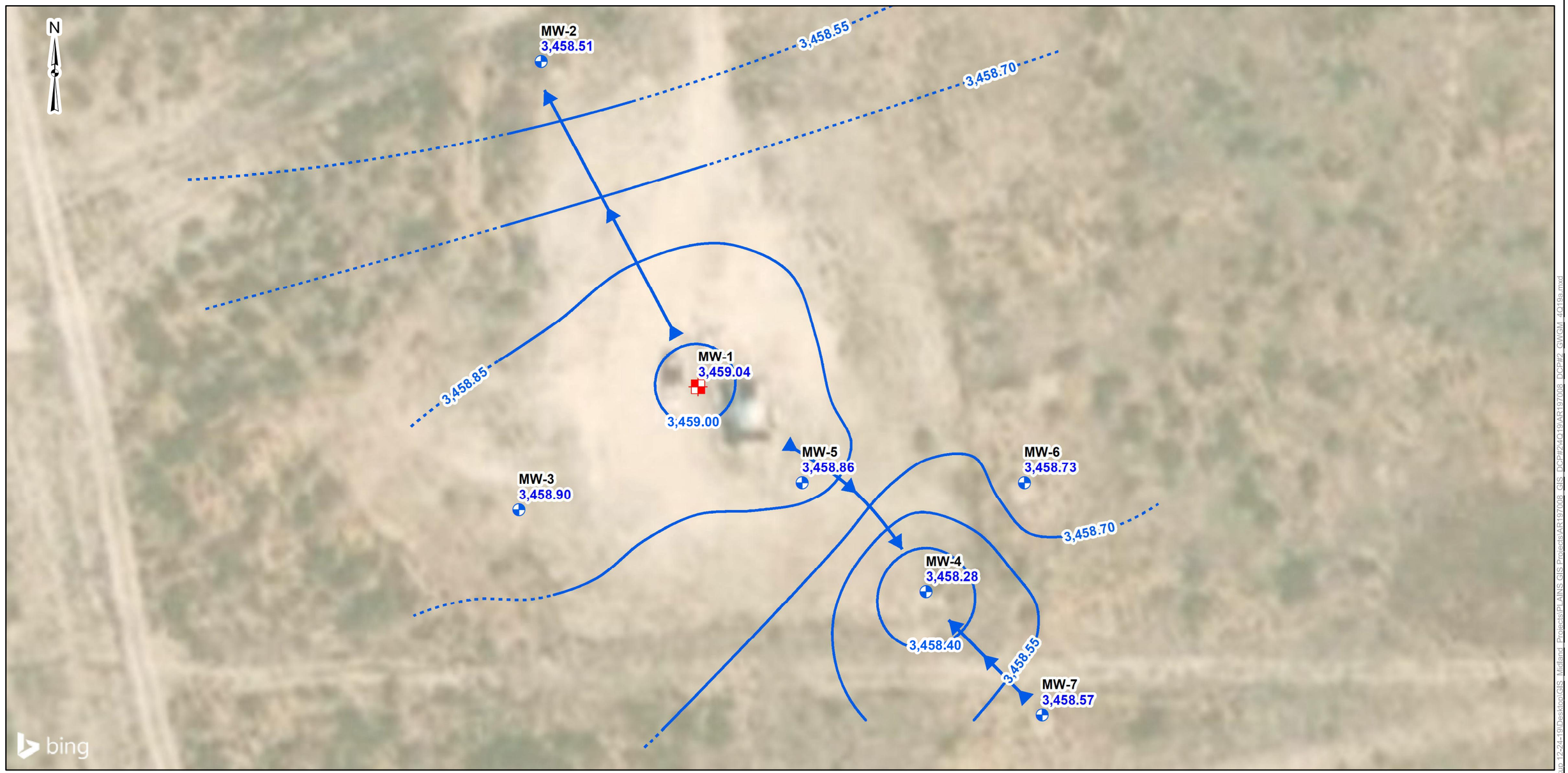

Groundwater Monitoring Site

- 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: 1:36,970

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

Project No.:	AR197008
Date:	Jan 2020
Drawn By:	SW
Reviewed By:	ELL

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

4Q19 Groundwater Gradient Map (11/13/19)

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

6

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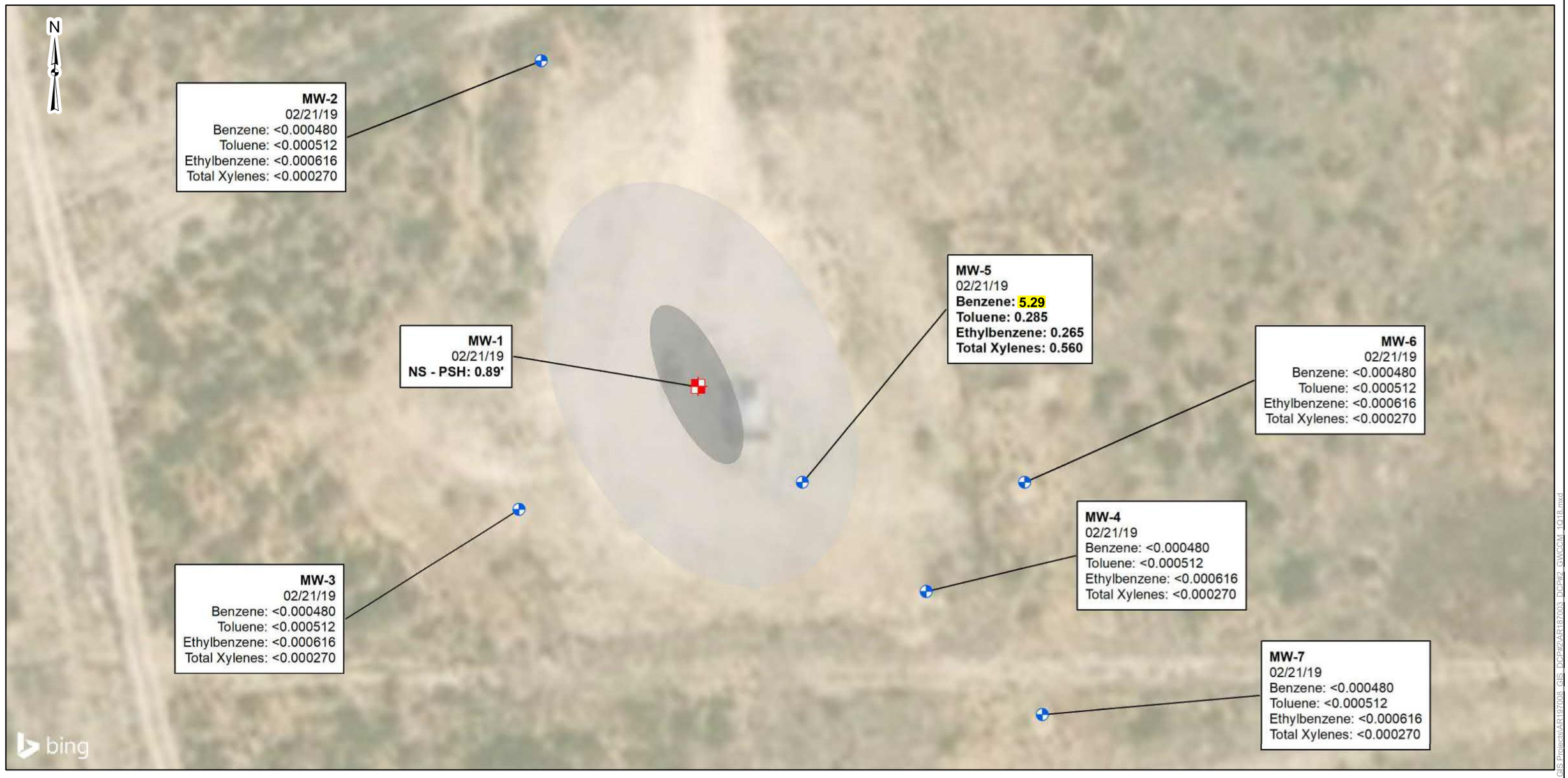

Groundwater Monitoring Site

- Recovery Well w/ Soil Vapor Extraction (SVE) Unit
- Monitoring Well (MW)
- Free Phase Plume: Outlines Wells w/ Phase Seperated 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) - 0.62 mg/L
J: The identification of the analyte is acceptable; the reported value is an estimate.
NS: Monitoring well was not sampled due to presence of PSH.
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: 1:36,970

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

Project No.:	AR197008
Date:	Apr 2019
Drawn By:	SW
Reviewed By:	ELL

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

1Q19 Groundwater Contaminant Concentration Map (02/21/19)

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

Exhibit

7

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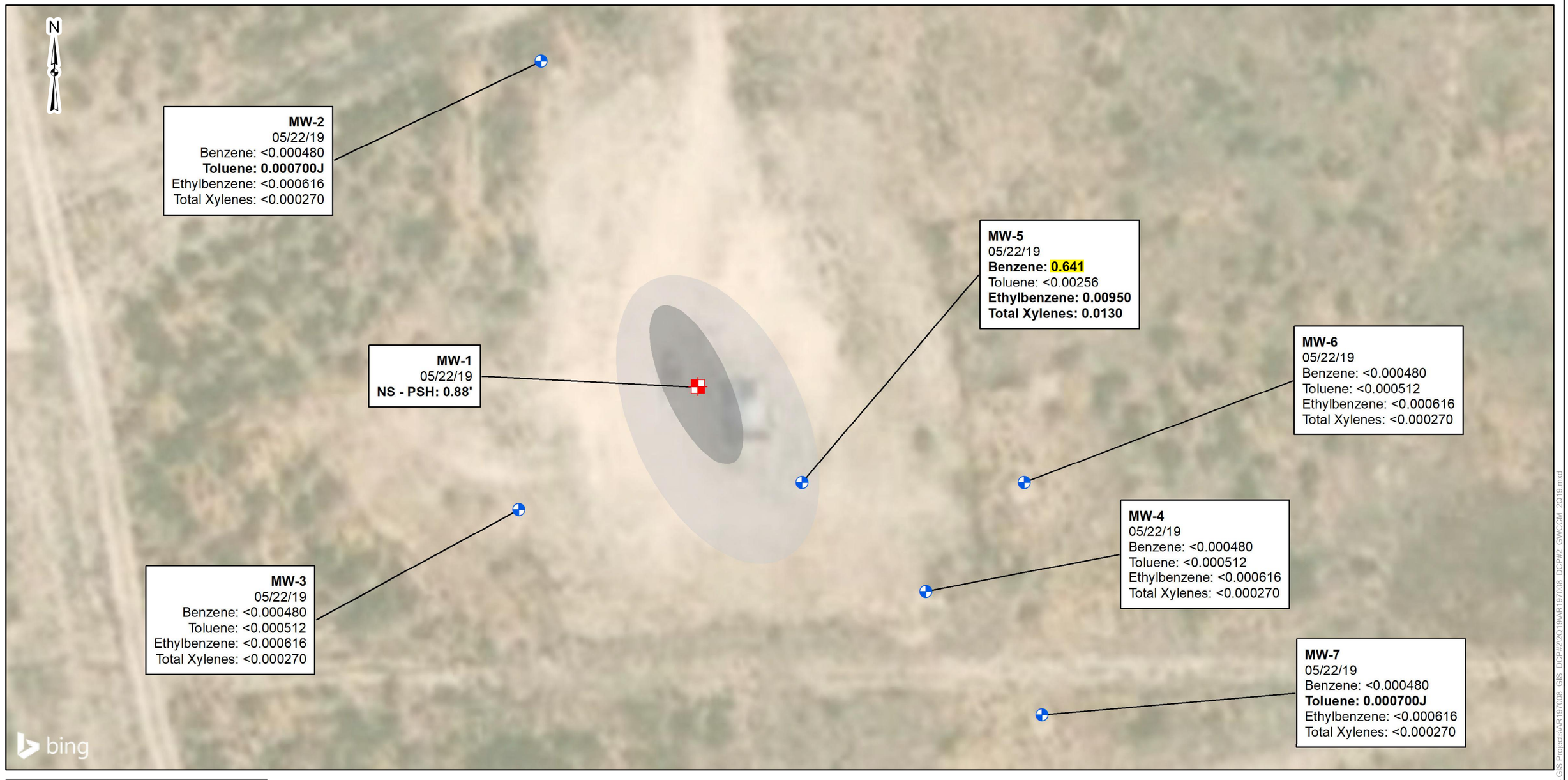

Groundwater Monitoring Site

- Recovery Well w/ Soil Vapor Extraction (SVE) Unit
- Monitoring Well (MW)
- Free Phase Plume: Outlines Wells w/ Phase Seperated 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) - 0.62 mg/L
J: The identification of the analyte is acceptable; the reported value is an estimate.
NS: Monitoring well was not sampled due to presence of PSH.
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: 1:36,970

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

Project No.:	AR187003
Date:	Jun 2019
Drawn By:	SW
Reviewed By:	ELL

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

2Q19 Groundwater Contaminant Concentration Map (05/22/19)

DCP Plant to Lea Station 6" #2
Plains SRS # 2009-039
NMOCD Ref. # 1RP-2136
Plains Pipeline, LP
U/L "F", Sec. 31, T20S, R37E
Lea County, New Mexico
GPS: 32.531660°, -103.291110°

Exhibit

8

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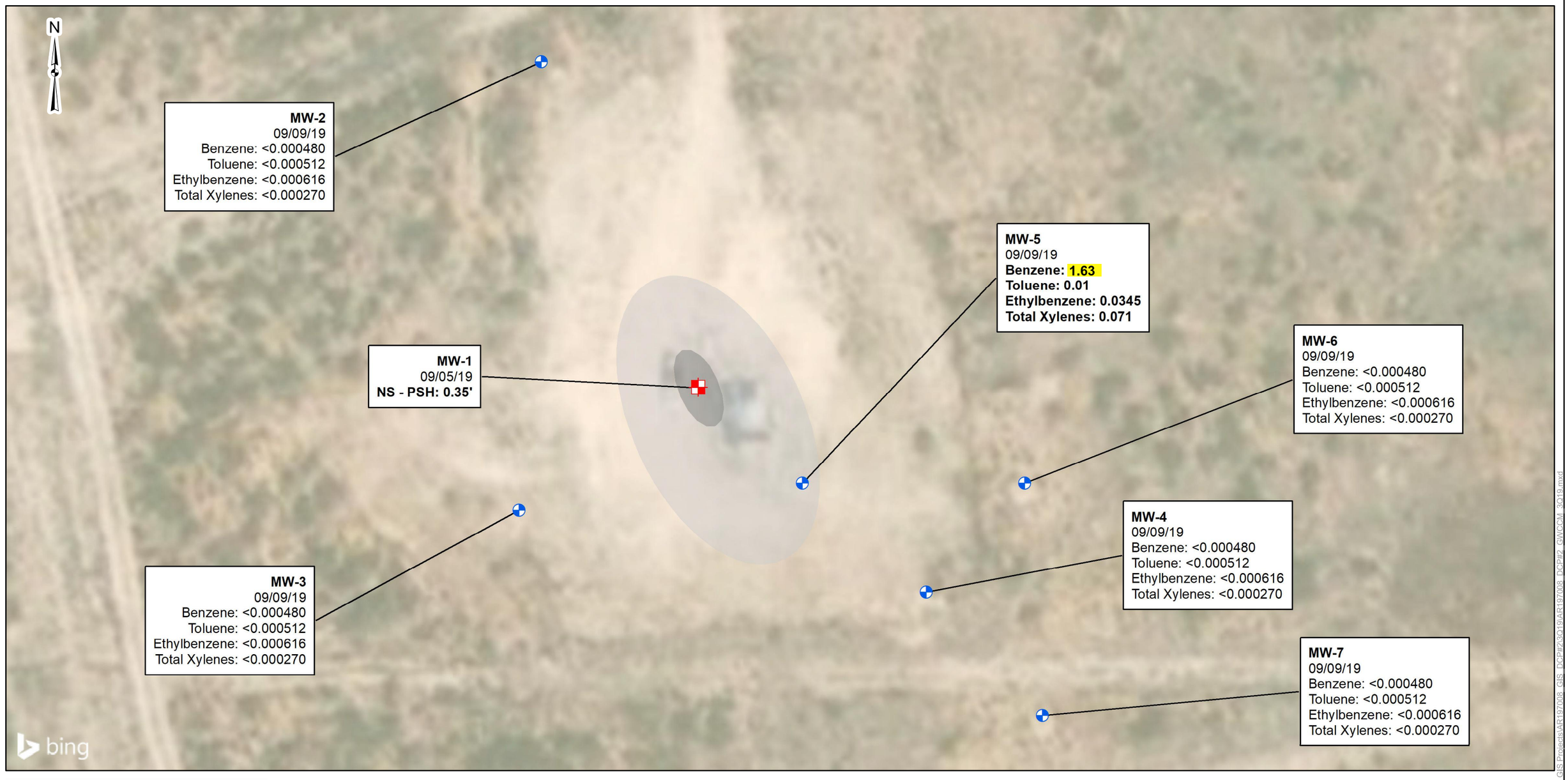

Groundwater Monitoring Site

- Recovery Well w/ Soil Vapor Extraction (SVE) Unit
- Monitoring Well (MW)
- Free Phase Plume: Outlines Wells w/ Phase Seperated 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) - 0.62 mg/L
J: The identification of the analyte is acceptable; the reported value is an estimate.
NS: Monitoring well was not sampled due to presence of PSH.
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: 1:450

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

Project No.:	AR187003
Date:	Sep 2019
Drawn By:	SW
Reviewed By:	ELL

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

3Q19 Groundwater Contaminant Concentration Map (09/09/19)

DCP Plant to Lea Station 6" #2
Plains SRS # 2009-039
NMOCD Ref. # 1RP-2136
Plains Pipeline, LP
U/L "F", Sec. 31, T20S, R37E
Lea County, New Mexico
GPS: 32.531660°, -103.291110°

Exhibit

9

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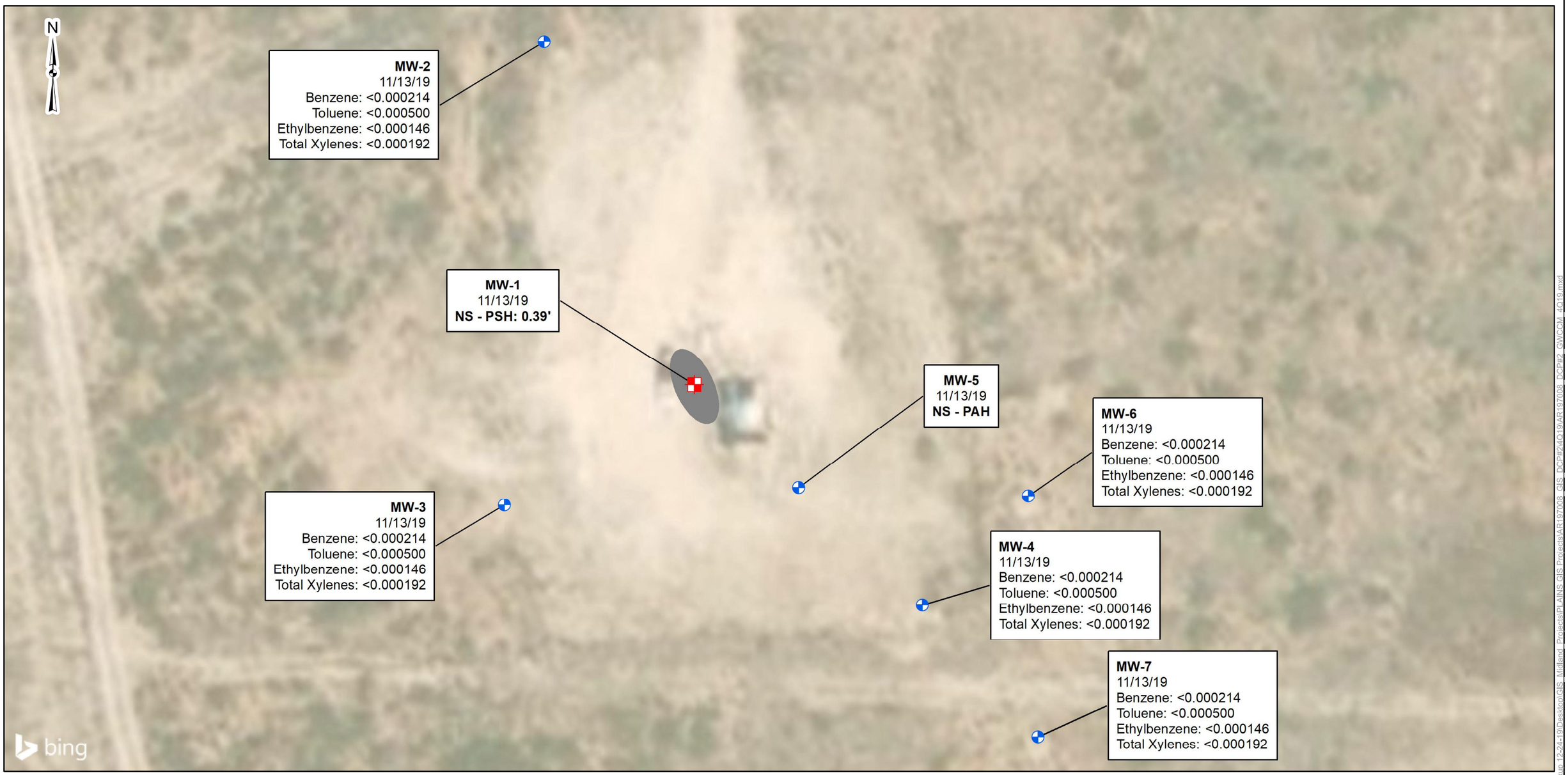

Groundwater Monitoring Site

- Recovery Well w/ Soil Vapor Extraction (SVE) Unit
- Monitor Well (MW)
- Free Phase Plume: Phase Seperated 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) - 0.62 mg/L
ND: Contaminant concentrations were not detected above applicable labratory sample detection limits.
NS: Monitor well was not sampled due to presence of PSH or due to hold on PAH being exceeded.
Bold concentrations detected above applicable RRC standards. All concentrations are measured in milligrams per liter (mg/L). PSH thicknesses are measured in tenths of feet.

0 50 100 Feet

Fractional Scale: 1:435

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

Project No.:	AR197008
Date:	Jan 2020
Drawn By:	YS
Reviewed By:	ELL

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

4Q Groundwater Contaminant Concentration Map (11/13/19)

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

Exhibit

10

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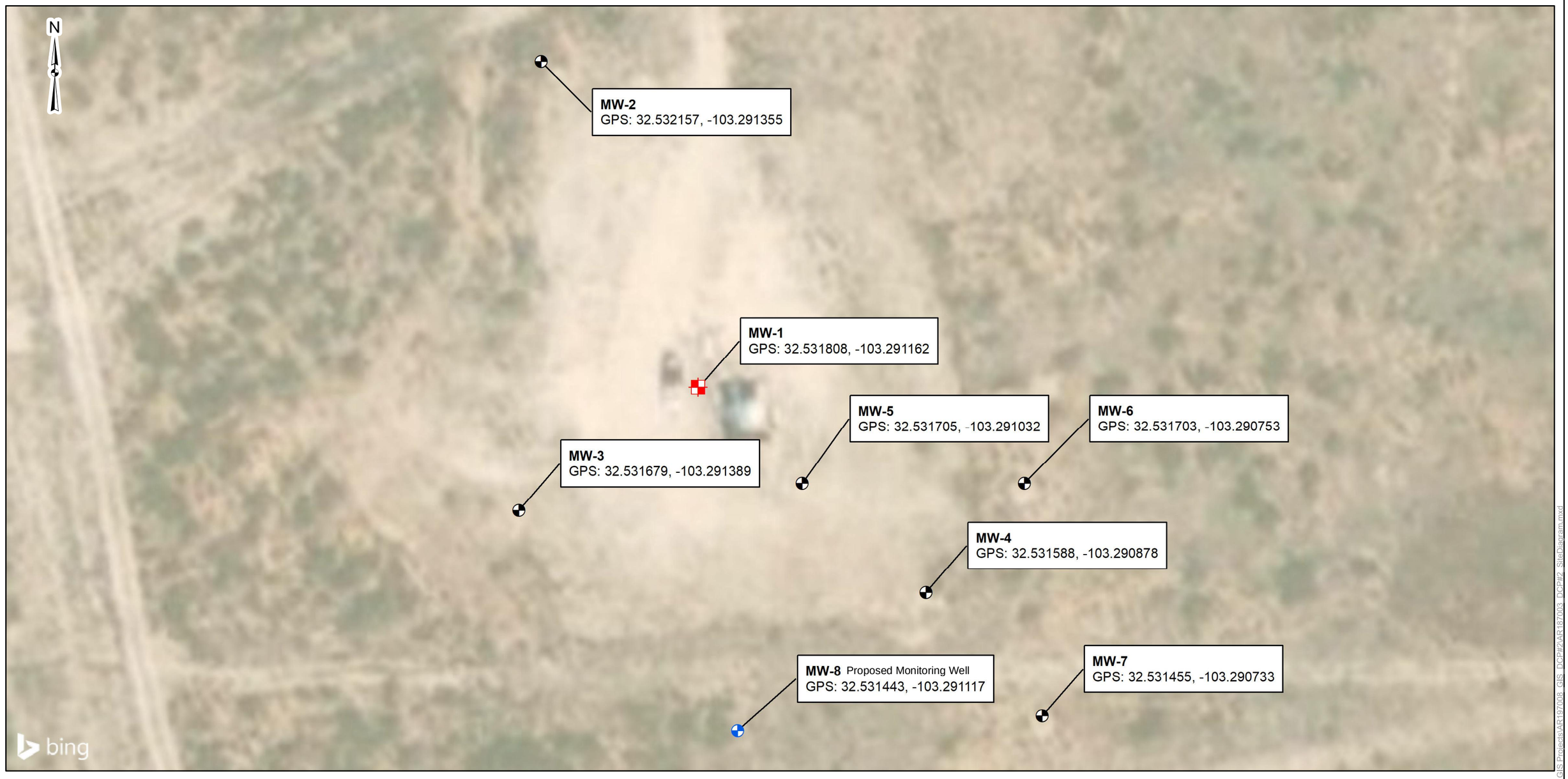

Groundwater Monitoring Site

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

Notes:
- Exhibit is for general location only, is not intended for construction purposes, and should not be used separately from original report.
- Proposed monitoring well GPS location was derived from the GIS map and will be surveyed after installation.

Feet
0 50 100

Fractional Scale: 1:36,970

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

Project No.:	AR197008
Date:	Sep 2019
Drawn By:	SW
Reviewed By:	ELL

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

Proposed Monitoring Well Location Map

DCP Plant to Lea Station 6" #2
Plains SRS # 2009-039
NMOCD Ref. # 1RP-2136
Plains Pipeline, LP
U/L "F", Sec. 31, T20S, R37E
Lea County, New Mexico
GPS: 32.531660°, -103.291110°

Exhibit

11

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

Table 1

Groundwater Elevation and PSH[1] Thickness Summary
DCP Plant to Lea Station 6-Inch #2
Lea County, New Mexico
Plains Pipeline, L.P. SRS #: 2009-039
Terracon Project #: AR197008
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
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
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

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 #: AR197008
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-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
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
MW-6 (2")	02/10/16	3,539.22	-	80.20	-	3,459.02
	05/03/16		-	80.26	-	3,458.96
	11/01/16		-	80.34	-	3,458.88
	12/22/16		-	80.39	-	3,458.83
	03/01/17		-	80.26	-	3,458.96
	06/26/17		-	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

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 #: AR197008
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-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

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 #: AR197008
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							
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	**0.000700J**	<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
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

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 #: AR197008
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-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
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						
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

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 #: AR197008
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-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

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. AR197008

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**	
SVE[4] Emission 1	08/29/17	Xenco	Benzene - 820	0.526	0.417
			Toluene - 1,870	1.199	0.961
			Ethylbenzene - 410	0.263	0.211
			Total Xylene - 895	0.574	0.460
			Total BTEX - 4,000	2.564	2.056
			TPH - GRO - 159,000	**101.914**	100.158
SVE Emission #1	09/28/17	Xenco	Benzene - 1,020	0.654	0.518
			Toluene - 2,300	1.474	1.182
			Ethylbenzene - 570	0.365	0.293
			Total Xylene - 1,710	1.096	0.879
			Total BTEX - 5,600	3.589	2.879
			TPH - GRO - 220,000	**141.012**	138.584
SVE Emission 1	11/03/17	Xenco	Benzene - 120	0.082	0.061
			Toluene - 250	0.170	0.129
			Ethylbenzene - 70	0.048	0.036
			Total Xylene - 225	0.153	0.116
			Total BTEX - 665	0.453	0.342
			TPH - GRO - 31,100	**21.171**	19.591
SVE Emission 2	11/03/17	Xenco	Benzene - 80	0.055	0.041
			Toluene - 305	0.208	0.157
			Ethylbenzene - 80	0.055	0.041
			Total Xylene - 205	0.140	0.105
			Total BTEX - 670	0.456	0.344
			TPH - GRO - 33,900	**23.077**	21.355
Air Emission	12/07/17	Xenco	Benzene - 13.6	0.009	0.007
			Toluene - 48.7	0.033	0.025
			Ethylbenzene - 11.3	0.008	0.006
			Total Xylene -40.7	0.028	0.021
			Total BTEX - 114	0.078	0.059
			TPH - GRO - 4,520	3.077	2.847
Air Emission 1	12/07/17	ESC	Benzene - 1.09	0.001	0.001
			Toluene - 51.8	0.035	0.027
			Ethylbenzene - 17.7	0.012	0.009
			Total Xylene - 15.93	0.011	0.008
			Total BTEX - 87	0.059	0.045
			TPH - GRO - 2,110	1.436	1.329
SVE Emission	01/03/18	ESC	Benzene - 30.7	0.021	0.016
			Toluene - 82.5	0.056	0.042
			Ethylbenzene - 12.5	0.009	0.006
			Total Xylene - 5.2	0.004	0.003
			Total BTEX - 131.0	0.089	0.067
			TPH - GRO - 4,210	2.866	2.652
Emission #1	02/23/18	ESC	Benzene - N/A	--	--
			Toluene - N/A	--	--
			Ethylbenzene - N/A	--	--
			Total Xylene - N/A	--	--
			Total BTEX - N/A	--	--
			TPH - GRO - 11,500	7.828	7.244
Air Emission-1	03/27/18	ESC	Benzene - 1.64	0.001	0.001
			Toluene - 5.14	0.003	0.003
			Ethylbenzene - <1.730	--	--
			Total Xylene - <1.730	--	--
			Total BTEX - 6.78	0.005	0.004
			TPH - GRO - <41.3	--	--

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. AR197008

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**	
Air Emission	05/01/18	ESC	Benzene - 48.5	0.033	0.025
			Toluene -141.0	0.096	0.073
			Ethylbenzene - 229.0	0.156	0.118
			Total Xylene - 69.8	0.048	0.036
			Total BTEX - 488.3	0.332	0.251
			TPH - GRO - 4,930	3.356	3.106
SVE - 1	06/12/18	ESC	Benzene - 8.44	0.006	0.004
			Toluene - 33.1	0.023	0.017
			Ethylbenzene - 4.75	0.003	0.002
			Total Xylene - 18.22	0.012	0.009
			Total BTEX - 22.97	0.016	0.012
			TPH - GRO - 1,200	0.817	0.756
SVE-1 (20180710)	07/10/18	ESC	Benzene -34.8	0.024	0.18
			Toluene - 11.2	0.008	0.006
			Ethylbenzene - 14.7	0.010	0.008
			Total Xylene - 44.55	0.030	0.023
			Total BTEX - 105.25	0.072	0.054
			TPH - GRO -5,590	1.763	1.632
SVE-1 (20180802)	08/02/18	ESC	Benzene - 16.5	0.011	0.008
			Toluene - 44.6	0.030	0.023
			Ethylbenzene - 4.86	0.003	0.003
			Total Xylene - 13.34	0.009	0.007
			Total BTEX - 79.3	0.054	0.041
			TPH - GRO - 2,590	1.763	1.632
SVE-1 (20180906)	09/06/18	ESC	Benzene - 6.9	0.005	0.004
			Toluene - 22.0	0.015	0.011
			Ethylbenzene - 3.12	0.002	0.002
			Total Xylene - 21.20	0.009	0.007
			Total BTEX -53.2	0.036	0.023
			TPH - GRO - 1,140	0.776	0.718
SVE-1 (20181024)	10/24/18	ESC	Benzene -195.0	0.133	0.099
			Toluene - 414.0	0.282	0.213
			Ethylbenzene - 978.0	0.666	0.503
			Total Xylene - 298.9	0.206	0.154
			Total BTEX - 1,886	1.284	0.969
			TPH - GRO - 22,400	**15.248**	14.11
SVE-1 (20181220)	12/20/18	ESC	Benzene - 62.8	0.043	0.032
			Toluene - 263.0	0.179	0.135
			Ethylbenzene - 26.9	0.018	0.014
			Total Xylene - 79.4	0.054	0.041
			Total BTEX - 432.0	0.294	0.221
			TPH - GRO - 8,660	5.895	5.453
EF-1 (20190226)	02/26/19	Xenco	Benzene - 245.0	0.167	0.125
			Toluene - 1,150	0.783	0.589
			Ethylbenzene - 165.0	0.112	0.084
			Total Xylene - 246.3	0.168	0.126
			Total BTEX - 1,806	1.230	0.924
			TPH - GRO - N/A	-	-
EF-1 (20190403)	04/03/19	Xenco	Benzene - 97.8	0.067	0.050
			Toluene - 497	0.338	0.254
			Ethylbenzene - 65.3	0.044	0.033
			Total Xylene - 114.8	0.078	0.059
			Total BTEX - 774.9	0.528	0.397
			TPH - GRO - 2,890	1.967	1.820
EF-1 (20190514)	05/14/19	Pace	Benzene - 13.0	0.009	0.007
			Toluene - 29.6	0.020	0.015
			Ethylbenzene - 15.6	0.011	0.008
			Total Xylene - 21.7	0.015	0.011
			Total BTEX - 79.9	0.054	0.041
			TPH - GRO - 10,800	7.352	6.801

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. AR197008

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 (20190627)	06/27/19	Pace	Benzene - 42.3	0.029	0.022
			Toluene - 235.0	0.160	0.120
			Ethylbenzene - 36.0	0.025	0.018
			Total Xylene - 99.5	0.068	0.051
			Total BTEX - 79.9	0.054	0.041
			TPH - GRO - 7,530	5.126	4.742
EF-1 (20190729)	07/29/19	Pace	Benzene - 47.4	0.032	0.024
			Toluene - 951.0	0.647	0.487
			Ethylbenzene - 61.6	0.042	0.032
			Total Xylene - 179.0	0.122	0.092
			Total BTEX - 62.0	0.042	0.032
			TPH - GRO - 9,380	6.385	5.907
EF-1 (20191017)	1017/19	Pace	Benzene - 37.1	0.025	0.019
			Toluene - 216.0	0.147	0.111
			Ethylbenzene - 35.0	0.024	0.018
			Total Xylene - 78.0	0.053	0.040
			Total BTEX - 211.0	0.144	0.108
			TPH - GRO - 7,110	4.840	4.477
EF-1 (20191126)	11/26/19	Pace	Benzene - 8.82	0.006	0.005
			Toluene - 86.6	0.059	0.044
			Ethylbenzene - 21.3	0.015	0.011
			Total Xylene - 52.0	0.035	0.027
			Total BTEX - 14.7	0.010	0.008
			TPH - GRO - 2,340	1.593	1.474
EF-1 (20191219)	12/19/19	Pace	Benzene - 10.9	0.007	0.006
			Toluene - 89.3	0.061	0.046
			Ethylbenzene - 16.4	0.011	0.008
			Total Xylene - 40.7	0.028	0.021
			Total BTEX - 11.5	0.008	0.006
			TPH - GRO - 2,330	1.586	1.467

1. BTEX: Benzene, toluene, ethylbenzene, total xylene analyzed by EPA Method 8021B
2. TPH: Total petroleum hydrocarbons analyzed by EPA Method 8015
3. Emission Mass calculated assuming flowrate 1.1073 (m³/min) and constituent concentration were constant for the entirety of a year.
4. SVE Emission: Soil Vapor Extraction

NA: Indicates constituant was not analyzed
< = Constituent not detected above laboratory sample detection limit (SDL)
Bold denotes concentrations that could potentially be in violation of applicable NMED AQB criteria.

TABLE 4

MW-1 SVE[1] System Operation and PSH[2] Thickness & Recovery Summary
DCP Plant to Lea Station 6-Inch #2
Lea County, New Mexico
Plains Pipeline, L.P. SRS #2009-039
Terracon Project #: AR197008
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	Corrected Groundwater Elevation**	Recovered (gallons)	PSH Recovered (gallons)
MW-1	01/03/2018	3,540.25	80.67	82.89	2.22	386.0	3,958.6	3,459.25	-	-
	01/09/2018		80.44	82.00	1.56	617.1	4,105.6	3,459.58	-	-
	02/06/2018		80.61	82.55	1.94	741.0	4,105.6	3,459.35	-	-
	02/23/2018		80.62	82.63	2.01	583.7	5,183.0	3,459.33	-	-
	02/28/2018		80.64	80.66	0.02	-	5,303.0	3,459.61	-	-
	03/08/2018		80.65	82.64	1.99	631.0	5,494.2	3,459.30	-	-
	03/21/2018		80.66	82.70	2.04	581.3	5,805.0	3,459.28	-	-
	03/27/2018		80.65	82.70	2.05	493.0	5,950.8	3,459.29	-	-
	04/04/2018		80.68	82.73	2.05	476.6	6,142.6	3,459.26	-	-
	04/13/2018		80.68	82.70	2.02	490.2	6,358.2	3,459.27	-	-
	05/01/2018		80.63	82.62	1.99	608.9	6,791.7	3,459.32	-	-
	05/10/2018		80.59	82.92	2.33	1,240.0	7,006.3	3,459.31	-	-
	05/17/2018		80.70	83.06	2.36	1,162.0	7,006.3	3,459.20	-	-
	05/21/2018		80.05	82.23	2.18	1,118.0	7,102.6	3,459.87	-	-
	05/31/2018		80.62	82.58	1.96	-	7,340.1	3,459.34	-	-
	06/07/2018		80.59	82.21	1.62	-	7,509.6	3,459.42	-	-
	06/12/2018		80.69	82.77	2.08	1,074.0	7,629.0	3,459.25	-	-
	06/22/2018		80.70	82.75	2.05	1,319.0	7,870.5	3,459.24	-	-
	06/28/2018		80.80	82.80	2.00	-	8,015.8	3,459.15	-	-
	07/10/2018		80.79	82.87	2.08	1,122.0	8,304.0	3,459.15	-	-
	07/19/2018		80.76	82.99	2.23	874.3	8,520.0	3,459.16	-	-
	07/24/2018		80.71	83.02	2.31	-	8,640.0	3,459.19	-	-
	08/02/2018		80.68	82.93	2.25	567.5	8,854.0	3,459.23	-	-
	08/08/2018		80.70	82.92	2.22	751.1	8,998.0	3,459.22	-	-
	09/06/2018		80.70	83.04	2.34	631.7	9,622.7	3,459.20	-	-
	09/13/2018		80.69	83.15	2.46	341.5	9,771.0	3,459.19	-	-
	09/28/2018		81.69	82.92	1.23	-	10,110.4	3,458.38	-	-
	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	3,459.15	-	-
	10/24/2018		80.73	82.06	1.33	-	10,630.5	3,459.32	-	-
	10/25/2018		80.74	82.11	1.37	-	10,638.1	3,459.30	0.223	0.223
	11/06/2018		80.91	82.66	1.75	-	10,782.0	3,459.08	-	-
	11/14/2018		80.69	82.27	1.58	1,975.0	10,928.0	3,459.32	-	-
	12/20/2018		81.85	83.52	1.67	1,363.0	11,615.0	3,458.15	-	-
	02/05/2019		-	-	-	1,782.0	12,542.6	-	-	-
	02/06/2019		80.73	81.74	1.01	-	-	3,459.37	-	-
	02/14/2019		80.85	82.45	1.60	4,245.0	12,739.5	3,459.16	-	-
	02/21/2019		80.81	81.70	0.89	1,530.0	12,898.1	3,459.31	-	-
	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	3,459.04	-	-
	03/27/2019		80.89	82.30	1.41	6,290.0	13,621.0	3,459.15	-	-
	04/03/2019		-	-	-	3,260.0	13,789.8	-	-	-
	04/16/2019		80.90	81.98	1.08	2,130.0	14,097.8	3,459.19	5.0	0.176
	05/02/2019		81.06	81.44	0.38	4,115.0	14,266.6	3,459.13	3.0	0.062
	05/14/2019		81.05	82.01	0.96	15,000.0	14,531.1	3,459.06	4.0	0.156
	06/14/2016		81.02	81.63	0.61	13,598.0	15,057.8	3,459.14	3.0	0.099
	06/27/2019		81.07	81.50	0.43	3,915.0	15,371.0	3,459.12	3.0	0.070
	07/10/2019		80.09	80.57	0.48	1,312.0	15,680.6	3,460.09	3.0	0.078
	07/16/2019		-	-	-	-	15,828.5	-	-	-
	07/29/2019		81.17	81.85	0.68	2186.00	-	3,458.98	3.50	0.111
	08/12/2019		81.38	81.84	0.46	1421.00	16,162.3	3,458.80	3.00	0.075
	09/13/2019		-	81.21	-	-	16,903.9	-	2.50	-
	10/03/2019		81.29	81.39	0.10	-	-	3,458.95	3.00	0.016
	10/17/2019		81.03	81.26	0.23	3675.00	17,716.0	3,459.19	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	3,458.91	3.00	0.049
	12/20/2019		81.81	82.08	0.27	2132.00	18,668.0	3,458.40	3.00	0.044
			4Q19 Average PSH Thickness		**0.28**			**4Q19 Total Recovered**	**15.0**	**0.975**

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 4a

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 #: AR197008
NMOCD[2] REFERENCE #: 1RP-2136
All measurements are in feet above mean sea level

Monitoring Well	Date Measured	Top of Casing (TOC)[3] Elevation	Depth to Water	Corrected Groundwater Elevation	GW 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
				4Q19 Total GW Recovered	179.0

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

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

DCP Plant to Lea Station 6-Inch #2
Lea County, New Mexico
Plains Pipeline, L.P. SRS #: 2009-039
Terracon Project #: 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
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
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
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

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
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
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

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:
1Q19 Groundwater 615463 (Xenco)
2Q19 Groundwater 625374 (Xenco)
3Q19 Groundwater 636325 (Xenco)
4Q19 Groundwater 643267 (Xenco)
1Q19 Air Reports 616063 (Xenco)
2Q19 Air Reports 620012 (Xenco)
3Q19 Air Reports L1124351 & L1152254 (Pace)
4Q19 Air Reports L1166019 & L1173661 (Pace)

Analytical Report 615463

for

Terracon-Lubbock

Project Manager: John Fergerson

DCP Plant to Lea Station 6"

AR197008

28-FEB-19

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)
Xenco-Lakeland: Florida (E84098)

Table of Contents

28-FEB-19

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

Reference: XENCO Report No(s): **615463**
DCP Plant to Lea Station 6"
Project Address: #2

John Fergerson:

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) 615463. 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. 615463 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

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 615463

Terracon-Lubbock, Lubbock, TX

DCP Plant to Lea Station 6"

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2	W	02-21-19 12:57		615463-001
MW-3	W	02-21-19 12:15		615463-002
MW-4	W	02-21-19 11:40		615463-003
MW-5	W	02-21-19 12:32		615463-004
MW-6	W	02-21-19 11:02		615463-005
MW-7	W	02-21-19 10:50		615463-006
DUP-1	W	02-21-19 12:37		615463-007

CASE NARRATIVE SUMMARY

Client Name: ***Terracon-Lubbock***

Project Name: ***DCP Plant to Lea Station 6"***

Project ID: *AR197008*
Work Order Number: *615463*

Report Date: *28-FEB-19*
Date Received: *22-FEB-19*

Jessica Kramer

Jessica Kramer
Project Assistant

Certificate of Analytical Results
615463

Terracon-Lubbock, Lubbock, TX
DCP Plant to Lea Station 6"

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

Lab Sample Id: 615463-001 Date Collected: 02.21.19 12.57 Date Received: 02.22.19 09.00

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3080459 Date Prep: 02.22.19 18.03

Prep seq: 7672500

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	02.24.19 18:04	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	02.24.19 18:04	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	02.24.19 18:04	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	02.24.19 18:04	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	02.24.19 18:04	U	1
Xylenes, Total	1330-20-7	<0.000270		0.000270	mg/L	02.24.19 18:04	U	
Total BTEX		<0.000270		0.000270	mg/L	02.24.19 18:04	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	104	66 - 120	%		
4-Bromofluorobenzene	113	67 - 120	%		

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

Lab Sample Id: 615463-002 Date Collected: 02.21.19 12.15 Date Received: 02.22.19 09.00

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3080459 Date Prep: 02.22.19 18.03

Prep seq: 7672500

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	02.24.19 18:28	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	02.24.19 18:28	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	02.24.19 18:28	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	02.24.19 18:28	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	02.24.19 18:28	U	1
Xylenes, Total	1330-20-7	<0.000270		0.000270	mg/L	02.24.19 18:28	U	
Total BTEX		<0.000270		0.000270	mg/L	02.24.19 18:28	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	97	66 - 120	%		
4-Bromofluorobenzene	103	67 - 120	%		

Certificate of Analytical Results
615463

Terracon-Lubbock, Lubbock, TX
DCP Plant to Lea Station 6"

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

Lab Sample Id: 615463-003 Date Collected: 02.21.19 11.40 Date Received: 02.22.19 09.00

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3080459 Date Prep: 02.22.19 18.03

Prep seq: 7672500

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	02.24.19 18:53	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	02.24.19 18:53	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	02.24.19 18:53	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	02.24.19 18:53	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	02.24.19 18:53	U	1
Xylenes, Total	1330-20-7	<0.000270		0.000270	mg/L	02.24.19 18:53	U	
Total BTEX		<0.000270		0.000270	mg/L	02.24.19 18:53	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	103	66 - 120	%		
4-Bromofluorobenzene	109	67 - 120	%		

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

Lab Sample Id: 615463-004 Date Collected: 02.21.19 12.32 Date Received: 02.22.19 09.00

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3080644 Date Prep: 02.27.19 18.08

Prep seq: 7672664

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**5.29**	0.0500	0.0240	mg/L	02.28.19 07:57		50
Toluene	108-88-3	**0.285**	0.0500	0.0256	mg/L	02.28.19 07:57		50
Ethylbenzene	100-41-4	**0.265**	0.0500	0.0308	mg/L	02.28.19 07:57		50
m_p-Xylenes	179601-23-1	**0.315**	0.100	0.0227	mg/L	02.28.19 07:57		50
o-Xylene	95-47-6	**0.245**	0.0500	0.0135	mg/L	02.28.19 07:57		50
Xylenes, Total	1330-20-7	**0.560**		0.0135	mg/L	02.28.19 07:57		
Total BTEX		**6.40**		0.0135	mg/L	02.28.19 07:57		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	98	66 - 120	%		
4-Bromofluorobenzene	105	67 - 120	%		

Certificate of Analytical Results
615463

Terracon-Lubbock, Lubbock, TX
DCP Plant to Lea Station 6"

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

Lab Sample Id: 615463-005 Date Collected: 02.21.19 11.02 Date Received: 02.22.19 09.00

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3080644 Date Prep: 02.27.19 18.08

Prep seq: 7672664

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	02.28.19 02:41	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	02.28.19 02:41	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	02.28.19 02:41	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	02.28.19 02:41	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	02.28.19 02:41	U	1
Xylenes, Total	1330-20-7	<0.000270		0.000270	mg/L	02.28.19 02:41	U	
Total BTEX		<0.000270		0.000270	mg/L	02.28.19 02:41	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	86	66 - 120	%		
4-Bromofluorobenzene	93	67 - 120	%		

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

Lab Sample Id: 615463-006 Date Collected: 02.21.19 10.50 Date Received: 02.22.19 09.00

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3080644 Date Prep: 02.27.19 18.08

Prep seq: 7672664

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	02.28.19 03:06	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	02.28.19 03:06	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	02.28.19 03:06	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	02.28.19 03:06	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	02.28.19 03:06	U	1
Xylenes, Total	1330-20-7	<0.000270		0.000270	mg/L	02.28.19 03:06	U	
Total BTEX		<0.000270		0.000270	mg/L	02.28.19 03:06	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	101	66 - 120	%		
4-Bromofluorobenzene	110	67 - 120	%		

Certificate of Analytical Results
615463

Terracon-Lubbock, Lubbock, TX

DCP Plant to Lea Station 6"

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

Lab Sample Id: 615463-007 Date Collected: 02.21.19 12.37 Date Received: 02.22.19 09.00

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3080644 Date Prep: 02.27.19 18.08

Prep seq: 7672664

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**5.24**	0.0500	0.0240	mg/L	02.28.19 08:21		50
Toluene	108-88-3	**0.280**	0.0500	0.0256	mg/L	02.28.19 08:21		50
Ethylbenzene	100-41-4	**0.260**	0.0500	0.0308	mg/L	02.28.19 08:21		50
m_p-Xylenes	179601-23-1	**0.310**	0.100	0.0227	mg/L	02.28.19 08:21		50
o-Xylene	95-47-6	**0.240**	0.0500	0.0135	mg/L	02.28.19 08:21		50
Xylenes, Total	1330-20-7	**0.550**		0.0135	mg/L	02.28.19 08:21		
Total BTEX		**6.33**		0.0135	mg/L	02.28.19 08:21		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	98	66 - 120	%		
4-Bromofluorobenzene	104	67 - 120	%		

Certificate of Analytical Results
615463

Terracon-Lubbock, Lubbock, TX
DCP Plant to Lea Station 6"

Sample Id: **7672500-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 7672500-1-BLK Date Collected: Date Received:

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3080459 Date Prep: 02.22.19 18.03

Prep seq: 7672500

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	02.24.19 07:49	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	02.24.19 07:49	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	02.24.19 07:49	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	02.24.19 07:49	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	02.24.19 07:49	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	102	66 - 120	%		
4-Bromofluorobenzene	109	67 - 120	%		

Sample Id: **7672664-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 7672664-1-BLK Date Collected: Date Received:

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3080644 Date Prep: 02.27.19 18.08

Prep seq: 7672664

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	02.27.19 21:48	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	02.27.19 21:48	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	02.27.19 21:48	U	1
m_p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	02.27.19 21:48	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	02.27.19 21:48	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	108	66 - 120	%		
4-Bromofluorobenzene	114	67 - 120	%		

CHRONOLOGY OF HOLDING TIMES

Analytical Method : BTEX by EPA 8021B
Work Order #: **615463**
Date Received: 02/22/19

Client : Terracon-Lubbock
Project ID: AR197008

Field Sample ID	Lab Sample ID	Date Collected	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
MW-2	615463-001	02/21/19				02/24/19	14	3	P
MW-3	615463-002	02/21/19				02/24/19	14	3	P
MW-4	615463-003	02/21/19				02/24/19	14	3	P
MW-5	615463-004	02/21/19				02/28/19	14	7	P
MW-6	615463-005	02/21/19				02/28/19	14	7	P
MW-7	615463-006	02/21/19				02/28/19	14	7	P
DUP-1	615463-007	02/21/19				02/28/19	14	7	P

F = These samples were analyzed outside the recommended holding time.
P = Samples analyzed within the recommended holding time.

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

Analytical Log

Analytical Method:	BTEX by EPA 8021B	Batch #:	3080459
Project Name:	DCP Plant to Lea Station 6"	Project ID:	AR197008
Client Name:	Terracon-Lubbock	WO Number:	615463

Client Sample Id	Lab Sample Id	QC Types
MW-2	615463-001	SMP
MW-3	615463-002	SMP
MW-4	615463-003	SMP
	615254-009 S	MS
	615254-009 SD	MSD
	7672500-1-BKS	BKS
	7672500-1-BLK	BLK
	7672500-1-BSD	BSD

Version: 1.001

Analytical Log

Analytical Method:	BTEX by EPA 8021B	Batch #:	3080644
Project Name:	DCP Plant to Lea Station 6"	Project ID:	AR197008
Client Name:	Terracon-Lubbock	WO Number:	615463

Client Sample Id	Lab Sample Id	QC Types
DUP-1	615463-007	SMP
MW-5	615463-004	SMP
MW-6	615463-005	SMP
MW-7	615463-006	SMP
	615254-001 S	MS
	615254-001 SD	MSD
	7672664-1-BKS	BKS
	7672664-1-BLK	BLK
	7672664-1-BSD	BSD

Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6"

Work Orders : 615463, **Project ID:** AR197008

Lab Batch #: 3080459 **Sample:** 7672500-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/24/19 06:12

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	0.103	0.100	103	66-120	
4-Bromofluorobenzene	0.102	0.100	102	67-120	

Lab Batch #: 3080459 **Sample:** 7672500-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/24/19 06:36

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	0.102	0.100	102	66-120	
4-Bromofluorobenzene	0.100	0.100	100	67-120	

Lab Batch #: 3080459 **Sample:** 7672500-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/24/19 07:49

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	0.102	0.100	102	66-120	
4-Bromofluorobenzene	0.109	0.100	109	67-120	

Lab Batch #: 3080459 **Sample:** 615254-009 S / MS **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 02/24/19 08:38

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	0.0962	0.100	96	66-120	
4-Bromofluorobenzene	0.0982	0.100	98	67-120	

Lab Batch #: 3080459 **Sample:** 615254-009 SD / MSD **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 02/24/19 09:02

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	0.0976	0.100	98	66-120	
4-Bromofluorobenzene	0.101	0.100	101	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.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6"

Work Orders : 615463, **Project ID:** AR197008

Lab Batch #: 3080644 **Sample:** 7672664-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/27/19 20:09

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	0.0917	0.100	92	66-120	
4-Bromofluorobenzene	0.0950	0.100	95	67-120	

Lab Batch #: 3080644 **Sample:** 7672664-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/27/19 20:34

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	0.109	0.100	109	66-120	
4-Bromofluorobenzene	0.114	0.100	114	67-120	

Lab Batch #: 3080644 **Sample:** 7672664-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 02/27/19 21:48

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	0.108	0.100	108	66-120	
4-Bromofluorobenzene	0.114	0.100	114	67-120	

Lab Batch #: 3080644 **Sample:** 615254-001 S / MS **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 02/27/19 22:37

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	0.528	0.500	106	66-120	
4-Bromofluorobenzene	0.128	0.100	128	67-120	**

Lab Batch #: 3080644 **Sample:** 615254-001 SD / MSD **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 02/27/19 23:01

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	0.526	0.500	105	66-120	
4-Bromofluorobenzene	0.126	0.100	126	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.

Version: 1.%

BS / BSD Recoveries

Project Name: DCP Plant to Lea Station 6"

Work Order #: 615463 **Project ID:** AR197008

Analyst: MIT **Date Prepared:** 02/22/2019 **Date Analyzed:** 02/24/2019

Lab Batch ID: 3080459 **Sample:** 7672500-1-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	0.0985	99	0.100	0.0998	100	1	74-120	20	
Toluene	<0.000512	0.100	0.0997	100	0.100	0.0998	100	0	74-120	20	
Ethylbenzene	<0.000616	0.100	0.103	103	0.100	0.103	103	0	74-120	20	
m_p-Xylenes	<0.000454	0.200	0.207	104	0.200	0.207	104	0	73-120	25	
o-Xylene	<0.000270	0.100	0.104	104	0.100	0.105	105	1	73-120	25	

Analyst: MIT **Date Prepared:** 02/27/2019 **Date Analyzed:** 02/27/2019

Lab Batch ID: 3080644 **Sample:** 7672664-1-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	0.101	101	0.100	0.100	100	1	74-120	20	
Toluene	<0.000512	0.100	0.107	107	0.100	0.107	107	0	74-120	20	
Ethylbenzene	<0.000616	0.100	0.112	112	0.100	0.113	113	1	74-120	20	
m_p-Xylenes	<0.000454	0.200	0.228	114	0.200	0.226	113	1	73-120	25	
o-Xylene	<0.000270	0.100	0.112	112	0.100	0.110	110	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

Version: 1.%

Form 3 - MS / MSD Recoveries

Project Name: DCP Plant to Lea Station 6"

Work Order # : 615463 **Project ID:** AR197008

Lab Batch ID: 3080459 **QC- Sample ID:** 615254-009 S **Batch #:** 1 **Matrix:** Ground Water

Date Analyzed: 02/24/2019 **Date Prepared:** 02/22/2019 **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	<0.000480	0.100	0.102	102	0.100	0.102	102	0	15-147	25	
Toluene	<0.000512	0.100	0.101	101	0.100	0.0999	100	1	11-147	25	
Ethylbenzene	<0.000616	0.100	0.100	100	0.100	0.101	101	1	10-149	25	
m_p-Xylenes	<0.000454	0.200	0.199	100	0.200	0.202	101	1	62-124	25	
o-Xylene	<0.000270	0.100	0.102	102	0.100	0.103	103	1	62-124	25	

Lab Batch ID: 3080644 **QC- Sample ID:** 615254-001 S **Batch #:** 1 **Matrix:** Ground Water

Date Analyzed: 02/27/2019 **Date Prepared:** 02/27/2019 **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	0.0445	0.500	0.557	103	0.500	0.555	102	0	15-147	25	
Toluene	<0.00256	0.500	0.542	108	0.500	0.539	108	1	11-147	25	
Ethylbenzene	0.682	0.500	1.25	114	0.500	1.27	118	2	10-149	25	
m_p-Xylenes	<0.00227	1.00	1.12	112	1.00	1.13	113	1	62-124	25	
o-Xylene	<0.00135	0.500	0.547	109	0.500	0.557	111	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.

Attachment A Laboratory Data Package Cover Page

Project Name: **DCP Plant to Lea Station 6"** Laboratory Number: **615463**

This Data package consists of : Laboratory Batch No(s) **3080644, 3080459**

This signature page, the laboratory review checklist, and the following reportable data:

[X] R1 Field chain-of-custody documentation;

[X] R2 Sample identification cross-reference;

[X] R3 Test reports (analytical data sheets) for each environmental sample that includes:
- a) Items consistent with NELAC 5
- b) dilution factors,
- c) preparation methods,
- d) cleanup methods, and
- e) if required for the project, tentatively identified compounds (TICs).

[X] R4 Surrogate Recovery data including:
- a) Calculated recovery (%R), and
- b) The laboratory's surrogate QC limits.

[X] R5 Test reports/summary forms for blank samples;

[X] 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.

[X] 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

[X] R8 Laboratory anaytical 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.

[X] R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;

[X] R10 Other problems or anomalies.

[X] Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

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.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC 25.6 and was last inspection by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The offical signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Jessica Kramer	Jessica Kramer	**Project Assistant**	**28-FEB-19**
Name (Printed)	Signature	Official Title (printed)	Date

A1

Attachment A (cont'd) : Laboratory Review Checklist: Reportable Data

Laboratory Name:	XENCO LABORATORIES	LRC Date :	28-FEB-19
Project Name:	DCP Plant to Lea Station 6"	Laboratory Job Number :	615463
Reviewer Name:	JKR	Batch Number(s) :	3080644, 3080459

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	**Chain-of-Custody (COC)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		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 soil/solid samples for volatile analysis extracted with methanol per SW846 Method 5035?	X				
		If required for the project, were 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			1
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 procedure, 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 the 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 the 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				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				

Attachment A (cont'd) : Laboratory Review Checklist: Reportable Data

Laboratory Name:	XENCO LABORATORIES	LRC Date :	28-FEB-19
Project Name:	DCP Plant to Lea Station 6"	Laboratory Job Number :	615463
Reviewer Name:	JKR	Batch Number(s) :	3080644, 3080459

#[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 the 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 (**					
		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 Standard (IS)**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw Data (NELAC 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 Digestions 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 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 to the TCEQ-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).

Attachment A (cont'd): Laboratory Review Checklist: Exception Reports

Laboratory Name: XENCO LABORATORIES	LRC Date: 28-FEB-19
Project Name: DCP Plant to Lea Station 6"	Laboratory Job Number: 615463
Reviewer Name: JKR	Batch Number(s) : 3080644, 3080459

ER# [1]	DESCRIPTION
1	SW8021BM Batch 3080644, Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis. Samples affected are: 615254-001 S,615254-001 SD.

1 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No is checked on the LRC).

DCS Summary 615463

Terracon-Lubbock, Lubbock, TX

DCP Plant to Lea Station 6"

Analytical Method: **BTEX by EPA 8021B** Matrix: **Water**

Prep Method: **SW5030B** Laboratory: **Xenco - Lubbock**

Parameter	SDL	MQL	Spike Amount	Actual Amount	Units
Benzene	0.000480	0.00100	0.000700	0.000700	mg/L
Toluene	0.000512	0.00100	0.000700	0.000800	mg/L
Ethylbenzene	0.000616	0.00100	0.000700	0.000800	mg/L
m_p-Xylenes	0.000454	0.00200	0.00140	0.00160	mg/L
o-Xylene	0.000270	0.00100	0.000700	0.000800	mg/L

615463

615463

Terracon

CHAIN OF CUSTODY RECORD

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

Office Location: Lubbock
Project Manager: John Fergerson
Sampler's Name: Aaron Adams
Sampler's Signature:

Project Number: AR197008
Project Name: DCP Plant to Lea Station 6" #2 (SRS # 2009-039)

ANALYSIS REQUESTED: 615463

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 1.3, 2.4

Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 40 ml VOA				BTEX (EPA Method 8021B)	Lab Sample ID
GW	02/21/19	1257		X	MW-2			X				2	
GW	02/21/19	1215		X	MW-3			X				2	
GW	02/21/19	1140		X	MW-4			X				2	
GW	02/21/19	1232		X	MW-5			X				2	
GW	02/21/19	1102		X	MW-6			X				2	
GW	02/21/19	1050		X	MW-7			X				2	
GW	02/21/19	1237		X	DUP-1			X				2	
					**********END OF COC**********			X				2	

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

TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
	2-22-19	9:00am		2/22/19	9:00
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:

NOTES:
1. CJBRYANT@PAALP.COM
2. ALGROVES@PAALP.COM
3. JOHN.FERGERSON@TERRACON.COM
4. ERIN.LOYD@TERRACON.COM
5. AARON.ADAMS@TERRACON.COM
6. KATHRASH@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: 02/22/2019 09:00:00 AM

Work Order #: 615463

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

Temperature Measuring device used : r3

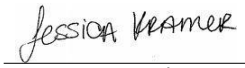
Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.4
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**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:  Date: 02/22/2019

Ashley Derstine

Checklist reviewed by:  Date: 02/26/2019

Jessica Kramer

Analytical Report 625374

for

Terracon-Lubbock

Project Manager: John Fergerson

DCP Plant to Lea Station 6' #2(SRS #2009-039)

AR197008

31-MAY-19

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

Table of Contents

31-MAY-19

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

Reference: XENCO Report No(s): **625374**
DCP Plant to Lea Station 6' #2(SRS #2009-039)
Project Address:

John Fergerson:

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) 625374. 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. 625374 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

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 625374

Terracon-Lubbock, Lubbock, TX

DCP Plant to Lea Station 6' #2(SRS #2009-039)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW#2	W	05-22-19 12:45	'	625374-001
MW#3	W	05-22-19 13:33	'	625374-002
MW#4	W	05-22-19 14:28	'	625374-003
MW#5	W	05-22-19 15:13	'	625374-004
MW#6	W	05-22-19 11:05	'	625374-005
MW#7	W	05-22-19 11:50	'	625374-006
DUP-1	W	05-22-19 15:18	'	625374-007

CASE NARRATIVE

Client Name: Terracon-Lubbock

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

Project ID: *AR197008*
Work Order Number(s): *625374*

Report Date: *31-MAY-19*
Date Received: *05/23/2019*

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:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results
625374

Terracon-Lubbock, Lubbock, TX
DCP Plant to Lea Station 6' #2(SRS #2009-039)

Sample Id: **MW#2** Matrix: Ground Water Sample Depth: '

Lab Sample Id: 625374-001 Date Collected: 05.22.19 12.45 Date Received: 05.23.19 10.55

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

Analyst: MIT % Moist: Tech: RNL

Seq Number: 3090293 Date Prep: 05.24.19 16.03

Prep seq: 7678638

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	05.25.19 02:51	U	1
Toluene	108-88-3	**0.000700**	0.00100	0.000512	mg/L	05.25.19 02:51	J	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	05.25.19 02:51	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	05.25.19 02:51	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	05.25.19 02:51	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	05.25.19 02:51	U	
Total BTEX		**0.000700**		0.000270	mg/L	05.25.19 02:51	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	97	66 - 120	%		
4-Bromofluorobenzene	110	67 - 120	%		

Sample Id: **MW#3** Matrix: Ground Water Sample Depth: '

Lab Sample Id: 625374-002 Date Collected: 05.22.19 13.33 Date Received: 05.23.19 10.55

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

Analyst: MIT % Moist: Tech: RNL

Seq Number: 3090293 Date Prep: 05.24.19 16.03

Prep seq: 7678638

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	05.25.19 03:16	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	05.25.19 03:16	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	05.25.19 03:16	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	05.25.19 03:16	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	05.25.19 03:16	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	05.25.19 03:16	U	
Total BTEX		<0.000270		0.000270	mg/L	05.25.19 03:16	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	97	66 - 120	%		
4-Bromofluorobenzene	101	67 - 120	%		

Certificate of Analytical Results
625374

Terracon-Lubbock, Lubbock, TX
DCP Plant to Lea Station 6' #2(SRS #2009-039)

Sample Id: **MW#4** Matrix: Ground Water Sample Depth: '

Lab Sample Id: 625374-003 Date Collected: 05.22.19 14.28 Date Received: 05.23.19 10.55

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

Analyst: MIT % Moist: Tech: RNL

Seq Number: 3090293 Date Prep: 05.24.19 16.03

Prep seq: 7678638

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	05.25.19 03:40	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	05.25.19 03:40	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	05.25.19 03:40	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	05.25.19 03:40	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	05.25.19 03:40	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	05.25.19 03:40	U	
Total BTEX		<0.000270		0.000270	mg/L	05.25.19 03:40	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	96	66 - 120	%		
4-Bromofluorobenzene	99	67 - 120	%		

Sample Id: **MW#5** Matrix: Ground Water Sample Depth: '

Lab Sample Id: 625374-004 Date Collected: 05.22.19 15.13 Date Received: 05.23.19 10.55

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3090477 Date Prep: 05.29.19 09.18

Prep seq: 7678772

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**0.641**	0.00500	0.00240	mg/L	05.29.19 15:28		5
Toluene	108-88-3	<0.00256	0.00500	0.00256	mg/L	05.29.19 15:28	U	5
Ethylbenzene	100-41-4	**0.00950**	0.00500	0.00308	mg/L	05.29.19 15:28		5
m,p-Xylenes	179601-23-1	**0.0105**	0.0100	0.00227	mg/L	05.29.19 15:28		5
o-Xylene	95-47-6	**0.00250**	0.00500	0.00135	mg/L	05.29.19 15:28	J	5
Total Xylenes	1330-20-7	**0.0130**		0.00135	mg/L	05.29.19 15:28		
Total BTEX		**0.664**		0.00135	mg/L	05.29.19 15:28		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	95	66 - 120	%		
4-Bromofluorobenzene	96	67 - 120	%		

Certificate of Analytical Results
625374

Terracon-Lubbock, Lubbock, TX
DCP Plant to Lea Station 6' #2(SRS #2009-039)

Sample Id: **MW#6** Matrix: Ground Water Sample Depth: '

Lab Sample Id: 625374-005 Date Collected: 05.22.19 11.05 Date Received: 05.23.19 10.55

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3090477 Date Prep: 05.29.19 09.18

Prep seq: 7678772

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	05.29.19 17:04	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	05.29.19 17:04	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	05.29.19 17:04	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	05.29.19 17:04	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	05.29.19 17:04	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	05.29.19 17:04	U	
Total BTEX		<0.000270		0.000270	mg/L	05.29.19 17:04	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	95	66 - 120	%		
4-Bromofluorobenzene	93	67 - 120	%		

Sample Id: **MW#7** Matrix: Ground Water Sample Depth: '

Lab Sample Id: 625374-006 Date Collected: 05.22.19 11.50 Date Received: 05.23.19 10.55

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

Analyst: MIT % Moist: Tech: RNL

Seq Number: 3090293 Date Prep: 05.24.19 16.03

Prep seq: 7678638

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	05.25.19 04:53	U	1
Toluene	108-88-3	**0.000700**	0.00100	0.000512	mg/L	05.25.19 04:53	J	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	05.25.19 04:53	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	05.25.19 04:53	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	05.25.19 04:53	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	05.25.19 04:53	U	
Total BTEX		**0.000700**		0.000270	mg/L	05.25.19 04:53	J	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	97	66 - 120	%		
4-Bromofluorobenzene	101	67 - 120	%		

Certificate of Analytical Results
625374

Terracon-Lubbock, Lubbock, TX

DCP Plant to Lea Station 6' #2(SRS #2009-039)

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

Lab Sample Id: 625374-007 Date Collected: 05.22.19 15.18 Date Received: 05.23.19 10.55

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3090477 Date Prep: 05.29.19 09.18

Prep seq: 7678772

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**0.673**	0.00500	0.00240	mg/L	05.29.19 17:28		5
Toluene	108-88-3	<0.00256	0.00500	0.00256	mg/L	05.29.19 17:28	U	5
Ethylbenzene	100-41-4	**0.0100**	0.00500	0.00308	mg/L	05.29.19 17:28		5
m,p-Xylenes	179601-23-1	**0.0120**	0.0100	0.00227	mg/L	05.29.19 17:28		5
o-Xylene	95-47-6	**0.00250**	0.00500	0.00135	mg/L	05.29.19 17:28	J	5
Total Xylenes	1330-20-7	**0.0145**		0.00135	mg/L	05.29.19 17:28		
Total BTEX		**0.698**		0.00135	mg/L	05.29.19 17:28		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	100	66 - 120	%		
4-Bromofluorobenzene	100	67 - 120	%		

Certificate of Analytical Results
625374

Terracon-Lubbock, Lubbock, TX
DCP Plant to Lea Station 6' #2(SRS #2009-039)

Sample Id: **7678638-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 7678638-1-BLK Date Collected: Date Received:

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

Analyst: MIT % Moist: Tech: RNL

Seq Number: 3090293 Date Prep: 05.24.19 16.03

Prep seq: 7678638

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	05.24.19 18:46	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	05.24.19 18:46	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	05.24.19 18:46	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	05.24.19 18:46	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	05.24.19 18:46	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	05.24.19 18:46	U	
Total BTEX		<0.000270		0.000270	mg/L	05.24.19 18:46	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	100	66 - 120	%		
4-Bromofluorobenzene	104	67 - 120	%		

Sample Id: **7678772-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 7678772-1-BLK Date Collected: Date Received:

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3090477 Date Prep: 05.29.19 09.18

Prep seq: 7678772

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	05.29.19 12:26	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	05.29.19 12:26	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	05.29.19 12:26	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	05.29.19 12:26	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	05.29.19 12:26	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	05.29.19 12:26	U	
Total BTEX		<0.000270		0.000270	mg/L	05.29.19 12:26	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	100	66 - 120	%		
4-Bromofluorobenzene	101	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 Plant to Lea Station 6' #2(SRS #2009-039)

Work Orders : 625374, **Project ID:** AR197008

Lab Batch #: 3090293 **Sample:** 7678638-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/24/19 17:08

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	0.0985	0.100	99	66-120	
4-Bromofluorobenzene	0.0939	0.100	94	67-120	

Lab Batch #: 3090293 **Sample:** 7678638-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/24/19 17:33

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	0.0987	0.100	99	66-120	
4-Bromofluorobenzene	0.0945	0.100	95	67-120	

Lab Batch #: 3090293 **Sample:** 7678638-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/24/19 18:46

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	0.0999	0.100	100	66-120	
4-Bromofluorobenzene	0.104	0.100	104	67-120	

Lab Batch #: 3090293 **Sample:** 625479-001 S / MS **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 05/24/19 20:22

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	0.0966	0.100	97	66-120	
4-Bromofluorobenzene	0.0918	0.100	92	67-120	

Lab Batch #: 3090293 **Sample:** 625479-001 SD / MSD **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 05/24/19 20:47

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	0.0935	0.100	94	66-120	
4-Bromofluorobenzene	0.0923	0.100	92	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 Plant to Lea Station 6' #2(SRS #2009-039)

Work Orders : 625374,

Project ID: AR197008

Lab Batch #: 3090477 **Sample:** 7678772-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/29/19 10:51

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	0.0996	0.100	100	66-120	
4-Bromofluorobenzene	0.0982	0.100	98	67-120	

Lab Batch #: 3090477 **Sample:** 7678772-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/29/19 11:15

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	0.0993	0.100	99	66-120	
4-Bromofluorobenzene	0.101	0.100	101	67-120	

Lab Batch #: 3090477 **Sample:** 7678772-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 05/29/19 12:26

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	0.100	0.100	100	66-120	
4-Bromofluorobenzene	0.101	0.100	101	67-120	

Lab Batch #: 3090477 **Sample:** 625374-004 S / MS **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 05/29/19 15:52

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	0.482	0.500	96	66-120	
4-Bromofluorobenzene	0.0928	0.100	93	67-120	

Lab Batch #: 3090477 **Sample:** 625374-004 SD / MSD **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 05/29/19 16:16

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	0.500	0.500	100	66-120	
4-Bromofluorobenzene	0.0948	0.100	95	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 Plant to Lea Station 6' #2(SRS #2009-039)

Work Order #: 625374 **Project ID:** AR197008

Analyst: MIT **Date Prepared:** 05/24/2019 **Date Analyzed:** 05/24/2019

Lab Batch ID: 3090293 **Sample:** 7678638-1-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	0.0980	98	0.100	0.0970	97	1	74-120	20	
Toluene	<0.000512	0.100	0.0960	96	0.100	0.0963	96	0	74-120	20	
Ethylbenzene	<0.000616	0.100	0.0980	98	0.100	0.0977	98	0	74-120	20	
m,p-Xylenes	<0.000454	0.200	0.201	101	0.200	0.200	100	0	73-120	25	
o-Xylene	<0.000270	0.100	0.104	104	0.100	0.104	104	0	73-120	25	

Analyst: MIT **Date Prepared:** 05/29/2019 **Date Analyzed:** 05/29/2019

Lab Batch ID: 3090477 **Sample:** 7678772-1-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	0.0988	99	0.100	0.0943	94	5	74-120	20	
Toluene	<0.000512	0.100	0.0987	99	0.100	0.0991	99	0	74-120	20	
Ethylbenzene	<0.000616	0.100	0.104	104	0.100	0.107	107	3	74-120	20	
m,p-Xylenes	<0.000454	0.200	0.210	105	0.200	0.216	108	3	73-120	25	
o-Xylene	<0.000270	0.100	0.105	105	0.100	0.107	107	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 Plant to Lea Station 6' #2(SRS #2009-039)

Work Order # : 625374 **Project ID:** AR197008

Lab Batch ID: 3090293 **QC- Sample ID:** 625479-001 S **Batch #:** 1 **Matrix:** Ground Water

Date Analyzed: 05/24/2019 **Date Prepared:** 05/24/2019 **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	<0.000480	0.100	0.0989	99	0.100	0.0973	97	2	15-147	25	
Toluene	<0.000512	0.100	0.0966	97	0.100	0.0971	97	1	11-147	25	
Ethylbenzene	<0.000616	0.100	0.0967	97	0.100	0.0996	100	3	10-149	25	
m,p-Xylenes	<0.000454	0.200	0.199	100	0.200	0.206	103	3	62-124	25	
o-Xylene	<0.000270	0.100	0.104	104	0.100	0.106	106	2	62-124	25	

Lab Batch ID: 3090477 **QC- Sample ID:** 625374-004 S **Batch #:** 1 **Matrix:** Ground Water

Date Analyzed: 05/29/2019 **Date Prepared:** 05/29/2019 **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	0.641	0.500	1.15	102	0.500	1.13	98	2	15-147	25	
Toluene	<0.00256	0.500	0.473	95	0.500	0.481	96	2	11-147	25	
Ethylbenzene	0.00950	0.500	0.497	98	0.500	0.510	100	3	10-149	25	
m,p-Xylenes	0.0105	1.00	0.981	97	1.00	1.01	100	3	62-124	25	
o-Xylene	0.00250	0.500	0.498	99	0.500	0.513	102	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.

625374

Terracon

CHAIN OF CUSTODY RECORD

625374

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Phone:
Project Manager: John Fergerson
Contact: John Fergerson
Sampler's Name: Aaron Adams
PO/SO #:
Sampler's Signature:

ANALYSIS REQUESTED: BTEX (EPA Method 8021B)

LAB USE ONLY
DUE DATE:
TEMP OF COOLER WHEN RECEIVED (°C): 6.5/6.4

Page 1 of 1

Project Number: AR197008
Project Name: DCP Plant to Lea Station 6' #2 (SRS # 2009-039)

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	5/22/2019	12:45		X	MW #2			3	X	1
GW	5/22/2019	13:33		X	MW #3			3	X	2
GW	5/22/2019	14:28		X	MW #4			3	X	3
GW	5/22/2019	15:13		X	MW #5			3	X	4
GW	5/22/2019	11:05		X	MW #6			3	X	5
GW	5/22/2019	11:50		X	MW #7			3	X	6
GW	5/22/2019	15:18		X	DUP-1			3	X	7

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

TRRP Laboratory Review Checklist [ ] Yes [ ] No

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
	5-22-19	8:15 pm			
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date: 5-22-19	Time: 8:15 pm
Relinquished by (Signature)	Date: 5-23-19	Time: 10:55	Received by (Signature)	Date: 5/23/19	Time: 10:55
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:

NOTES:

e-mail results to:
john.fergerson@terracon.com
erin.loyd@terracon.com
aaron.adams@terracon.com

CARRY-IN ON ICE!

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: 05/23/2019 10:55:00 AM

Work Order #: 625374

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

Temperature Measuring device used : R3

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	6.4
#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?	**N/A**

*** 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: 05/23/2019

Checklist reviewed by: Jessica Kramer Date: 05/28/2019

Analytical Report 636325

for

Terracon-Lubbock

Project Manager: Paige Gaona

DCP Plant to Lea Station 6'' #2

AR197008

12-SEP-19

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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12-SEP-19

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

Reference: XENCO Report No(s): **636325**
DCP Plant to Lea Station 6'' #2
Project Address: SRS #2009-039

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) 636325. 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. 636325 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

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 636325

Terracon-Lubbock, Lubbock, TX

DCP Plant to Lea Station 6" #2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-6	W	09-09-19 12:30		636325-001
MW-7	W	09-09-19 13:17		636325-002
MW-2	W	09-09-19 14:12		636325-003
MW-3	W	09-09-19 15:25		636325-004
MW-4	W	09-09-19 16:32		636325-005
MW-5	W	09-09-19 17:10		636325-006
DUP-1	W	09-09-19 12:30		636325-007

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: DCP Plant to Lea Station 6'' #2

Project ID: *AR197008*
Work Order Number(s): *636325*

Report Date: *12-SEP-19*
Date Received: *09/09/2019*

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:

MS/MSD outside normal ranges due to prep error. The LCS/LCSD are within acceptable limits: therefore the data was accepted.

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3100941 BTEX by EPA 8021B
MS/MSD outside normal ranges due to prep error. The LCS/LCSD are within acceptable limits: therefore the data was accepted.

Certificate of Analytical Results
636325

Terracon-Lubbock, Lubbock, TX
DCP Plant to Lea Station 6" #2

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

Lab Sample Id: 636325-001 Date Collected: 09.09.19 12.30 Date Received: 09.09.19 18.00

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3100941 Date Prep: 09.09.19 14.00

Prep seq: 7685853

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	09.10.19 01:32	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	09.10.19 01:32	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	09.10.19 01:32	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	09.10.19 01:32	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	09.10.19 01:32	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	09.10.19 01:32	U	
Total BTEX		<0.000270		0.000270	mg/L	09.10.19 01:32	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	104	66 - 120	%		
4-Bromofluorobenzene	110	67 - 120	%		

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

Lab Sample Id: 636325-002 Date Collected: 09.09.19 13.17 Date Received: 09.09.19 18.00

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3100941 Date Prep: 09.09.19 14.00

Prep seq: 7685853

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	09.10.19 01:56	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	09.10.19 01:56	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	09.10.19 01:56	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	09.10.19 01:56	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	09.10.19 01:56	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	09.10.19 01:56	U	
Total BTEX		<0.000270		0.000270	mg/L	09.10.19 01:56	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	98	66 - 120	%		
4-Bromofluorobenzene	99	67 - 120	%		

Certificate of Analytical Results
636325

Terracon-Lubbock, Lubbock, TX
DCP Plant to Lea Station 6" #2

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

Lab Sample Id: 636325-003 Date Collected: 09.09.19 14.12 Date Received: 09.09.19 18.00

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3100941 Date Prep: 09.09.19 14.00

Prep seq: 7685853

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	09.10.19 02:20	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	09.10.19 02:20	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	09.10.19 02:20	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	09.10.19 02:20	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	09.10.19 02:20	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	09.10.19 02:20	U	
Total BTEX		<0.000270		0.000270	mg/L	09.10.19 02:20	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	98	66 - 120	%		
4-Bromofluorobenzene	100	67 - 120	%		

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

Lab Sample Id: 636325-004 Date Collected: 09.09.19 15.25 Date Received: 09.09.19 18.00

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3100941 Date Prep: 09.09.19 14.00

Prep seq: 7685853

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	09.10.19 02:45	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	09.10.19 02:45	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	09.10.19 02:45	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	09.10.19 02:45	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	09.10.19 02:45	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	09.10.19 02:45	U	
Total BTEX		<0.000270		0.000270	mg/L	09.10.19 02:45	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	99	66 - 120	%		
4-Bromofluorobenzene	103	67 - 120	%		

Certificate of Analytical Results
636325

Terracon-Lubbock, Lubbock, TX

DCP Plant to Lea Station 6" #2

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

Lab Sample Id: 636325-005 Date Collected: 09.09.19 16.32 Date Received: 09.09.19 18.00

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3100941 Date Prep: 09.09.19 14.00

Prep seq: 7685853

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	09.10.19 03:09	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	09.10.19 03:09	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	09.10.19 03:09	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	09.10.19 03:09	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	09.10.19 03:09	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	09.10.19 03:09	U	
Total BTEX		<0.000270		0.000270	mg/L	09.10.19 03:09	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	101	66 - 120	%		
4-Bromofluorobenzene	103	67 - 120	%		

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

Lab Sample Id: 636325-006 Date Collected: 09.09.19 17.10 Date Received: 09.09.19 18.00

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3101119 Date Prep: 09.10.19 14.00

Prep seq: 7685890

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**1.63**	0.00500	0.00240	mg/L	09.11.19 01:41		5
Toluene	108-88-3	**0.0100**	0.00500	0.00256	mg/L	09.11.19 01:41		5
Ethylbenzene	100-41-4	**0.0345**	0.00500	0.00308	mg/L	09.11.19 01:41		5
m,p-Xylenes	179601-23-1	**0.0365**	0.0100	0.00227	mg/L	09.11.19 01:41		5
o-Xylene	95-47-6	**0.0345**	0.00500	0.00135	mg/L	09.11.19 01:41		5
Total Xylenes	1330-20-7	**0.0710**		0.00135	mg/L	09.11.19 01:41		
Total BTEX		**1.75**		0.00135	mg/L	09.11.19 01:41		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	99	66 - 120	%		
4-Bromofluorobenzene	101	67 - 120	%		

Certificate of Analytical Results
636325

Terracon-Lubbock, Lubbock, TX
DCP Plant to Lea Station 6" #2

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

Lab Sample Id: 636325-007 Date Collected: 09.09.19 12.30 Date Received: 09.09.19 18.00

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3101119 Date Prep: 09.10.19 14.00

Prep seq: 7685890

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	**1.51**	0.00500	0.00240	mg/L	09.11.19 02:06		5
Toluene	108-88-3	**0.00450**	0.00500	0.00256	mg/L	09.11.19 02:06	J	5
Ethylbenzene	100-41-4	**0.0280**	0.00500	0.00308	mg/L	09.11.19 02:06		5
m,p-Xylenes	179601-23-1	**0.0235**	0.0100	0.00227	mg/L	09.11.19 02:06		5
o-Xylene	95-47-6	**0.0130**	0.00500	0.00135	mg/L	09.11.19 02:06		5
Total Xylenes	1330-20-7	**0.0365**		0.00135	mg/L	09.11.19 02:06		
Total BTEX		**1.58**		0.00135	mg/L	09.11.19 02:06		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	95	66 - 120	%		
4-Bromofluorobenzene	99	67 - 120	%		

Certificate of Analytical Results
636325

Terracon-Lubbock, Lubbock, TX
DCP Plant to Lea Station 6" #2

Sample Id: **7685853-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 7685853-1-BLK Date Collected: Date Received:

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3100941 Date Prep: 09.09.19 14.00

Prep seq: 7685853

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	09.09.19 18:18	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	09.09.19 18:18	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	09.09.19 18:18	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	09.09.19 18:18	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	09.09.19 18:18	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	09.09.19 18:18	U	
Total BTEX		<0.000270		0.000270	mg/L	09.09.19 18:18	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	96	66 - 120	%		
4-Bromofluorobenzene	98	67 - 120	%		

Sample Id: **7685890-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 7685890-1-BLK Date Collected: Date Received:

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

Analyst: MIT % Moist: Tech: MIT

Seq Number: 3101119 Date Prep: 09.10.19 14.00

Prep seq: 7685890

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	09.10.19 23:18	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	09.10.19 23:18	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	09.10.19 23:18	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	09.10.19 23:18	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	09.10.19 23:18	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	09.10.19 23:18	U	
Total BTEX		<0.000270		0.000270	mg/L	09.10.19 23:18	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	100	66 - 120	%		
4-Bromofluorobenzene	106	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 Plant to Lea Station 6'' #2

Work Orders : 636325, **Project ID:** AR197008

Lab Batch #: 3100941 **Sample:** 7685853-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/09/19 16:41

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	0.0962	0.100	96	66-120	
4-Bromofluorobenzene	0.0928	0.100	93	67-120	

Lab Batch #: 3100941 **Sample:** 7685853-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/09/19 17:06

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	0.100	0.100	100	66-120	
4-Bromofluorobenzene	0.0955	0.100	96	67-120	

Lab Batch #: 3100941 **Sample:** 7685853-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/09/19 18:18

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	0.0960	0.100	96	66-120	
4-Bromofluorobenzene	0.0984	0.100	98	67-120	

Lab Batch #: 3100941 **Sample:** 636015-001 S / MS **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 09/09/19 19:06

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	0.481	0.500	96	66-120	
4-Bromofluorobenzene	0.0969	0.100	97	67-120	

Lab Batch #: 3100941 **Sample:** 636015-001 SD / MSD **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 09/09/19 19:30

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	0.481	0.500	96	66-120	
4-Bromofluorobenzene	0.0988	0.100	99	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 Plant to Lea Station 6'' #2

Work Orders : 636325, **Project ID:** AR197008

Lab Batch #: 3101119 **Sample:** 7685890-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/10/19 21:42

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	0.103	0.100	103	66-120	
4-Bromofluorobenzene	0.105	0.100	105	67-120	

Lab Batch #: 3101119 **Sample:** 7685890-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/10/19 22:05

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	0.102	0.100	102	66-120	
4-Bromofluorobenzene	0.0984	0.100	98	67-120	

Lab Batch #: 3101119 **Sample:** 7685890-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/10/19 23:18

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	0.100	0.100	100	66-120	
4-Bromofluorobenzene	0.106	0.100	106	67-120	

Lab Batch #: 3101119 **Sample:** 636387-004 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/11/19 00:06

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	0.101	0.100	101	66-120	
4-Bromofluorobenzene	0.106	0.100	106	67-120	

Lab Batch #: 3101119 **Sample:** 636387-004 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/11/19 00:30

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	0.103	0.100	103	66-120	
4-Bromofluorobenzene	0.0993	0.100	99	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 Plant to Lea Station 6'' #2

Work Order #: 636325 **Project ID:** AR197008

Analyst: MIT **Date Prepared:** 09/09/2019 **Date Analyzed:** 09/09/2019

Lab Batch ID: 3100941 **Sample:** 7685853-1-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	0.0955	96	0.100	0.0945	95	1	74-120	20	
Toluene	<0.000512	0.100	0.0957	96	0.100	0.0932	93	3	74-120	20	
Ethylbenzene	<0.000616	0.100	0.0999	100	0.100	0.0997	100	0	74-120	20	
m,p-Xylenes	<0.000454	0.200	0.202	101	0.200	0.194	97	4	73-120	25	
o-Xylene	<0.000270	0.100	0.102	102	0.100	0.0982	98	4	73-120	25	

Analyst: MIT **Date Prepared:** 09/10/2019 **Date Analyzed:** 09/10/2019

Lab Batch ID: 3101119 **Sample:** 7685890-1-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	0.0957	96	0.100	0.0934	93	2	74-120	20	
Toluene	<0.000512	0.100	0.0970	97	0.100	0.0942	94	3	74-120	20	
Ethylbenzene	<0.000616	0.100	0.105	105	0.100	0.0982	98	7	74-120	20	
m,p-Xylenes	<0.000454	0.200	0.204	102	0.200	0.196	98	4	73-120	25	
o-Xylene	<0.000270	0.100	0.102	102	0.100	0.0997	100	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 Plant to Lea Station 6'' #2

Work Order # : 636325 **Project ID:** AR197008

Lab Batch ID: 3100941 **QC- Sample ID:** 636015-001 S **Batch #:** 1 **Matrix:** Ground Water

Date Analyzed: 09/09/2019 **Date Prepared:** 09/09/2019 **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	<0.00240	0	0.500	<0.00240	0	NC	15-147	25	X
Toluene	<0.00256	0.500	<0.00256	0	0.500	<0.00256	0	NC	11-147	25	X
Ethylbenzene	<0.00308	0.500	<0.00308	0	0.500	<0.00308	0	NC	10-149	25	X
m,p-Xylenes	<0.00227	1.00	<0.00227	0	1.00	<0.00227	0	NC	62-124	25	X
o-Xylene	<0.00135	0.500	<0.00135	0	0.500	<0.00135	0	NC	62-124	25	X

Lab Batch ID: 3101119 **QC- Sample ID:** 636387-004 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 09/11/2019 **Date Prepared:** 09/10/2019 **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	<0.000480	0.100	0.0980	98	0.100	0.0989	99	1	15-147	25	
Toluene	<0.000512	0.100	0.0956	96	0.100	0.0996	100	4	11-147	25	
Ethylbenzene	<0.000616	0.100	0.102	102	0.100	0.104	104	2	10-149	25	
m,p-Xylenes	<0.000454	0.200	0.198	99	0.200	0.205	103	3	62-124	25	
o-Xylene	<0.000270	0.100	0.0995	100	0.100	0.103	103	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.

636325

636325

CHAIN OF CUSTODY RECORD

Terracon

Office Location: Lubbock

Project Manager: Paige Gaona

Sampler's Name: Aaron Adams

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

Project Number: AR197008

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): 1.2/1.3

FR 3

Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 40 ml VOA				BTEX (EPA Method 8021B)							Lab Sample ID
GW	09/05/19	1230		X	MW-6			X				3							1
GW	09/05/19	1317		X	MW-7			X				3							2
GW	09/05/19	1412		X	MW-2			X				3							3
GW	09/05/19	1525		X	MW-3			X				3							4
GW	09/05/19	1632		X	MW-4			X				3							5
GW	09/05/19	1710		X	MW-5			X				3							6
GW	09/05/19	1715		X	DUP-1			X				3							7
					**********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:
Aaron Adams	9/6/19	18:00	Brenda Ward	9/6/19	18:00

NOTES:

1. CJBRYANT@PAALP.COM
2. ALGROVES@PAALP.COM
3. PAIGE.GAONA@TERRACON.COM
4. ERIN.LOYD@TERRACON.COM
5. AARON.ADAMS@TERRACON.COM
6. KATHRASH@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: 09/09/2019 06:00:00 PM

Work Order #: 636325

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

Temperature Measuring device used : IR-3

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.3
#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)?	**N/A**
#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: Brenda Ward Date: 09/09/2019
Brenda Ward

Checklist reviewed by: Jessica Kramer Date: 09/10/2019
Jessica Kramer

Analytical Report 643267

for

Terracon-Lubbock

Project Manager: Paige Gaona

DCP #2

SRS #2009-009

20-NOV-19

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)

Table of Contents

20-NOV-19

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

Reference: XENCO Report No(s): **643267**
DCP #2
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) 643267. 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. 643267 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

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 643267

Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW #6	W	11-13-19 11:25		643267-001
MW 7	W	11-13-19 12:22		643267-002
MW 2	W	11-13-19 13:38		643267-003
MW #3	W	11-13-19 14:50		643267-004
MW #4	W	11-13-19 16:00		643267-005
MW #5	W	11-13-19 16:45		Not Analyzed
DUP-1	W	11-13-19 16:50		Not Analyzed

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: DCP #2

Project ID: *SRS #2009-009*
Work Order Number(s): *643267*

Report Date: *20-NOV-19*
Date Received: *11/14/2019*

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:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results
643267
Terracon-Lubbock, Lubbock, TX
DCP #2

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

Lab Sample Id: 643267-001 Date Collected: 11.13.19 11.25 Date Received: 11.14.19 09.45

Analytical Method: BTEX by SW 8260C Prep Method: 5030B

Analyst: KRP % Moist: Tech: KRP

Seq Number: 3107905 Date Prep: 11.18.19 15.00

Subcontractor: SUB: T104704215-19-30 Prep seq: 7690634

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000214	0.00100	0.000214	mg/L	11.19.19 01:51	U	1
Toluene	108-88-3	<0.000500	0.00100	0.000500	mg/L	11.19.19 01:51	U	1
Ethylbenzene	100-41-4	<0.000146	0.00100	0.000146	mg/L	11.19.19 01:51	U	1
m,p-Xylenes	179601-23-1	<0.000330	0.0100	0.000330	mg/L	11.19.19 01:51	U	1
o-Xylene	95-47-6	<0.000192	0.00100	0.000192	mg/L	11.19.19 01:51	U	1
Total Xylenes	1330-20-7	<0.000192		0.000192	mg/L	11.19.19 01:51	U	
Total BTEX		<0.000146		0.000146	mg/L	11.19.19 01:51	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	99	75 - 131	%		
1,2-Dichloroethane-D4	109	63 - 144	%		
Toluene-D8	99	80 - 117	%		

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

Lab Sample Id: 643267-002 Date Collected: 11.13.19 12.22 Date Received: 11.14.19 09.45

Analytical Method: BTEX by SW 8260C Prep Method: 5030B

Analyst: KRP % Moist: Tech: KRP

Seq Number: 3107905 Date Prep: 11.18.19 15.00

Subcontractor: SUB: T104704215-19-30 Prep seq: 7690634

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000214	0.00100	0.000214	mg/L	11.19.19 02:15	U	1
Toluene	108-88-3	<0.000500	0.00100	0.000500	mg/L	11.19.19 02:15	U	1
Ethylbenzene	100-41-4	<0.000146	0.00100	0.000146	mg/L	11.19.19 02:15	U	1
m,p-Xylenes	179601-23-1	<0.000330	0.0100	0.000330	mg/L	11.19.19 02:15	U	1
o-Xylene	95-47-6	<0.000192	0.00100	0.000192	mg/L	11.19.19 02:15	U	1
Total Xylenes	1330-20-7	<0.000192		0.000192	mg/L	11.19.19 02:15	U	
Total BTEX		<0.000146		0.000146	mg/L	11.19.19 02:15	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	97	75 - 131	%		
1,2-Dichloroethane-D4	108	63 - 144	%		
Toluene-D8	101	80 - 117	%		

Certificate of Analytical Results
643267
Terracon-Lubbock, Lubbock, TX
DCP #2

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

Lab Sample Id: 643267-003 Date Collected: 11.13.19 13.38 Date Received: 11.14.19 09.45

Analytical Method: BTEX by SW 8260C Prep Method: 5030B

Analyst: KRP % Moist: Tech: KRP

Seq Number: 3107905 Date Prep: 11.18.19 15.00

Subcontractor: SUB: T104704215-19-30 Prep seq: 7690634

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000214	0.00100	0.000214	mg/L	11.19.19 02:38	U	1
Toluene	108-88-3	<0.000500	0.00100	0.000500	mg/L	11.19.19 02:38	U	1
Ethylbenzene	100-41-4	<0.000146	0.00100	0.000146	mg/L	11.19.19 02:38	U	1
m,p-Xylenes	179601-23-1	<0.000330	0.0100	0.000330	mg/L	11.19.19 02:38	U	1
o-Xylene	95-47-6	<0.000192	0.00100	0.000192	mg/L	11.19.19 02:38	U	1
Total Xylenes	1330-20-7	<0.000192		0.000192	mg/L	11.19.19 02:38	U	
Total BTEX		<0.000146		0.000146	mg/L	11.19.19 02:38	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	98	75 - 131	%		
1,2-Dichloroethane-D4	108	63 - 144	%		
Toluene-D8	101	80 - 117	%		

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

Lab Sample Id: 643267-004 Date Collected: 11.13.19 14.50 Date Received: 11.14.19 09.45

Analytical Method: BTEX by SW 8260C Prep Method: 5030B

Analyst: KRP % Moist: Tech: KRP

Seq Number: 3107905 Date Prep: 11.18.19 15.00

Subcontractor: SUB: T104704215-19-30 Prep seq: 7690634

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000214	0.00100	0.000214	mg/L	11.19.19 03:02	U	1
Toluene	108-88-3	<0.000500	0.00100	0.000500	mg/L	11.19.19 03:02	U	1
Ethylbenzene	100-41-4	<0.000146	0.00100	0.000146	mg/L	11.19.19 03:02	U	1
m,p-Xylenes	179601-23-1	<0.000330	0.0100	0.000330	mg/L	11.19.19 03:02	U	1
o-Xylene	95-47-6	<0.000192	0.00100	0.000192	mg/L	11.19.19 03:02	U	1
Total Xylenes	1330-20-7	<0.000192		0.000192	mg/L	11.19.19 03:02	U	
Total BTEX		<0.000146		0.000146	mg/L	11.19.19 03:02	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	98	75 - 131	%		
1,2-Dichloroethane-D4	106	63 - 144	%		
Toluene-D8	100	80 - 117	%		

Certificate of Analytical Results
643267

Terracon-Lubbock, Lubbock, TX
DCP #2

Sample Id:	**MW #4**	Matrix:	Water	Sample Depth:	
Lab Sample Id:	643267-005	Date Collected:	11.13.19 16.00	Date Received:	11.14.19 09.45
Analytical Method:	BTEX by SW 8260C			Prep Method:	5030B
Analyst:	KRP	% Moist:		Tech:	KRP
Seq Number:	3107905	Date Prep:	11.18.19 15.00		
Subcontractor:	SUB: T104704215-19-30	Prep seq:	7690634		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000214	0.00100	0.000214	mg/L	11.19.19 03:25	U	1
Toluene	108-88-3	<0.000500	0.00100	0.000500	mg/L	11.19.19 03:25	U	1
Ethylbenzene	100-41-4	<0.000146	0.00100	0.000146	mg/L	11.19.19 03:25	U	1
m,p-Xylenes	179601-23-1	<0.000330	0.0100	0.000330	mg/L	11.19.19 03:25	U	1
o-Xylene	95-47-6	<0.000192	0.00100	0.000192	mg/L	11.19.19 03:25	U	1
Total Xylenes	1330-20-7	<0.000192		0.000192	mg/L	11.19.19 03:25	U	
Total BTEX		<0.000146		0.000146	mg/L	11.19.19 03:25	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	100	75 - 131	%		
1,2-Dichloroethane-D4	108	63 - 144	%		
Toluene-D8	100	80 - 117	%		

Certificate of Analytical Results
643267

Terracon-Lubbock, Lubbock, TX
DCP #2

Sample Id:	**7690634-1-BLK**	Matrix:	Water	Sample Depth:	
Lab Sample Id:	7690634-1-BLK	Date Collected:		Date Received:	
Analytical Method:	BTEX by SW 8260C			Prep Method:	5030B
Analyst:	KRP	% Moist:		Tech:	KRP
Seq Number:	3107905	Date Prep:	11.18.19 15.00		
Subcontractor:	SUB: T104704215-19-30	Prep seq:	7690634		

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000214	0.00100	0.000214	mg/L	11.19.19 01:27	U	1
Toluene	108-88-3	<0.000500	0.00100	0.000500	mg/L	11.19.19 01:27	U	1
Ethylbenzene	100-41-4	<0.000146	0.00100	0.000146	mg/L	11.19.19 01:27	U	1
m,p-Xylenes	179601-23-1	<0.000330	0.0100	0.000330	mg/L	11.19.19 01:27	U	1
o-Xylene	95-47-6	<0.000192	0.00100	0.000192	mg/L	11.19.19 01:27	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	101	75 - 131	%		
1,2-Dichloroethane-D4	108	63 - 144	%		
Toluene-D8	101	80 - 117	%		

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

Work Orders : 643267,

Project ID: SRS #2009-009

Lab Batch #: 3107905 **Sample:** 7690634-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/18/19 23:30

SURROGATE RECOVERY STUDY

BTEX by SW 8260C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0498	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0525	0.0500	105	63-144	
Toluene-D8	0.0519	0.0500	104	80-117	

Lab Batch #: 3107905 **Sample:** 7690634-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/18/19 23:53

SURROGATE RECOVERY STUDY

BTEX by SW 8260C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0497	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0520	0.0500	104	63-144	
Toluene-D8	0.0515	0.0500	103	80-117	

Lab Batch #: 3107905 **Sample:** 643267-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/19/19 00:17

SURROGATE RECOVERY STUDY

BTEX by SW 8260C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0499	0.0500	100	75-131	
1,2-Dichloroethane-D4	0.0529	0.0500	106	63-144	
Toluene-D8	0.0518	0.0500	104	80-117	

Lab Batch #: 3107905 **Sample:** 7690634-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 11/19/19 01:27

SURROGATE RECOVERY STUDY

BTEX by SW 8260C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0505	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0540	0.0500	108	63-144	
Toluene-D8	0.0504	0.0500	101	80-117	

* 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

Work Order #: 643267 **Project ID:** SRS #2009-009

Analyst: KRP **Date Prepared:** 11/18/2019 **Date Analyzed:** 11/18/2019

Lab Batch ID: 3107905 **Sample:** 7690634-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260C 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	<0.000214	0.0500	0.0501	100	0.0500	0.0490	98	2	66-142	20	
Toluene	<0.000500	0.0500	0.0482	96	0.0500	0.0471	94	2	59-139	20	
Ethylbenzene	<0.000146	0.0500	0.0470	94	0.0500	0.0458	92	3	75-125	20	
m,p-Xylenes	<0.000330	0.100	0.0938	94	0.100	0.0920	92	2	75-125	20	
o-Xylene	<0.000192	0.0500	0.0474	95	0.0500	0.0462	92	3	75-125	20	

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 Recoveries

Project Name: DCP #2

Work Order #: 643267

Lab Batch #: 3107905 **Project ID:** SRS #2009-009

Date Analyzed: 11/19/2019 **Date Prepared:** 11/18/2019 **Analyst:** KRP

QC- Sample ID: 643267-001 S **Batch #:** 1 **Matrix:** Water

Reporting Units: mg/L

	MATRIX / MATRIX SPIKE RECOVERY STUDY					
BTEX by SW 8260C **Analytes**	**Parent Sample Result [A]**	**Spike Added [B]**	**Spiked Sample Result [C]**	**%R [D]**	**Control Limits %R**	**Flag**
Benzene	<0.000214	0.0500	0.0507	101	66-142	
Toluene	<0.000500	0.0500	0.0490	98	59-139	
Ethylbenzene	<0.000146	0.0500	0.0476	95	75-125	
m,p-Xylenes	<0.000330	0.100	0.0952	95	75-125	
o-Xylene	<0.000192	0.0500	0.0477	95	75-125	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

643267

643267

CHAIN OF CUSTODY RECORD

Terracon

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Project Manager: Paige Gaona
Sampler's Name: Aaron Adams
Phone:
Contact: Paige Gaona
PO/SO #:
Sampler's Signature

Project Number: AR197008
Project Name: DCP #2 (SRS #2009-009)

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C): 4.2

Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: 40 ml VOA	60 ml VOA			BTEX (EPA Method 8260B)	PAHs (EPA Method 8270C)	Hold					Lab Sample ID
GW	11/13/2019	11:25		X	MW# 6			3				X	X						1
GW	11/13/2019	12:22		X	MW# 7			3				X	X						2
GW	11/13/2019	13:38		X	MW# 2			3				X	X						3
GW	11/13/2019	14:50		X	MW# 3			3				X	X						4
GW	11/13/2019	16:00		X	MW# 4			3				X	X						5
GW	11/13/2019	16:45		X	MW# 5			5	2			X	X	X					6
GW	11/13/2019	16:50			DUP - 1			5	2			X	X	X					7

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

TRRP Laboratory Review Checklist ☐ Yes ☐ No

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
	11-14-19	9:45		11/14/19	09:0

NOTES:

e-mail results to:
paige.gaona@terracon.com
erin.loyd@terracon.com

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

Inter-Office Shipment

IOS Number : 52337

Date/Time:	11.15.2019	Created by:	Brenda Ward	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.:	777003112039	E-Mail:	jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
643267-001	W	MW #6	11.13.2019 11:25	SW8260CBTEX	BTEX by SW 8260C	11.20.2019	11.27.2019	JKR	BZ BZME EBZ XYLENE	
643267-002	W	MW 7	11.13.2019 12:22	SW8260CBTEX	BTEX by SW 8260C	11.20.2019	11.27.2019	JKR	BZ BZME EBZ XYLENE	
643267-003	W	MW 2	11.13.2019 13:38	SW8260CBTEX	BTEX by SW 8260C	11.20.2019	11.27.2019	JKR	BZ BZME EBZ XYLENE	
643267-004	W	MW #3	11.13.2019 14:50	SW8260CBTEX	BTEX by SW 8260C	11.20.2019	11.27.2019	JKR	BZ BZME EBZ XYLENE	
643267-005	W	MW #4	11.13.2019 16:00	SW8260CBTEX	BTEX by SW 8260C	11.20.2019	11.27.2019	JKR	BZ BZME EBZ XYLENE	
643267-006	W	MW #5	11.13.2019 16:45	SW8260CBTEX	BTEX by SW 8260C	HOLD	11.27.2019	JKR	BZ BZME EBZ XYLENE	
643267-007	W	DUP-1	11.13.2019 16:50	SW8260CBTEX	BTEX by SW 8260C	HOLD	11.27.2019	JKR	BZ BZME EBZ XYLENE	

Inter Office Shipment or Sample Comments:

Relinquished By: Brenda Ward

Brenda Ward

Date Relinquished: 11.15.2019

Received By: Ashly Kowalski

Date Received: 11.16.2019

Cooler Temperature: 5.4

Inter-Office Shipment

IOS Number **52340**

Date/Time: 11/15/19 11:08
Lab# From: **Lubbock**
Lab# To: **Dallas**

Created by: Brenda Ward
Delivery Priority:
Air Bill No.: 777003281970

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
643267-006	W	MW #5	11/13/19 16:45	SIM_PAH_D	PAHs by 8270D SIM	HOLD	**11/20/19 16:45**	JKR	ACNP ACNPY ANTH BZA	
643267-007	W	DUP-1	11/13/19 16:50	SIM_PAH_D	PAHs by 8270D SIM	HOLD	**11/20/19 16:50**	JKR	ACNP ACNPY ANTH BZA	

Inter Office Shipment or Sample Comments:

Relinquished By: Brenda Ward
Brenda Ward

Date Relinquished: 11/15/2019

Received By: Angelica Martinez
Angelica Martinez

Date Received: 11/16/2019 09:56

Cooler Temperature: 1.1

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 52337

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : HOU-068

Sent By: Brenda Ward **Date Sent:** 11.15.2019 11.05 AM

Received By: Ashly Kowalski **Date Received:** 11.16.2019 10.00 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	5.4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 *Custody Seals Signed and dated for Containers/coolers	**N/A**	
#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: _____ Date: 11.16.2019
Ashly Kowalski

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Dallas

IOS #: 52340

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

Sent By: Brenda Ward **Date Sent:** 11/15/2019 11:08 AM

Received By: Angelica Martinez **Date Received:** 11/16/2019 09:56 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: Angelica Martinez Date: 11/16/2019

Angelica Martinez

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 11/14/2019 09:45:00 AM

Work Order #: 643267

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)?	4.2	
#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)?	**Yes**	Test sent to Stafford
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 11/14/2019
Brenda Ward

Checklist reviewed by: Jessica Kramer Date: 11/18/2019
Jessica Kramer

Analytical Report 616063

for

Terracon-Lubbock

Project Manager: John Fergerson

DCP #2

AR197008

06-MAR-19

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)
Xenco-Lakeland: Florida (E84098)

Table of Contents

06-MAR-19

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

Reference: XENCO Report No(s): **616063**
DCP #2
Project Address:

John Fergerson:

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) 616063. 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. 616063 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 616063

Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
EF-1 (20190226)	A	02-26-19 00:00		616063-001

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: DCP #2

Project ID: *AR197008*
Work Order Number(s): *616063*

Report Date: *06-MAR-19*
Date Received: *02/27/2019*

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:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 616063

Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id:	**EF-1 (20190226)**	Matrix:	Air	Date Received:	02.27.19 17.36
Lab Sample Id:	616063-001	Date Collected:	02.26.19 00.00		
Analytical Method:	VOCs in Air by TO-15			Prep Method:	TO-15_PREP
Tech:	SOZ			% Moisture:	
Analyst:	SOZ	Date Prep:	03.04.19 09.00		
Seq Number:	3081093			SUB:	TX104704295-18-17

Parameter	Cas Number	Result ug/m3	MDL ug/m3	Result ppbv	RL ppbv	MDL ppbv	Analysis Date	Flag	Dil
1,1,1-Trichloroethane	71-55-6	<725	725	<133	531	133	03.05.19 09.25	U	531
1,1,2,2-Tetrachloroethane	79-34-5	<913	913	<133	531	133	03.05.19 09.25	U	531
1,1,2-Trichloroethane	79-00-5	<725	725	<133	531	133	03.05.19 09.25	U	531
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	<1020	1020	<133	531	133	03.05.19 09.25	U	531
1,1-Dichloroethane	75-34-3	<538	538	<133	531	133	03.05.19 09.25	U	531
1,1-Dichloroethene	75-34-4	<527	527	<133	531	133	03.05.19 09.25	U	531
1,2,4-Trichlorobenzene	120-82-1	<654	654	<133	531	133	03.05.19 09.25	U	531
1,2,4-Trimethylbenzene	95-63-6	**17000**	654	**3460**	531	133	03.05.19 09.25		531
1,2-Dibromoethane	106-93-4	<1020	1020	<133	531	133	03.05.19 09.25	U	531
1,2-Dichlorobenzene	95-50-1	<799	799	<133	531	133	03.05.19 09.25	U	531
1,2-Dichloroethane	107-06-2	<538	538	<133	531	133	03.05.19 09.25	U	531
1,2-Dichloropropane	78-87-5	<614	614	<133	531	133	03.05.19 09.25	U	531
1,3,5-Trimethylbenzene	108-67-8	**9190**	654	**1870**	531	133	03.05.19 09.25		531
1,3-Butadiene	106-99-0	<294	294	<133	531	133	03.05.19 09.25	U	531
1,3-Dichlorobenzene	541-73-1	<799	799	<133	531	133	03.05.19 09.25	U	531
1,4-Dichlorobenzene	106-46-7	<799	799	<133	531	133	03.05.19 09.25	U	531
1,4-Dioxane (P-Dioxane)	123-91-1	<479	479	<133	531	133	03.05.19 09.25	U	531
Methyl ethyl ketone	78-93-3	<392	392	<133	531	133	03.05.19 09.25	U	531
2-Hexanone	591-78-6	<545	545	<133	531	133	03.05.19 09.25	U	531
Acetone	67-64-1	**1850**	632	**781**	531	266	03.05.19 09.25		531
Acetonitrile	75-05-8	<133	133	<133	531	133	03.05.19 09.25	U	531
Acrylonitrile	107-13-1	<133	133	<133	531	133	03.05.19 09.25	U	531
Benzene	71-43-2	**245000**	13600	**76800**	17100	4260	03.05.19 10.41	D	17057
Benzyl Chloride	100-44-7	<691	691	<133	531	133	03.05.19 09.25	U	531
Bromodichloromethane	75-27-4	<891	891	<133	531	133	03.05.19 09.25	U	531
Bromoform	75-25-2	<1370	1370	<133	531	133	03.05.19 09.25	U	531
Methyl bromide	74-83-9	<516	516	<133	531	133	03.05.19 09.25	U	531
Carbon Tetrachloride	56-23-5	<836	836	<133	531	133	03.05.19 09.25	U	531
Chlorobenzene	108-90-7	<612	612	<133	531	133	03.05.19 09.25	U	531
Chloroethane	75-00-3	<351	351	<133	531	133	03.05.19 09.25	U	531
Chloroform	67-66-3	<649	649	<133	531	133	03.05.19 09.25	U	531
Methyl Chloride	74-87-3	<275	275	<133	531	133	03.05.19 09.25	U	531
cis-1,2-Dichloroethylene	156-59-2	<527	527	<133	531	133	03.05.19 09.25	U	531
cis-1,3-Dichloropropene	10061-01-5	<603	603	<133	531	133	03.05.19 09.25	U	531
Cyclohexane	110-82-7	**2330000**	14700	**676000**	17100	4260	03.05.19 10.41	D	17057
Cyclopentane	287-92-3	<381	381	<133	531	133	03.05.19 09.25	U	531

Certificate of Analytical Results 616063

Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id:	**EF-1 (20190226)**	Matrix:	Air	Date Received:	02.27.19 17.36
Lab Sample Id:	616063-001	Date Collected:	02.26.19 00.00		
Analytical Method:	VOCs in Air by TO-15			Prep Method:	TO-15_PREP
Tech:	SOZ			% Moisture:	
Analyst:	SOZ	Date Prep:	03.04.19 09.00		
Seq Number:	3081093			SUB:	TX104704295-18-17

Parameter	Cas Number	Result ug/m3	MDL ug/m3	Result ppbv	RL ppbv	MDL ppbv	Analysis Date	Flag	Dil
Dibromochloromethane	124-48-1	<1130	1130	<133	531	133	03.05.19 09.25	U	531
Methylene Chloride	75-09-2	**5000**	462	**1440**	531	133	03.05.19 09.25		531
Ethanol	64-17-5	<250	250	<133	531	133	03.05.19 09.25	U	531
Ethylbenzene	100-41-4	**165000**	18500	**38000**	17100	4260	03.05.19 10.41	D	17057
Hexachlorobutadiene	87-68-3	<1420	1420	<133	531	133	03.05.19 09.25	U	531
n-Hexane	110-54-3	**1770000**	24000	**501000**	17100	6820	03.05.19 10.41	D	17057
m,p-Xylenes	179601-23-1	**189000**	18500	**43500**	17100	4260	03.05.19 10.41	D	17057
MTBE	1634-04-4	<478	478	<133	531	133	03.05.19 09.25	U	531
Naphthalene	91-20-3	<697	697	<133	531	133	03.05.19 09.25	U	531
o-Xylene	95-47-6	**57300**	577	**13200**	531	133	03.05.19 09.25		531
Pentane	109-66-0	**23100**	393	**7840**	531	133	03.05.19 09.25		531
Propylene	115-07-1	<229	229	<133	531	133	03.05.19 09.25	U	531
Styrene	100-42-5	<566	566	<133	531	133	03.05.19 09.25	U	531
Tetrachloroethylene	127-18-4	<902	902	<133	531	133	03.05.19 09.25	U	531
Toluene	108-88-3	**1150000**	16000	**304000**	17100	4260	03.05.19 10.41	D	17057
trans-1,2-dichloroethylene	156-60-5	<527	527	<133	531	133	03.05.19 09.25	U	531
trans-1,3-dichloropropene	10061-02-6	<603	603	<133	531	133	03.05.19 09.25	U	531
Trichloroethylene	79-01-6	<714	714	<133	531	133	03.05.19 09.25	U	531
Trichlorofluoromethane	75-69-4	<747	747	<133	531	133	03.05.19 09.25	U	531
Vinyl Acetate	108-05-4	<468	468	<133	531	133	03.05.19 09.25	U	531
Vinyl Chloride	75-01-4	<340	340	<133	531	133	03.05.19 09.25	U	531

Surrogate	% Recovery	Units	Limits	Analysis Date	Flag
Difluorobenzene	119	%	70-130	03.05.19 09.25	

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

Work Orders : 616063,

Project ID: AR197008

Lab Batch #: 3081093 **Sample:** 7672949-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppbv **Date Analyzed:** 03/04/19 12:07

VOCs in Air by TO-15 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Difluorobenzene	2.41	2.51	96	70-130	

Lab Batch #: 3081093 **Sample:** 7672949-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppbv **Date Analyzed:** 03/04/19 15:56

VOCs in Air by TO-15 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Difluorobenzene	2.64	2.51	105	70-130	

Lab Batch #: 3081093 **Sample:** 615106-005 D / MD **Batch:** 1 **Matrix:** Air

Units: ppbv **Date Analyzed:** 03/04/19 16:59

VOCs in Air by TO-15 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Difluorobenzene	2.57	2.51	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.

Blank Spike Recovery

Project Name: DCP #2

Work Order #: 616063 **Project ID:** AR197008

Lab Batch #: 3081093 **Sample:** 7672949-1-BKS **Matrix:** Air

Date Analyzed: 03/04/2019 **Date Prepared:** 03/04/2019 **Analyst:** SOZ

Reporting Units: ppbv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

VOCs in Air by TO-15 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,1,1-Trichloroethane	<0.250	5.01	5.19	104	70-130	
1,1,2,2-Tetrachloroethane	<0.250	5.00	3.61	72	70-130	
1,1,2-Trichloroethane	<0.250	5.01	5.00	100	70-130	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<0.250	5.00	5.02	100	70-130	
1,1-Dichloroethane	<0.250	4.99	5.13	103	70-130	
1,1-Dichloroethene	<0.250	5.00	5.24	105	70-130	
1,2,4-Trichlorobenzene	0.360	5.01	4.98	99	70-130	
1,2,4-Trimethylbenzene	<0.250	5.01	5.08	101	70-130	
1,2-Dibromoethane	<0.250	5.00	4.99	100	70-130	
1,2-Dichlorobenzene	<0.250	4.99	4.95	99	70-130	
1,2-Dichloroethane	<0.250	4.99	5.34	107	70-130	
1,2-Dichloropropane	<0.250	5.00	4.99	100	70-130	
1,3,5-Trimethylbenzene	<0.250	5.01	4.92	98	70-130	
1,3-Butadiene	<0.250	5.02	5.07	101	70-130	
1,3-Dichlorobenzene	<0.250	4.99	5.05	101	70-130	
1,4-Dichlorobenzene	<0.250	4.99	5.22	105	70-130	
1,4-Dioxane (P-Dioxane)	<0.250	5.00	4.93	99	70-130	
Methyl ethyl ketone	<0.250	4.99	5.29	106	70-130	
2-Hexanone	<0.250	5.01	4.97	99	70-130	
Acetone	<0.500	5.01	6.00	120	70-130	
Acetonitrile	<0.250	5.00	5.25	105	70-130	
Acrylonitrile	<0.250	5.00	5.13	103	70-130	
Benzene	<0.250	5.01	5.01	100	70-130	
Benzyl Chloride	<0.250	5.01	5.21	104	70-130	
Bromodichloromethane	<0.250	5.00	5.21	104	70-130	
Bromoform	<0.250	5.00	4.00	80	70-130	
Methyl bromide	<0.250	5.00	5.01	100	70-130	
Carbon Tetrachloride	<0.250	4.99	5.26	105	70-130	
Chlorobenzene	<0.250	5.00	4.93	99	70-130	
Chloroethane	<0.250	5.00	5.15	103	70-130	
Chloroform	<0.250	5.00	5.08	102	70-130	
Methyl Chloride	<0.250	4.99	5.18	104	70-130	
cis-1,2-Dichloroethylene	<0.250	5.00	5.16	103	70-130	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Blank Spike Recovery

Project Name: DCP #2

Work Order #: 616063 **Project ID:** AR197008

Lab Batch #: 3081093 **Sample:** 7672949-1-BKS **Matrix:** Air

Date Analyzed: 03/04/2019 **Date Prepared:** 03/04/2019 **Analyst:** SOZ

Reporting Units: ppbv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

VOCs in Air by TO-15 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
cis-1,3-Dichloropropene	<0.250	5.00	5.08	102	70-130	
Cyclohexane	<0.250	5.00	5.08	102	70-130	
Cyclopentane	<0.250	4.99	5.31	106	70-130	
Dibromochloromethane	<0.250	5.00	5.08	102	70-130	
Methylene Chloride	<0.250	5.01	6.10	122	70-130	
Ethanol	<0.250	5.00	5.11	102	70-130	
Ethylbenzene	<0.250	5.00	4.56	91	70-130	
Hexachlorobutadiene	<0.250	5.00	4.96	99	70-130	
n-Hexane	<0.400	4.99	5.04	101	70-130	
m,p-Xylenes	<0.250	5.00	5.13	103	70-130	
MTBE	<0.250	5.00	5.22	104	70-130	
Naphthalene	0.330	5.00	4.98	100	70-130	
o-Xylene	<0.250	5.00	4.65	93	70-130	
Pentane	0.280	5.01	5.93	118	70-130	
Propylene	<0.250	5.00	5.00	100	70-130	
Styrene	<0.250	5.00	4.62	92	70-130	
Tetrachloroethylene	<0.250	5.00	4.89	98	70-130	
Toluene	<0.250	4.99	4.95	99	70-130	
trans-1,2-dichloroethylene	<0.250	5.00	5.20	104	70-130	
trans-1,3-dichloropropene	<0.250	5.00	5.20	104	70-130	
Trichloroethylene	<0.250	5.01	5.08	101	70-130	
Trichlorofluoromethane	<0.250	5.00	5.21	104	70-130	
Vinyl Acetate	<0.250	5.00	5.31	106	70-130	
Vinyl Chloride	<0.250	5.01	5.04	101	70-130	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: DCP #2

Work Order #: 616063

Lab Batch #: 3081093 **Project ID:** AR197008

Date Analyzed: 03/04/2019 16:59 **Date Prepared:** 03/04/2019 **Analyst:** SOZ

QC- Sample ID: 615106-005 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppbv

VOCs in Air by TO-15	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	%RPD	RPD Limit	Flag
1,1,1-Trichloroethane	<0.250	<0.250	0	25	U
1,1,2,2-Tetrachloroethane	<0.250	<0.250	0	25	U
1,1,2-Trichloroethane	<0.250	<0.250	0	25	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	<0.250	<0.250	0	25	U
1,1-Dichloroethane	<0.250	<0.250	0	25	U
1,1-Dichloroethene	<0.250	<0.250	0	25	U
1,2,4-Trichlorobenzene	<0.250	<0.250	0	25	U
1,2,4-Trimethylbenzene	0.300	0.290	3	25	J
1,2-Dibromoethane	<0.250	<0.250	0	25	U
1,2-Dichlorobenzene	<0.250	<0.250	0	25	U
1,2-Dichloroethane	<0.250	<0.250	0	25	U
1,2-Dichloropropane	<0.250	<0.250	0	25	U
1,3,5-Trimethylbenzene	<0.250	<0.250	0	25	U
1,3-Butadiene	<0.250	<0.250	0	25	U
1,3-Dichlorobenzene	<0.250	<0.250	0	25	U
1,4-Dichlorobenzene	<0.250	<0.250	0	25	U
1,4-Dioxane (P-Dioxane)	<0.250	<0.250	0	25	U
Methyl ethyl ketone	2.20	2.23	1	25	
2-Hexanone	<0.250	<0.250	0	25	U
Acetone	60.2	60.5	0	25	
Acetonitrile	<0.250	<0.250	0	25	U
Acrylonitrile	<0.250	<0.250	0	25	U
Benzene	0.360	0.360	0	25	J
Benzyl Chloride	<0.250	<0.250	0	25	U
Bromodichloromethane	<0.250	<0.250	0	25	U
Bromoform	<0.250	<0.250	0	25	U
Methyl bromide	<0.250	<0.250	0	25	U
Carbon Tetrachloride	<0.250	<0.250	0	25	U
Chlorobenzene	<0.250	<0.250	0	25	U
Chloroethane	<0.250	<0.250	0	25	U
Chloroform	<0.250	<0.250	0	25	U
Methyl Chloride	<0.250	<0.250	0	25	U
cis-1,2-Dichloroethylene	<0.250	<0.250	0	25	U
cis-1,3-Dichloropropene	<0.250	<0.250	0	25	U

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |

All Results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: DCP #2

Work Order #: 616063

Lab Batch #: 3081093 **Project ID:** AR197008

Date Analyzed: 03/04/2019 16:59 **Date Prepared:** 03/04/2019 **Analyst:** SOZ

QC- Sample ID: 615106-005 D **Batch #:** 1 **Matrix:** Air

Reporting Units: ppbv

VOCs in Air by TO-15 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
		Sample Duplicate Result [B]	%RPD	RPD Limit	Flag
Cyclohexane	1.40	1.44	3	25	
Cyclopentane	<0.250	<0.250	0	25	U
Dibromochloromethane	<0.250	<0.250	0	25	U
Methylene Chloride	143	149	4	25	
Ethanol	30.1	31.4	4	25	
Ethylbenzene	0.260	0.270	4	25	J
Hexachlorobutadiene	<0.250	<0.250	0	25	U
n-Hexane	1.74	1.77	2	25	
m,p-Xylenes	0.420	0.440	5	25	J
MTBE	<0.250	<0.250	0	25	U
Naphthalene	0.440	0.270	48	25	FJ
o-Xylene	0.480	0.450	6	25	J
Pentane	239	249	4	25	
Propylene	2.93	2.98	2	25	
Styrene	<0.250	<0.250	0	25	U
Tetrachloroethylene	<0.250	<0.250	0	25	U
Toluene	2.71	2.75	1	25	
trans-1,2-dichloroethylene	<0.250	<0.250	0	25	U
trans-1,3-dichloropropene	<0.250	<0.250	0	25	U
Trichloroethylene	<0.250	<0.250	0	25	U
Trichlorofluoromethane	<0.250	<0.250	0	25	U
Vinyl Acetate	<0.250	<0.250	0	25	U
Vinyl Chloride	<0.250	<0.250	0	25	U

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |

All Results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

616063

63
616043BW

63
616043

Terracon

CHAIN OF CUSTODY RECORD

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Phone:
Contact: John Fergerson
PO/SO #:

Office Location: Lubbock
Project Manager: John Fergerson
Sampler's Name: Aaron Adams
Sampler's Signature: Aaron Adams

Project Number: AR197008
Project Name: DCP# 2 (SRS #2009-039)

ANALYSIS REQUESTED: EPA TO-15 (BTEX)

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C): 21.9/21.9

Page 1 of 1

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: Tedlar	EPA TO-15 (BTEX)	Lab Sample ID
A	2/26/2019	0:00		X	EF-1 (20190226)			1	X	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:
Aaron Adams	2-27-19	5:36pm	Brenda Ward	2/27/19	5:36pm

NOTES:
e-mail results to:
john.fergerson@terracon.com
erin.loyd@terracon.com

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

Inter-Office Shipment

IOS Number **123466**

Date/Time: 03/01/19 17:00
Lab# From: **Lubbock**
Lab# To: **Dallas**

Created by: Brenda Ward
Delivery Priority: Fedex
Air Bill No.: 774602903758

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
616063-001	A	EF-1 (20190226)	02/26/19 00:00	TO-15	VOCs in Air by TO-15	**03/05/19**	03/28/19	JKR	ACE ACPHN ACRL ACRN	

Inter Office Shipment or Sample Comments:

Relinquished By: Brenda Ward
Brenda Ward

Date Relinquished: 03/01/2019

Received By: Angelica Martinez
Angelica Martinez

Date Received: 03/04/2019 09:19

Cooler Temperature:

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Dallas

IOS #: 123466

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

Sent By: Brenda Ward **Date Sent:** 03/01/2019 05:00 PM

Received By: Angelica Martinez **Date Received:** 03/04/2019 09:19 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?		
#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: Angelica Martinez Date: 03/04/2019

Angelica Martinez

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 02/27/2019 05:36:00 PM

Work Order #: 616063

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

Temperature Measuring device used : IR-3

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	21.9	
#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**	Test sent to Dallas
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 02/28/2019
Brenda Ward

Checklist reviewed by: Jessica Kramer Date: 03/01/2019
Jessica Kramer

Analytical Report 620012

for

Terracon-Lubbock

Project Manager: John Fergerson

DCP #2

AR197008

18-APR-19

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)
Xenco-Lakeland: Florida (E84098)

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18-APR-19

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

Reference: XENCO Report No(s): **620012**
DCP #2
Project Address: SRS #2009-039

John Fergerson:

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) 620012. 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. 620012 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,

Debbie Simmons

Debbie Simmons
Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 620012

Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
EF-1 ((20190403)	A	04-03-19 13:41		620012-001

CASE NARRATIVE

Client Name: Terracon-Lubbock

Project Name: DCP #2

Project ID: *AR197008*
Work Order Number(s): *620012*

Report Date: *18-APR-19*
Date Received: *04/03/2019*

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:

4/15/19: per John Fergerson, runTPH 8015 on this air sample. Report revised 4/18/19 to include the 8015 results.

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 620012

Terracon-Lubbock, Lubbock, TX

DCP #2

Sample Id:	**EF-1 ((20190403)**	Matrix:	Air	Date Received:	04.03.19 16.50
Lab Sample Id:	620012-001	Date Collected:	04.03.19 13.41		

Analytical Method:	TPH GRO by EPA 8015 Mod.			Prep Method:	SW5030B
Tech:	SOZ			% Moisture:	
Analyst:	SOZ	Date Prep:	04.17.19 07.30		
Seq Number:	3086055			SUB:	TX104704295-19-19

Parameter	Cas Number	Result mg/m3	MDL mg/m3	Result ppmv	RL ppmv	MDL ppmv	Analysis Date	Flag	Dil
TPH-GRO	8006-61-9	**2890**	923	**739**	473	236	04.17.19 13.46		37

Surrogate	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene +	101	%	60-140	04.17.19 13.46	

Analytical Method:	VOCs in Air by TO-15			Prep Method:	TO-15_PREP
Tech:	SOZ			% Moisture:	
Analyst:	SOZ	Date Prep:	04.05.19 09.00		
Seq Number:	3085072			SUB:	TX104704295-19-19

Parameter	Cas Number	Result ppmv	MDL ppmv	Result mg/m3	RL mg/m3	MDL mg/m3	Analysis Date	Flag	Dil
Benzene	71-43-2	**30.6**	2.77	**97.8**	35.3	8.83	04.05.19 14.28	D	11057
Ethyl Benzene	100-41-4	**15.0**	2.76	**65.3**	48.0	12.0	04.05.19 14.28	D	11057
m,p-Xylene	179601-23-1	**17.3**	2.76	**74.9**	48.0	12.0	04.05.19 14.28	D	11057
o-Xylene	95-47-6	**9.19**	0.185	**39.9**	3.21	0.803	04.05.19 13.38	D	740
Toluene	108-88-3	**132**	2.76	**497**	41.7	10.4	04.05.19 14.28	D	11057

Surrogate	% Recovery	Units	Limits	Analysis Date	Flag
Difluorobenzene	122	%	70-130	04.05.19 14.59	

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

Work Orders : 620012,

Project ID: AR197008

Lab Batch #: 3086055 **Sample:** 7675975-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/17/19 10:13

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	50.5	50.0	101	60-140	

Lab Batch #: 3086055 **Sample:** 7675975-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/17/19 11:06

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	49.0	50.0	98	60-140	

Lab Batch #: 3086055 **Sample:** 620460-005 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/17/19 13:36

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	50.4	50.0	101	60-140	

Lab Batch #: 3086055 **Sample:** 620737-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppmv **Date Analyzed:** 04/17/19 15:23

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	50.6	50.0	101	60-140	

Lab Batch #: 3085072 **Sample:** 7675367-1-BKS / BKS **Batch:** 1 **Matrix:** Air

Units: ppbv **Date Analyzed:** 04/05/19 10:23

SURROGATE RECOVERY STUDY

VOCs in Air by TO-15 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Difluorobenzene	2.50	2.50	100	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.

Form 2 - Surrogate Recoveries

Project Name: DCP #2

Work Orders : 620012,

Project ID: AR197008

Lab Batch #: 3085072 **Sample:** 7675367-1-BLK / BLK **Batch:** 1 **Matrix:** Air

Units: ppbv **Date Analyzed:** 04/05/19 10:52

VOCs in Air by TO-15 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Difluorobenzene	2.52	2.50	101	70-130	

Lab Batch #: 3085072 **Sample:** 620012-001 D / MD **Batch:** 1 **Matrix:** Air

Units: ppbv **Date Analyzed:** 04/05/19 15:30

VOCs in Air by TO-15 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Difluorobenzene	3.22	2.50	129	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.

Blank Spike Recovery

Project Name: DCP #2

Work Order #: 620012 **Project ID:** AR197008

Lab Batch #: 3086055 **Sample:** 7675975-1-BKS **Matrix:** Air

Date Analyzed: 04/17/2019 **Date Prepared:** 04/17/2019 **Analyst:** SOZ

Reporting Units: ppmv **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

TPH GRO by EPA 8015 Mod. Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
TPH-GRO	<6.39	179	199	111	65-115	

Lab Batch #: 3085072 **Sample:** 7675367-1-BKS **Matrix:** Air

Date Analyzed: 04/05/2019 **Date Prepared:** 04/05/2019 **Analyst:** SOZ

Reporting Units: MGM3 **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

VOCs in Air by TO-15 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.000798	0.0160	0.0158	99	70-130	
Ethyl Benzene	<0.00109	0.0217	0.0213	98	70-130	
m,p-Xylene	<0.00109	0.0217	0.0201	93	70-130	
o-Xylene	<0.00109	0.0217	0.0211	97	70-130	
Toluene	<0.000942	0.0188	0.0191	102	70-130	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: DCP #2

Work Order #: 620012

Lab Batch #: 3086055 **Project ID:** AR197008
Date Analyzed: 04/17/2019 13:36 **Date Prepared:** 04/17/2019 **Analyst:** SOZ
QC- Sample ID: 620460-005 D **Batch #:** 1 **Matrix:** Air
Reporting Units: ppmv

TPH GRO by EPA 8015 Mod. Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	%RPD	RPD Limit	Flag
TPH-GRO	178	179	1	35	

Lab Batch #: 3086055
Date Analyzed: 04/17/2019 15:23 **Date Prepared:** 04/17/2019 **Analyst:** SOZ
QC- Sample ID: 620737-001 D **Batch #:** 1 **Matrix:** Air
Reporting Units: ppmv

TPH GRO by EPA 8015 Mod. Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	%RPD	RPD Limit	Flag
TPH-GRO	24.2	23.1	5	35	

Lab Batch #: 3085072
Date Analyzed: 04/05/2019 15:30 **Date Prepared:** 04/05/2019 **Analyst:** SOZ
QC- Sample ID: 620012-001 D **Batch #:** 1 **Matrix:** Air
Reporting Units: MGM3

VOCs in Air by TO-15 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	%RPD	RPD Limit	Flag
Benzene	24.9	24.5	2	25	
Ethyl Benzene	14.4	14.1	2	25	
m,p-Xylene	10.3	9.97	3	25	
o-Xylene	13.8	13.2	4	25	
Toluene	31.1	30.2	3	25	

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)
Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

620012

Terracon

CHAIN OF CUSTODY RECORD

620012

Laboratory: Xenco
Address: 6701 Aberdeen
Lubbock, Texas 79424

Office Location: Lubbock
Project Manager: John Fergerson
Sampler's Name: Aaron Adams
Phone:
Contact: John Fergerson
PO/SO #:
Sampler's Signature: Aaron Adams

Project Number: AR197008
Project Name: DCP #2 (SRS #2009-039)

ANALYSIS REQUESTED: EPA TO-15 (BTEX)

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

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: Tedlar	EPA TO-15 (BTEX)	Lab Sample ID
A	4/3/2019	1:41		X	EF-1 (20190403)			1	X	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
John Fergerson	4/3/19	4:50 pm	Brenda Ward		

NOTES: NO CHARGE

e-mail results to:
john.fergerson@terracon.com
erin.loyd@terracon.com

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

22.8

Inter-Office Shipment

IOS Number : **125932**

Date/Time:	04.03.2019 18:11	Created by:	Brenda Ward	Please send report to:	Debbie Simmons
Lab# From:	**Lubbock**	Delivery Priority:		Address:	6701 Aberdeen, Suite 9 Lubbock, TX 79424
Lab# To:	**Dallas**	Air Bill No.:	774879756281	E-Mail:	debbie.simmons@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
620012-001	A	EF-1 ((20190403)	04.03.2019 13:41	TO-15	VOCs in Air by TO-15	04.18.2019	05.03.2019	DES	BZ BZME EBZ XYLMP	
620012-001	A	EF-1 ((20190403)	04.03.2019 13:41	SW8015GRO	TPH GRO by EPA 8015 Mod.	04.18.2019	05.03.2019	DES	PHCG	

Inter Office Shipment or Sample Comments:

Relinquished By: Brenda Ward
Brenda Ward

Date Relinquished: 04.03.2019

Received By: Angelica Martinez
Angelica Martinez

Date Received: 04.04.2019 13:24

Cooler Temperature:

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Dallas

IOS #: 125932

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

Sent By: Brenda Ward **Date Sent:** 04/03/2019 06:11 PM

Received By: Angelica Martinez **Date Received:** 04/04/2019 01:24 PM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?		
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**N/A**	
#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: Angelica Martinez Date: 04/04/2019

Angelica Martinez

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon-Lubbock

Date/ Time Received: 04/03/2019 04:50:00 PM

Work Order #: 620012

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

Temperature Measuring device used : IR-3

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	22.8	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**N/A**	
#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?	**Yes**	
#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**	Test sent to Dallas
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 04/03/2019
Brenda Ward

Checklist reviewed by: Debbie Simmons Date: 04/04/2019
Debbie Simmons

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

August 14, 2019

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1124351
Samples Received:	08/01/2019
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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EF-1 (20190627) L1124351-01 Air

Collected by: Aaron Adams
Collected date/time: 07/29/19 13:50
Received date/time: 08/01/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1321892	80	08/02/19 16:01	08/02/19 16:01	AMC	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method M18-Mod	WG1322398	1000	08/03/19 16:08	08/03/19 16:08	MBF	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method M18-Mod	WG1323646	40000	08/06/19 12:13	08/06/19 12:13	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	14800	47400		1000	WG1322398
Toluene	108-88-3	92.10	8000	30100	252000	951000		40000	WG1323646
Ethylbenzene	100-41-4	106	200	867	14200	61600		1000	WG1322398
m&p-Xylene	1330-20-7	106	400	1730	41400	179000		1000	WG1322398
o-Xylene	95-47-6	106	200	867	14300	62000		1000	WG1322398
Methyl tert-butyl ether	1634-04-4	88.10	16.0	57.7	ND	ND		80	WG1321892
TPH (GC/MS) Low Fraction	8006-61-9	101	50000	207000	2270000	9380000		1000	WG1322398
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*144*		J1		WG1321892
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*106*				WG1322398
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*93.0*				WG1323646

Sample Narrative:

L1124351-01 WG1321892: Surrogate failure due to matrix interference.

Method Blank (MB)

(MB) R3437032-3 08/02/19 10:25

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
MTBE	U		0.0505	0.200
(S) 1,4-Bromofluorobenzene	*97.3*			*60.0-140*

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

(LCS) R3437032-1 08/02/19 08:57 • (LCSD) R3437032-2 08/02/19 09:40

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	4.11	4.04	110	108	70.0-130			1.74	25
(S) 1,4-Bromofluorobenzene				*101*	*99.3*	*60.0-140*				

Method Blank (MB)

(MB) R3437325-3 08/03/19 10:33

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0460	0.200
Ethylbenzene	U		0.0506	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
TPH (GC/MS) Low Fraction	22.2	J	6.91	50.0
(S) 1,4-Bromofluorobenzene	*95.3*			*60.0-140*

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

(LCS) R3437325-1 08/03/19 09:06 • (LCSD) R3437325-2 08/03/19 09:49

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	4.18	4.18	111	111	70.0-130			0.0687	25
Ethylbenzene	3.75	4.37	4.34	117	116	70.0-130			0.656	25
m&p-Xylene	7.50	8.80	8.67	117	116	70.0-130			1.40	25
o-Xylene	3.75	4.35	4.25	116	113	70.0-130			2.42	25
TPH (GC/MS) Low Fraction	203	232	232	115	115	70.0-130			0.148	25
(S) 1,4-Bromofluorobenzene				*99.3*	*99.2*	*60.0-140*				

Method Blank (MB)

(MB) R3438087-3 08/06/19 10:31

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Toluene	U		0.0499	0.200
(S) 1,4-Bromofluorobenzene	*90.0*			*60.0-140*

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

(LCS) R3438087-1 08/06/19 08:58 • (LCSD) R3438087-2 08/06/19 09:43

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Toluene	3.75	4.18	4.20	111	112	70.0-130			0.604	25
(S) 1,4-Bromofluorobenzene				*95.7*	*94.9*	*60.0-140*				

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.

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

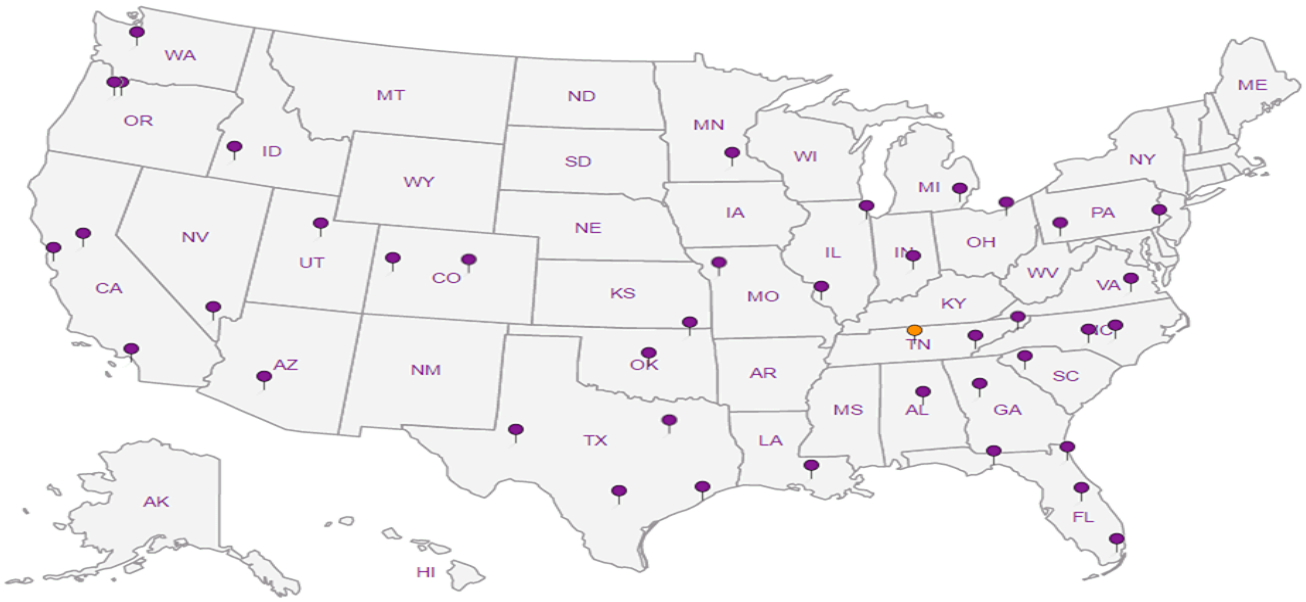
Third Party Federal Accreditations

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.



C212

CHAIN OF CUSTODY RECORD

Terracon

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

Office Location: Lubbock
Phone:
Contact: Paige (432) 425-0991
Project Manager: Paige Gaona
SRS #:
Sampler's Name: Aaron Adams
Sampler's Signature: Aaron Adams

Project Number: AR187003
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 Extended 8015						Lab Sample ID
A	7/29/2019	13:50		X	EF-1 (20190627)			1				X	X						L1124351-01

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

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
[signature]	7/31/19	12:00pm	[signature]	8/1/19	8:45

NOTES:

e-mail results to:
paige.gaona@terracon.com
erin.loyd@terracon.com
kristina.kohl@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 _____

temp = Amb

Fedex 0822 1859 5372

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

October 25, 2019

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1152254
Samples Received:	10/22/2019
Project Number:	AR197008
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:

Jason Romer
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

EF-1 (20191017) L1152254-01 Air

Collected by: Aaron Adams
Collected date/time: 10/17/19 13:39
Received date/time: 10/22/19 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1368042	2000	10/23/19 13:43	10/23/19 13:43	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.

Jason Romer
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	11600	37100		2000	WG1368042
Toluene	108-88-3	92.10	400	1510	57300	216000		2000	WG1368042
Ethylbenzene	100-41-4	106	400	1730	8080	35000		2000	WG1368042
m&p-Xylene	1330-20-7	106	800	3470	18000	78000		2000	WG1368042
o-Xylene	95-47-6	106	400	1730	4860	21100		2000	WG1368042
Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1368042
TPH (GC/MS) Low Fraction	8006-61-9	101	100000	413000	1720000	7110000		2000	WG1368042
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*95.0*				WG1368042

Method Blank (MB)

(MB) R3464174-3 10/23/19 10:34

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	0.0630	J	0.0499	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
TPH (GC/MS) Low Fraction	33.5	J	6.91	50.0
(S) 1,4-Bromofluorobenzene	*94.0*			*60.0-140*

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

(LCS) R3464174-1 10/23/19 09:08 • (LCSD) R3464174-2 10/23/19 09:52

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	4.56	4.58	122	122	70.0-130			0.438	25
Benzene	3.75	4.62	4.65	123	124	70.0-130			0.647	25
Toluene	3.75	4.61	4.55	123	121	70.0-130			1.31	25
Ethylbenzene	3.75	4.70	4.78	125	127	70.0-130			1.69	25
m&p-Xylene	7.50	9.46	9.52	126	127	70.0-130			0.632	25
o-Xylene	3.75	4.69	4.74	125	126	70.0-130			1.06	25
TPH (GC/MS) Low Fraction	203	239	241	118	119	70.0-130			0.833	25
(S) 1,4-Bromofluorobenzene				*97.6*	*97.5*	*60.0-140*				

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Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
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Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

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

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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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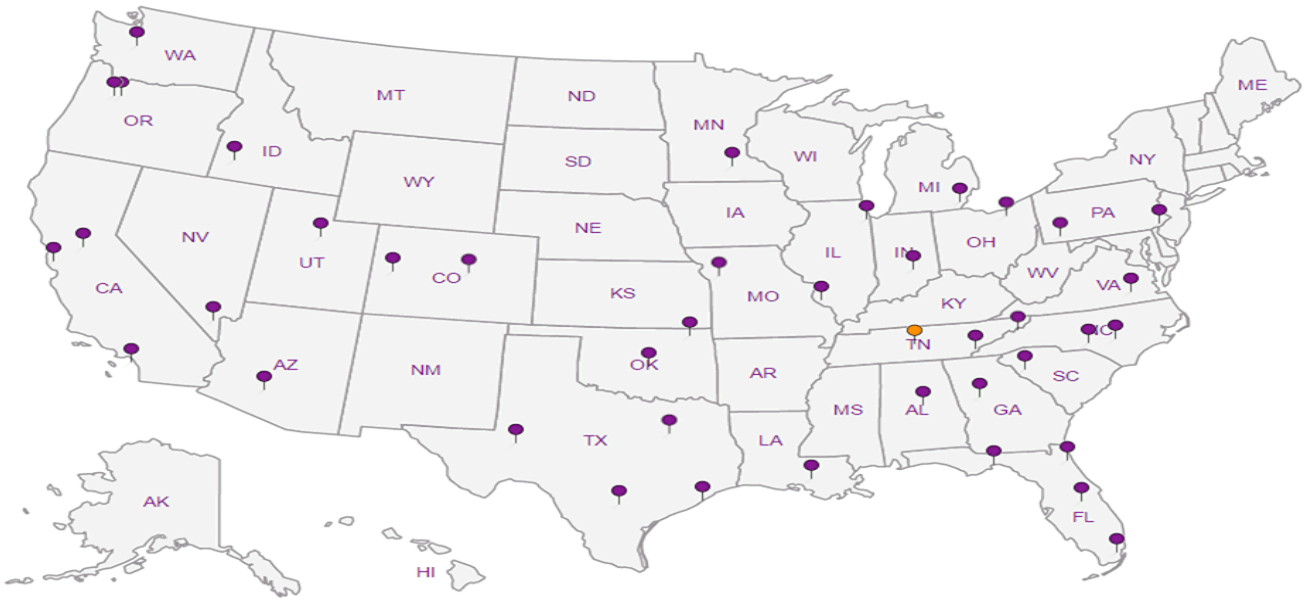


F149

Terracon

CHAIN OF CUSTODY RECORD

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

Phone: (800) 767-5859
Contact: Paige Gaona
PO/SO #:

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

Project Number: AR197008
Project Name: DCP #2 (SRS #2009-039)

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	BTEX 8021B	TPH 8015 Extended	Lab Sample ID
A	10/17/2019	13:39 PM		X	EF-1 (20191017)			1	X	X	L1152254-01

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

TRRP Laboratory Review Checklist [ ] Yes [ ] No

Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Aaron Adams	10-18-19	9:00am			
			Hailey Mick	10/22/19	8:03

NOTES:

e-mail results to:
paige.gaona@terracon.com
erin.loyd@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

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: TERRLTX	L1152254
Cooler Received/Opened On: 10/22/19 Temperature:	Amb
Received By: Hailey Melson	
Signature: Hailey Melson	

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

December 05, 2019

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1166019
Samples Received:	12/02/2019
Project Number:	AR197008
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

EF - 1 (20191126) L1166019-01 Air

Collected by: Aaron Adams
Collected date/time: 11/26/19 15:48
Received date/time: 12/02/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1389629	800	12/02/19 16:37	12/02/19 16:37	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	160	511	2760	8820		800	WG1389629
Toluene	108-88-3	92.10	160	603	23000	86600		800	WG1389629
Ethylbenzene	100-41-4	106	160	694	4920	21300		800	WG1389629
m&p-Xylene	1330-20-7	106	320	1390	12000	52000		800	WG1389629
o-Xylene	95-47-6	106	160	694	3400	14700		800	WG1389629
Methyl tert-butyl ether	1634-04-4	88.10	160	577	ND	ND		800	WG1389629
TPH (GC/MS) Low Fraction	8006-61-9	101	160000	661000	567000	2340000		800	WG1389629
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.4*				WG1389629

Method Blank (MB)

(MB) R3478119-3 12/02/19 10:13

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	*97.5*			*60.0-140*

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

(LCS) R3478119-1 12/02/19 08:56 • (LCSD) R3478119-2 12/02/19 09:35

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	4.31	4.42	115	118	70.0-130			2.52	25
Benzene	3.75	4.33	4.42	115	118	70.0-130			2.06	25
Toluene	3.75	4.28	4.35	114	116	70.0-130			1.62	25
Ethylbenzene	3.75	4.35	4.41	116	118	70.0-130			1.37	25
m&p-Xylene	7.50	8.78	9.01	117	120	70.0-130			2.59	25
o-Xylene	3.75	4.32	4.42	115	118	70.0-130			2.29	25
TPH (GC/MS) Low Fraction	203	239	244	118	120	70.0-130			2.07	25
(S) 1,4-Bromofluorobenzene				*98.6*	*99.4*	*60.0-140*				

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier Description

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

Pace 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

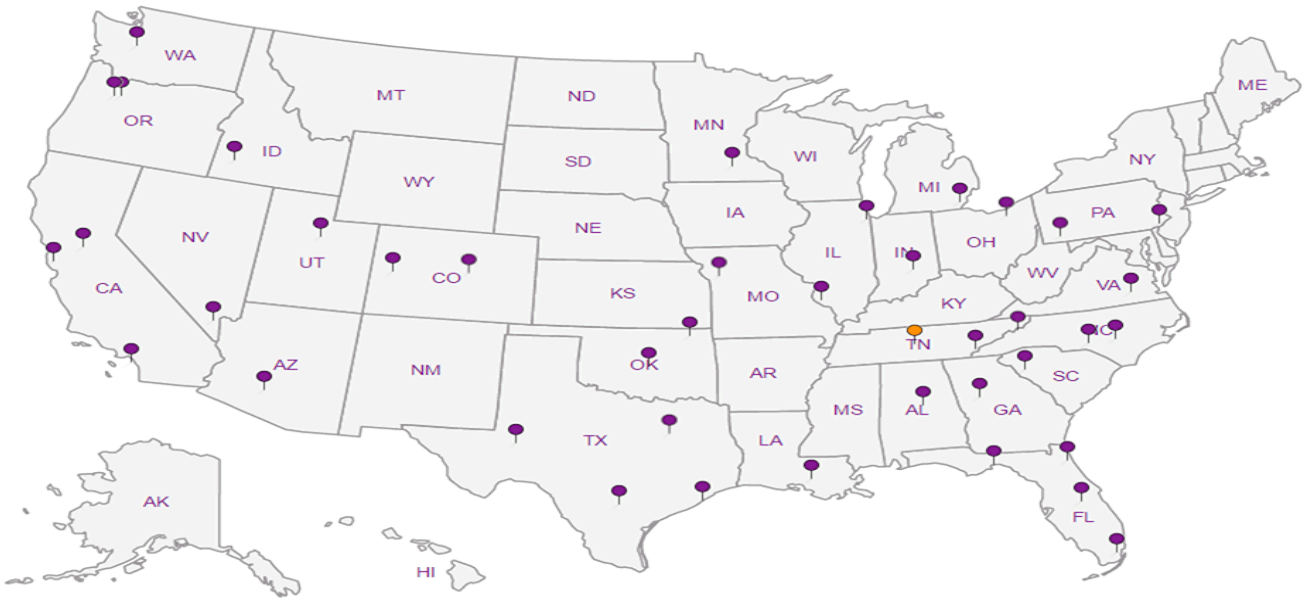
Third Party Federal Accreditations

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.



G153

CHAIN OF CUSTODY RECORD

Terracon

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

Phone: (800) 767-5859
Contact: Paige Gaona
PO/SO #:

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

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 1

L1166019

Project Number: AR197010

Project Name: 14" Vac to Jal Legacy (SRS # 2009-092)

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: Tedlar				BTEX 8021 B	TPH 8015 Extended						Lab Sample ID
A	11/26/2019	15:48		X	EF - 1 (20191126)			1				X	X						-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:
	11-26-19	6:20pm	Carol Kemp	12/2/19	9:10

NOTES:

e-mail results to:
paige.gaona@terracon.com
erin.loyd@terracon.com
cjbryant@paalp.com
algroves@paalp.com

OK

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

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

Amb

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: TERR LTX	L1166019	
Cooler Received/Opened On: 12/12/19 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?			

CHAIN OF CUSTODY RECORD

Terracon

Office Location	Lubbock	Laboratory:	ESC
		Address:	12065 Lebanon Rd Mt. Juliet, TN 37122
		Phone:	(800) 767-5859
Project Manager	Paige Gaona	Contact:	Paige Gaona
Sampler's Name	Aaron Adams	PO/SO #:	
		Sampler's Signature	Aaron Adams

Project Number AR197008 (AR197010) — Project Name DCP #2 (SRS # 2009-039) 14" Vac to Jal Legacy (SRS # 2009-092)

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers: Tedlar				BTEX 8021B	TPH 8015 Extended						Lab Sample ID
A	11/26/2019	15:48		X	EF - 1 (20191126)			1				X	X						

ANALYSIS REQUESTED

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:
Aaron Adams	11-26-19	6:20pm			

NOTES:

e-mail results to:
paige.gaona@terracon.com
erin.loyd@terracon.com
cjbryant@paalp.com
algroves@paalp.com

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

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 26, 2019

Plains All American Pipeline - Terracon

Sample Delivery Group:	L1173661
Samples Received:	12/21/2019
Project Number:	AR197008
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

EF-1 (2019-1219) L1173661-01 Air

Collected by: Aaron Adams
Collected date/time: 12/19/19 12:12
Received date/time: 12/21/19 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method M18-Mod	WG1402137	2000	12/24/19 13:12	12/24/19 13:12	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	3410	10900		2000	WG1402137
Toluene	108-88-3	92.10	400	1510	23700	89300		2000	WG1402137
Ethylbenzene	100-41-4	106	400	1730	3780	16400		2000	WG1402137
m&p-Xylene	1330-20-7	106	800	3470	9390	40700		2000	WG1402137
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Methyl tert-butyl ether	1634-04-4	88.10	400	1440	ND	ND		2000	WG1402137
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	564000	2330000		2000	WG1402137
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*83.5*				WG1402137

Method Blank (MB)

(MB) R3485826-3 12/24/19 12:20

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
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TPH (GC/MS) Low Fraction	U		6.91	200
(S) 1,4-Bromofluorobenzene	*80.5*			*60.0-140*

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

(LCS) R3485826-1 12/24/19 10:21 • (LCSD) R3485826-2 12/24/19 11:41

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	3.42	3.35	91.2	89.3	70.0-130			2.07	25
Benzene	3.75	3.49	3.49	93.1	93.1	70.0-130			0.000	25
Toluene	3.75	3.73	3.70	99.5	98.7	70.0-130			0.808	25
Ethylbenzene	3.75	3.69	3.70	98.4	98.7	70.0-130			0.271	25
m&p-Xylene	7.50	7.59	7.44	101	99.2	70.0-130			2.00	25
o-Xylene	3.75	3.75	3.67	100	97.9	70.0-130			2.16	25
TPH (GC/MS) Low Fraction	203	216	215	106	106	70.0-130			0.464	25
(S) 1,4-Bromofluorobenzene				*92.6*	*90.4*	*60.0-140*				

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Qualifier	Description
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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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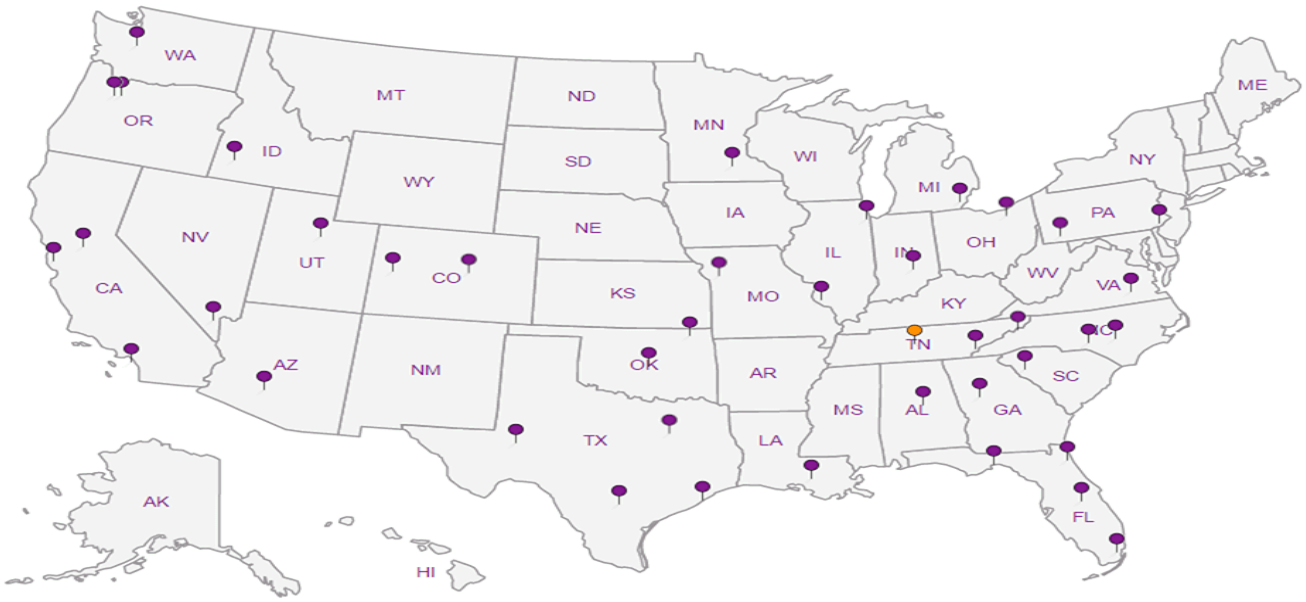

CHAIN OF CUSTODY RECORD

Terracon

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

Phone: (806) 794-1296
Contact: 806-300-0140
PO/SO #:

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

ANALYSIS REQUESTED

LAB USE ONLY
DUE DATE:

TEMP OF COOLER WHEN RECEIVED (°C)

Page 1 of 1

L1173661

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: Tedlar				BTEX (EPA Method 8021B)	TPH 8015 extended						Lab Sample ID
A	12/19/19	1212		X	EF-1 (20191219)			1				x	x						-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
	12/19/19				
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date: 12-21-19	Time: 1030

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.

APPENDIX D

Terracon Standard of Care, Limitation, and Reliance

Standard of Care

Terracon's services will be performed in a manner consistent with generally-accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. Terracon makes no warranties, either express or implied, regarding the findings, conclusions or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, our client, as set forth in our proposal and were not intended to be in strict conformance with ASTM E1903-11.

Additional Scope Limitations

Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, non-detectable or not present during these services, and we cannot represent that the Site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this confirmation sampling. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations or exploratory services; the data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

Reliance

This report has been prepared for the exclusive use of Plains All American Pipeline LP; and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the express written authorization of Plains All American Pipeline LP and Terracon. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the Master Services Agreement (026450-04810-PMLP.2.17), dated August 3, 2011, between Terracon and Plains All American Pipeline LP. The limitation of liability defined in the Terms and Conditions is the aggregate limit of Terracon's liability to the client and all relying parties unless otherwise agreed in writing.