

# 2017 Annual Groundwater Monitoring Report

DCP Plant to Lea Station 6-Inch Section 31  
Plains SRS Number: 2009-084  
Lea County, New Mexico

March 27, 2018  
Terracon Project No. AR187004  
NMOCD Reference No. 1R-2166



**Prepared for:**  
Plains Marketing, LP  
Midland, Texas

**Prepared by:**  
Terracon Consultants, Inc.  
Lubbock, Texas

[terracon.com](http://terracon.com)

**Terracon**

Environmental   ■   Facilities   ■   Geotechnical   ■   Materials



March 27, 2018

Plains Marketing, L.P.  
577 US Highway 385 North  
Seminole, Texas 79360  
Attn: Ms. Camille Bryant

Telephone: (575) 441-1099

Re: 2017 Annual Groundwater Monitoring Report  
DCP Plant to Lea Station 6-Inch Section 31  
U/L "K", Sec. 31, T20S, R37E  
Lea County, New Mexico  
NMOCD Reference No. 1R – 2166  
Plains Marketing, L.P. SRS NO. 2009-084  
Terracon Project No. AR187004

Dear Ms. Bryant:

Terracon is pleased to submit one electronic copy and one CD attached to the cover page of the 2017 Annual Groundwater Monitoring Report for the above-referenced site.

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

Sincerely,

**Terracon**

Prepared by:

Brett Dennis  
Field Scientist  
Lubbock

Reviewed by:

Erin Loyd, P.G.  
Senior Associate  
Office Manager – Lubbock

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## 2017 ANNUAL GROUNDWATER MONITORING REPORT

**DCP Plant to Lea Station 6-Inch Section 31**  
**Plains SRS No: 2009-084**  
**Unit Letter “K”, Section 31, Township 20 South, Range 37 East**  
**Lea County, New Mexico**  
**NMOCD Reference No. 1R – 2166**  
**Terracon Project No. AR187004**

### 1.0 INTRODUCTION

#### 1.1 Site Description

The legal description of the DCP Plant to Lea Station 6-Inch Section 31 release site is Unit Letter “K” (NE/SW), Section 31, Township 20 South, Range 37 East, in Lea County, New Mexico. The property affected by the release is owned by The State of New Mexico and administered by the New Mexico State Land Office (NMSLO). The geographic coordinates of the release site are 32.52733° North latitude and 103.29060° West longitude. A “Site Location Map” is provided as Figure 1 in Appendix A.

<b>Site Name</b>	DCP Plant to Lea Station 6-Inch Section 31
<b>Site Location</b>	Latitude 32.52733° North, Longitude 103.29060° West
<b>General Site Description</b>	The site consists of six groundwater monitoring wells located in, and adjacent to, a pipeline right-of-way surrounded by native pasture land.
<b>Landowner</b>	State of New Mexico

#### 1.2 Background Information

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

On April 15, 2009, soil boring (SB-1) was advanced approximately 10 ft. west of the release point to evaluate the vertical extent of soil impact. During advancement of the soil boring, groundwater

was encountered at approximately 77 ft. below ground surface (bgs). Temporary casing was installed in the boring to obtain a preliminary groundwater sample. On April 16, 2009, a groundwater sample (SB-1) was collected from the temporary casing and submitted to the laboratory for analysis of total dissolved solids (TDS), chlorides, and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Following the collection of the groundwater sample, the temporary casing was removed from the soil boring and the soil boring was plugged with cement and bentonite, as required by the New Mexico Office of the State Engineer (NMOSE). Laboratory analytical results indicated a benzene concentration of 1.915 milligrams per liter (mg/L), a BTEX concentration of 4.7711 mg/L, a chloride concentration of 54.6 mg/L, and a TDS concentration of 788 mg/L. Based on the analytical results of the submitted groundwater sample, Plains notified NMOCD representatives in the Hobbs District Office and the Santa Fe Office of the laboratory-confirmed impact to groundwater at the release site.

On June 2, 2009, following advancement of the soil boring, excavation of hydrocarbon-impacted soil commenced. Excavated soil was stockpiled on-site on a plastic liner to mitigate the potential leaching of the contaminants into the vadose zone. Approximately 1,400 cubic yards (cy) of soil was stockpiled on-site, pending final disposition. The final dimensions of the excavation were approximately 77 ft. in width, approximately 80 ft. in length, and 15 ft. in depth.

On September 21 through September 23, 2009, Plains installed and developed four monitor wells (MW-1 through MW-4) at the release site, as approved by the NMOCD. Soil samples were collected at 5-foot drilling intervals and field screened using a photo-ionization detector (PID). Selected soil samples were submitted to the laboratory for determination of concentrations of BTEX and total petroleum hydrocarbons (TPH) using EPA Methods SW-846 8021b and SW-846 8015M, respectively.

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

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

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

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

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

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

On October 18, 2016, Terracon assumed oversight of groundwater monitoring activities at the DCP Plant to Lea Station 6-Inch Section 31 release site. There are a total of six monitor wells located at the site. Monitor wells MW-2 through MW-6 are gauged and sampled on a quarterly schedule; monitor well MW-1 is not sampled due to the presence of PSH.

### **1.3 Scope of Work**

Terracon's scope of work includes 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 1<sup>st</sup> of each year. Groundwater monitoring activities include conducting quarterly groundwater monitoring events at the site. Quarterly groundwater monitoring events include measuring the static water levels in the monitor wells, checking for the presence of PSH, and the collection of groundwater samples from each of the on-site monitor wells not exhibiting a measurable thickness of PSH. In accordance with the approved scope of work, Terracon conducted the quarterly groundwater monitoring events on March 8, June 27, September 21, and November 14, 2017.

### **1.4 Standard of Care**

Activities conducted prior to Terracon assuming oversight of the project (beginning on October 18, 2016) were performed by previous consultants hired by Plains. As such, Terracon makes no assumptions or warranties regarding the previous consultants services being 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.

### **1.5 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 remediation activities. 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.

## **1.6 Reliance**

This report has been prepared for the exclusive use of Plains Marketing, L. P., 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 Marketing, L.P. 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 this report, and Terracon's Terms and Conditions. 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.

## **2.0 FIELD ACTIVITIES**

### **2.1 Product Recovery**

An estimated 40.50 gallons (0.9 bbls) of PSH were recovered from monitor well MW-1, by manual recovery, in 2017. During the 2<sup>nd</sup> (quarterly) 2017 groundwater monitoring event, the PSH thickness in MW-1 measured 2.37 feet. An estimated 5,750 gallons (137 bbls) of PSH has been manually recovered from MW-1 since recovery operations began in 2009.

In September 2012, a Mobile Dual-Phase Extraction (MDPE) unit was installed on monitor well MW-1 by Talon LPE. The MDPE unit was shared with the nearby release site known as DCP Plant to Lea Station 6-Inch #2 (NMOCD Reference #1RP-2136), and the location of the unit was alternated periodically until a Soil Vapor Extraction (SVE) unit was placed on the previously mentioned site on July 19, 2017. During the 2017 reporting period, an estimated 1,835 gallons (43.6 bbls) of PSH in the vapor phase and an estimated 252 gallons (6 bbls) of PSH in the liquid phase were recovered by the MDPE unit, for a total of an estimated 2,087 equivalent gallons (49.6 bbls) of PSH. To date, an estimated 12,426 equivalent gallons (295.8 bbls) of PSH has been recovered from monitor well MW-1 by MDPE. Recovered fluids are disposed of at an NMOCD-approved disposal facility.

### **2.2 Groundwater Monitoring**

Quarterly groundwater monitoring events were conducted on March 8 (1Q2017), June 27 (2Q2017), September 21 (3Q2017) and November 14, 2017 (4Q2017). Quarterly groundwater monitoring events included measuring the static water level in the on-site monitor wells, checking for the presence of PSH, and the collection of groundwater samples from each of the on-site monitor 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 four cycles of five minutes each. Each collected sample was placed in laboratory-supplied containers appropriate to the analyses requested and placed on ice in a cooler. The sample coolers and completed

chain-of-custody forms were delivered to Xenco Laboratories in Lubbock, Texas for analysis of BTEX using EPA SW-846 Method 8021B. Purged water was placed into a polystyrene aboveground storage tank (AST) and disposed of at an NMOCD-approved disposal facility.

Based on sampling criteria provided by the NMOCD, groundwater samples collected from the on-site monitor wells were not subject to analysis of polynuclear aromatic hydrocarbons (PAHs).

Groundwater elevation gauging data collected during the respective quarterly sampling events were used to construct groundwater gradient maps, which are included as Figures 2a through 2d in Appendix A. Groundwater flow direction was relatively consistent during each quarter of 2017 in the southeasterly direction. Groundwater elevation and PSH thickness data is summarized in Table 1 in Appendix B.

### **3.0 LABORATORY ANALYTICAL METHODS**

The groundwater samples collected from the on-site monitor wells were analyzed for BTEX using EPA SW-846 Method 8021B. Laboratory results from the analysis of groundwater samples collected from the monitor wells are summarized in Table 2 in Appendix B and presented on Figures 3a through 3d in Appendix A. The executed chain-of-custody forms and laboratory data sheets are provided in Appendix C.

## **4.0 DATA EVALUATION**

### **4.1 Groundwater Samples**

Laboratory analytical results from groundwater samples collected on March 8 (1Q2017), June 27 (2Q2017), September 21 (3Q2017) and November 14, 2017 (4Q2017) 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).

#### **Monitor Well MW-1**

- Monitor well MW-1 was not sampled during the 2017 reporting period due to the presence of PSH. PSH thicknesses of 1.52 ft and 2.37 ft were observed during the 1<sup>st</sup> Quarter and 2<sup>nd</sup> Quarter, respectively. Monitor well MW-1 was not gauged during the 3<sup>rd</sup> and 4<sup>th</sup> Quarters due to the presence of a mobile dual-phase extraction (MDPE) unit on the well.

#### **Monitor Wells MW-2, MW-3, MW-4, and MW-6**

- Laboratory analytical results indicated BTEX concentrations were less than the applicable laboratory sample detection limit during each quarter of the 2017 reporting period.

### Monitor Well MW-5

- Laboratory analytical results indicated benzene and toluene concentrations were less than NMOCD regulatory standards during the 2<sup>nd</sup> Quarter of 2017. Ethylbenzene and total xylene concentrations were less than the applicable laboratory sample detection limit.
- Laboratory analytical results indicated BTEX concentrations were less than the applicable laboratory sample detection limit during the 1<sup>st</sup> Quarter, 3<sup>rd</sup> Quarter, and 4<sup>th</sup> Quarter of the 2017 reporting period

## 5.0 SUMMARY

- Currently, there are six groundwater monitor wells (MW-1 through MW-6) located at the site.
- MW-1 was not sampled during the 2017 reporting period due to the presence of PSH.
- Monitor wells MW-2 through MW-6 were sampled during each quarter of 2017.
- Benzene, toluene, ethylbenzene and total xylene concentrations were less than the NMOCD regulatory standards in each of the submitted groundwater samples.
- The PSH thickness in monitor well MW-1 was 2.37 ft during the 2<sup>nd</sup> quarterly groundwater monitoring event conducted during the 2017 reporting period.
- An estimated 40.5 gallons (0.9 bbls) of PSH were recovered manually from monitor well MW-1 during the 2017 reporting period.
- An estimated 1,835 gallons (43.6 bbls) of PSH were recovered in the vapor phase and an estimated 252 gallons (6 bbls) of PSH in the liquid phase from monitor well MW-1 during the 2017 reporting period.
- The groundwater flow direction was relatively consistent during each quarter of 2017 in the southeasterly direction.

## 6.0 ANTICIPATED ACTIONS

- PSH recovery by MDPE will continue on monitor well MW-1 during the 2018 reporting period.
- Monitor wells MW-2 through MW-6 will be monitored and sampled quarterly for the presence of BTEX in 2018.
- An *Annual Groundwater Monitoring Report* will be prepared detailing field activities and the results of groundwater monitoring activities conducted during the 2017 reporting period.

## **7.0 DISTRIBUTION**

- Copy 1:       Bradford Billings, Hydrologist  
New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505
- Copy 2:       Ms. Olivia Yu  
New Mexico Oil Conservation Division  
District 1  
1625 N. French Drive  
Hobbs, New Mexico 88240
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577 US Highway 385 North  
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[cjbryant@paalp.com](mailto:cjbryant@paalp.com)
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Plains Marketing, L.P.  
333 Clay Street, Suite 1600  
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[jpdann@paalp.com](mailto:jpdann@paalp.com)
- Copy 5:       Mr. Kris Williams  
Terracon Consultants  
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Lubbock, Texas 79424  
[kris.williams@terracon.com](mailto:kris.williams@terracon.com)

## **APPENDIX A**

Figure 1– Site Location Map

Figure 2a – Groundwater Gradient Map (1Q2017)

Figure 2b – Groundwater Gradient Map (2Q2017)

Figure 2c – Groundwater Gradient Map (3Q2017)

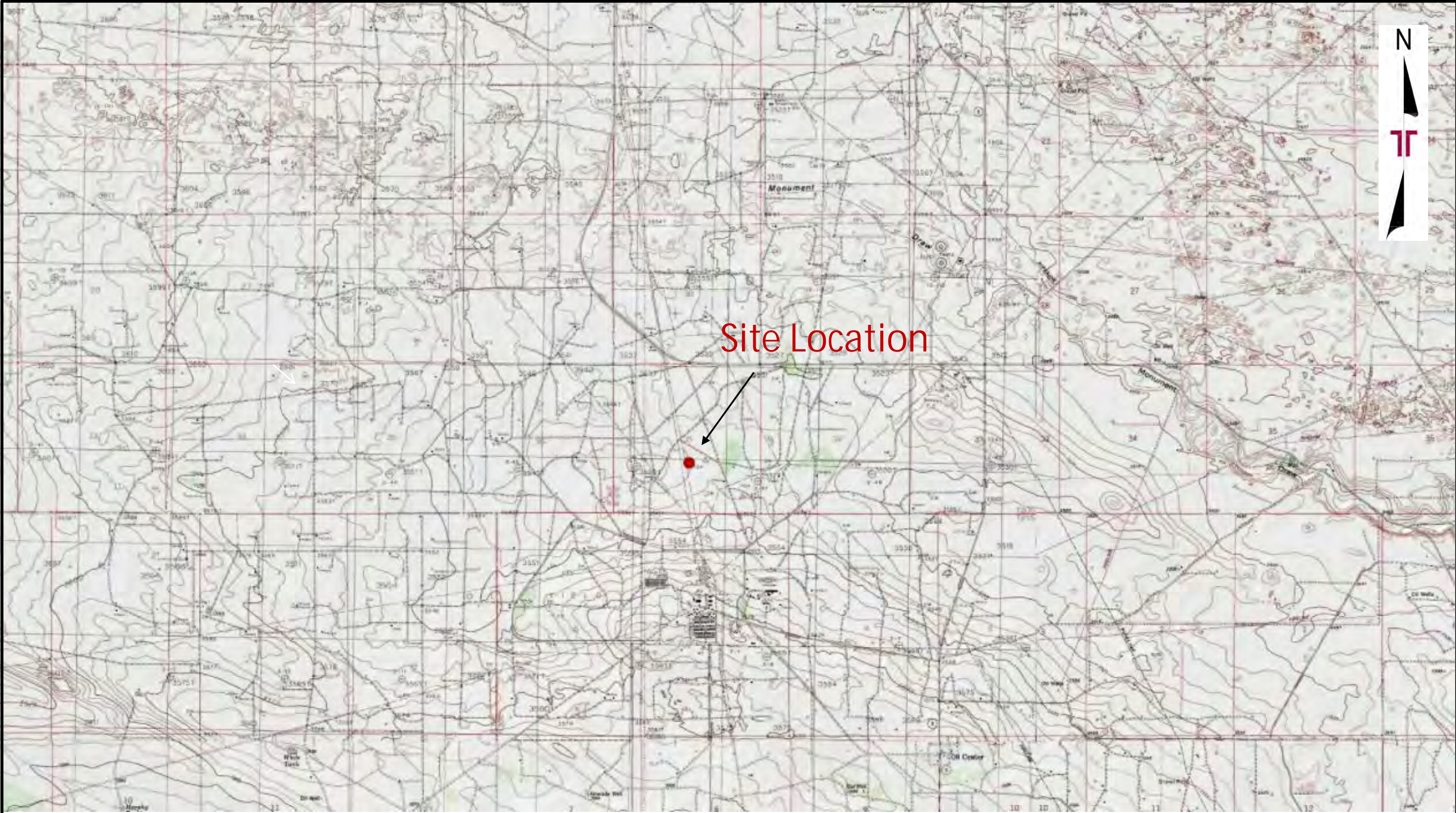
Figure 2d – Groundwater Gradient Map (4Q2017)

Figure 3a – Groundwater Concentration Map (1Q2017)

Figure 3b – Groundwater Concentration Map (2Q2017)

Figure 3c – Groundwater Concentration Map (3Q2017)

Figure 3d – Groundwater Concentration Map (4Q2017)



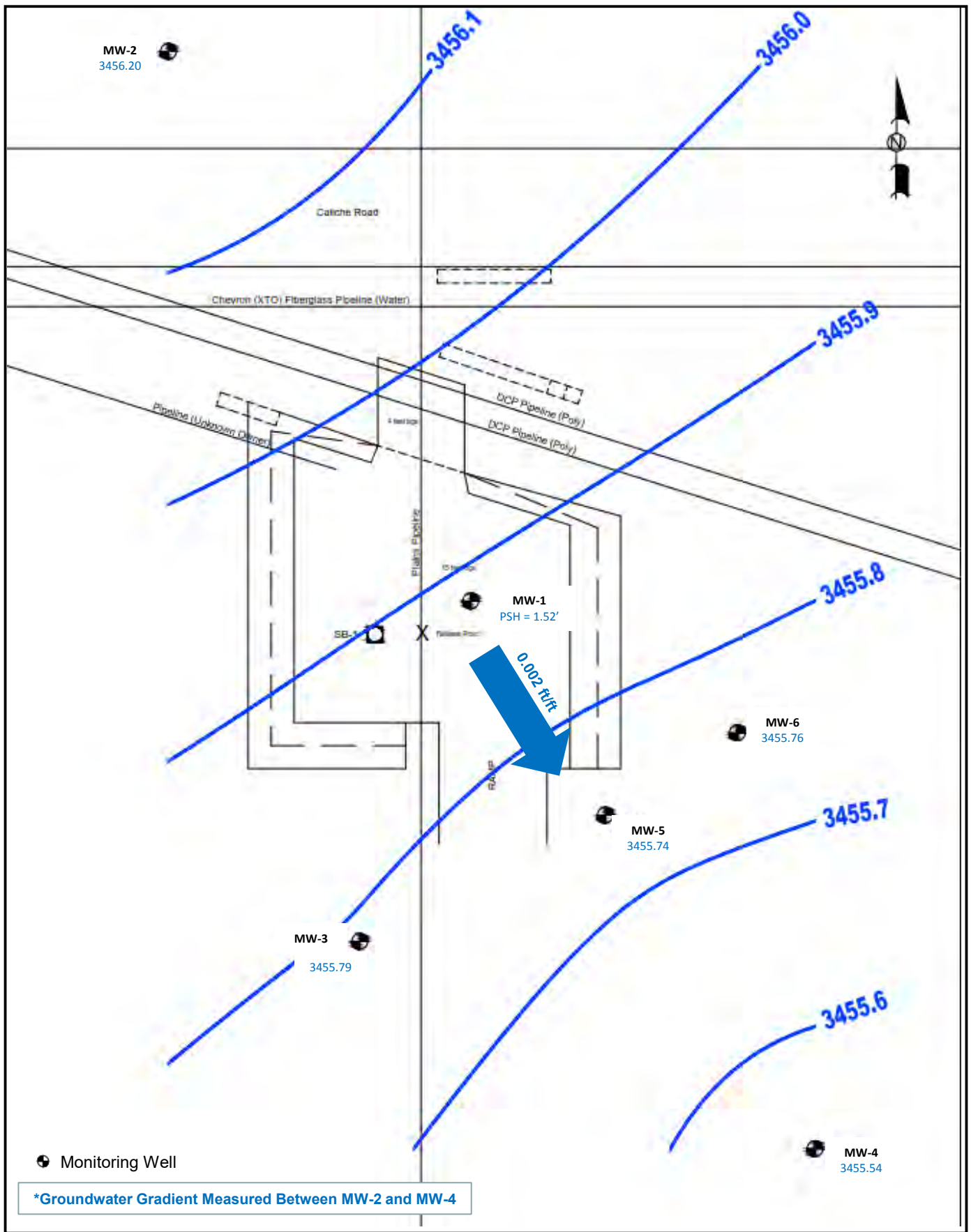
Project No.	AR187004
Scale:	1" = 1 Mile
Source:	Google Earth
Date:	2014

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Consulting Engineers & Scientists

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. PH. (806) 300-0104

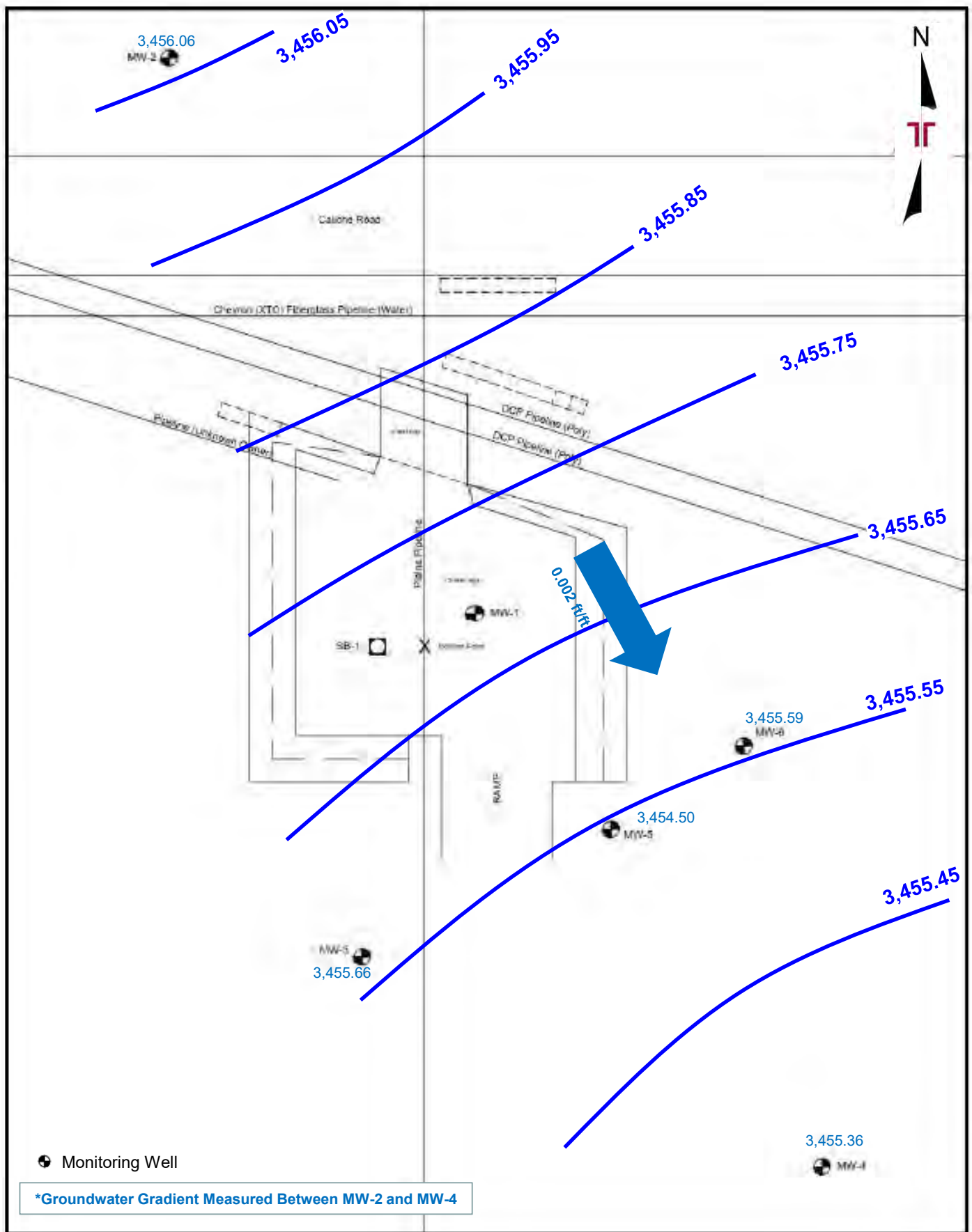
Lubbock, Texas 79424  
FAX. (806) 797 0947

Figure 1 – Site Location Map
DCP Plant to Lea Station 6-Inch Sec. 31
NMCOD Ref. No. 1R-2166
32.52733° , -103.29060°
Lea County, New Mexico









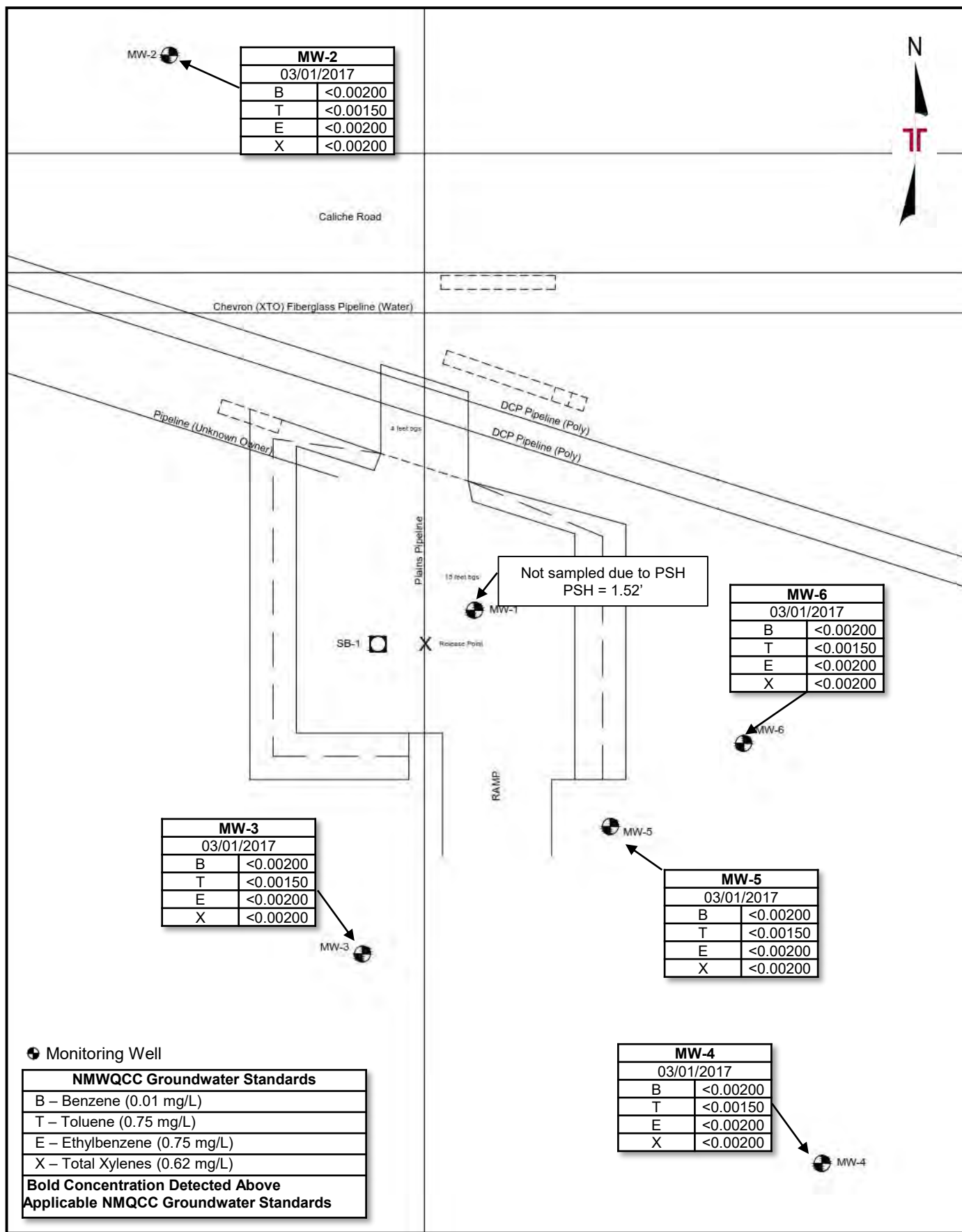
Project No. AR187004  
 Scale: 1"=90'  
 Source: GoogleEarth  
 Date: 2017

**Terracon**  
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 Phone (806) 300-0140 Fax (806) 797-0947

# Figure 2d – Groundwater Gradient Map - 4Q2017

DCP Plant to Lea Station 6-Inch Sec. 31  
 NMOCD Ref. No. 1R-2166  
 32.52733°, -103.29060°  
 Lea County, New Mexico



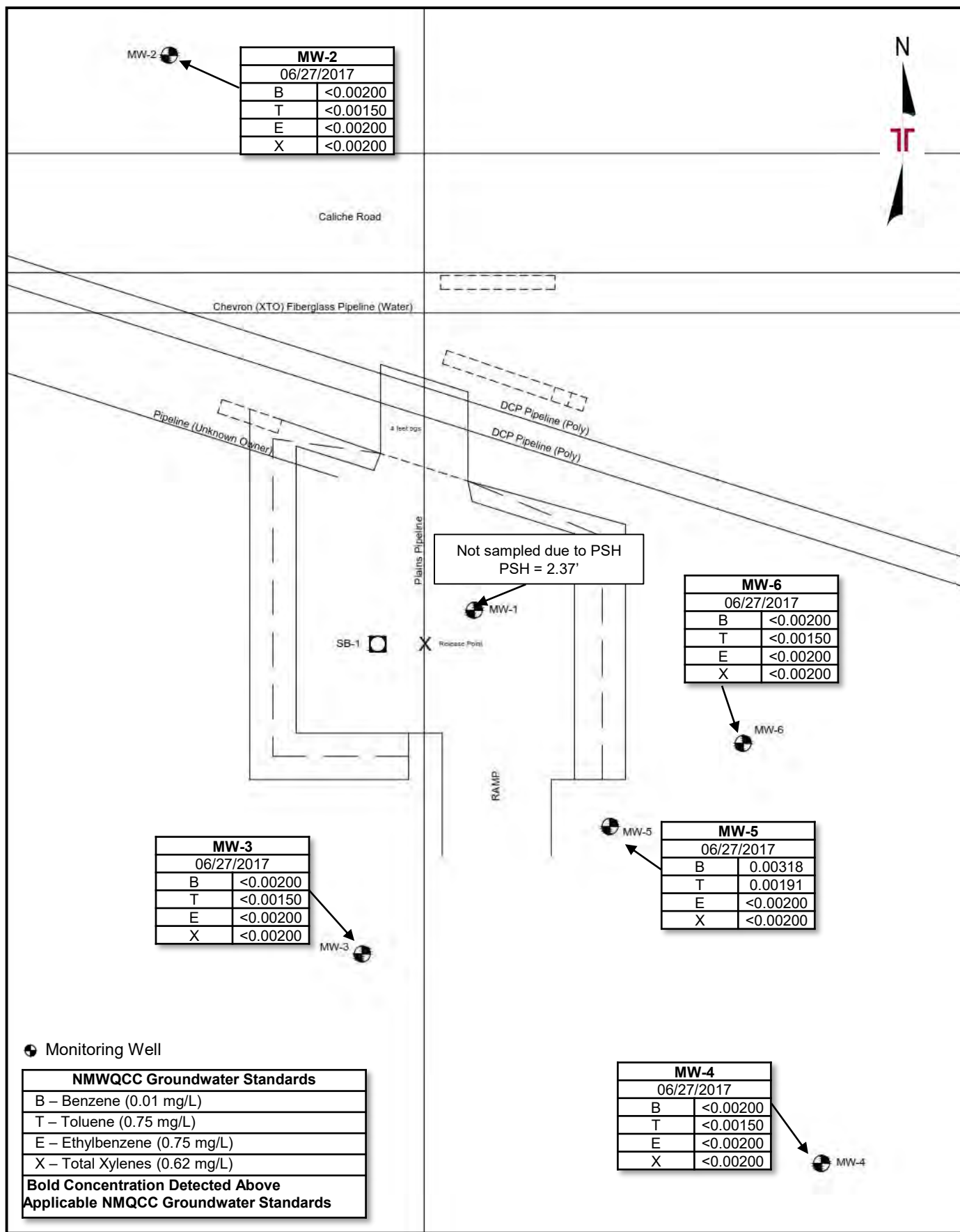
Project No. AR187004  
Scale: 1"=90'  
Source: GoogleEarth  
Date: 2017

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Figure 3a – Groundwater Concentration Map -1Q2017

DCP Plant to Lea Station 6-Inch Sec. 31  
NMOCD Ref. No. 1R-2166  
32.52733° , -103.29060°  
Lea County, New Mexico



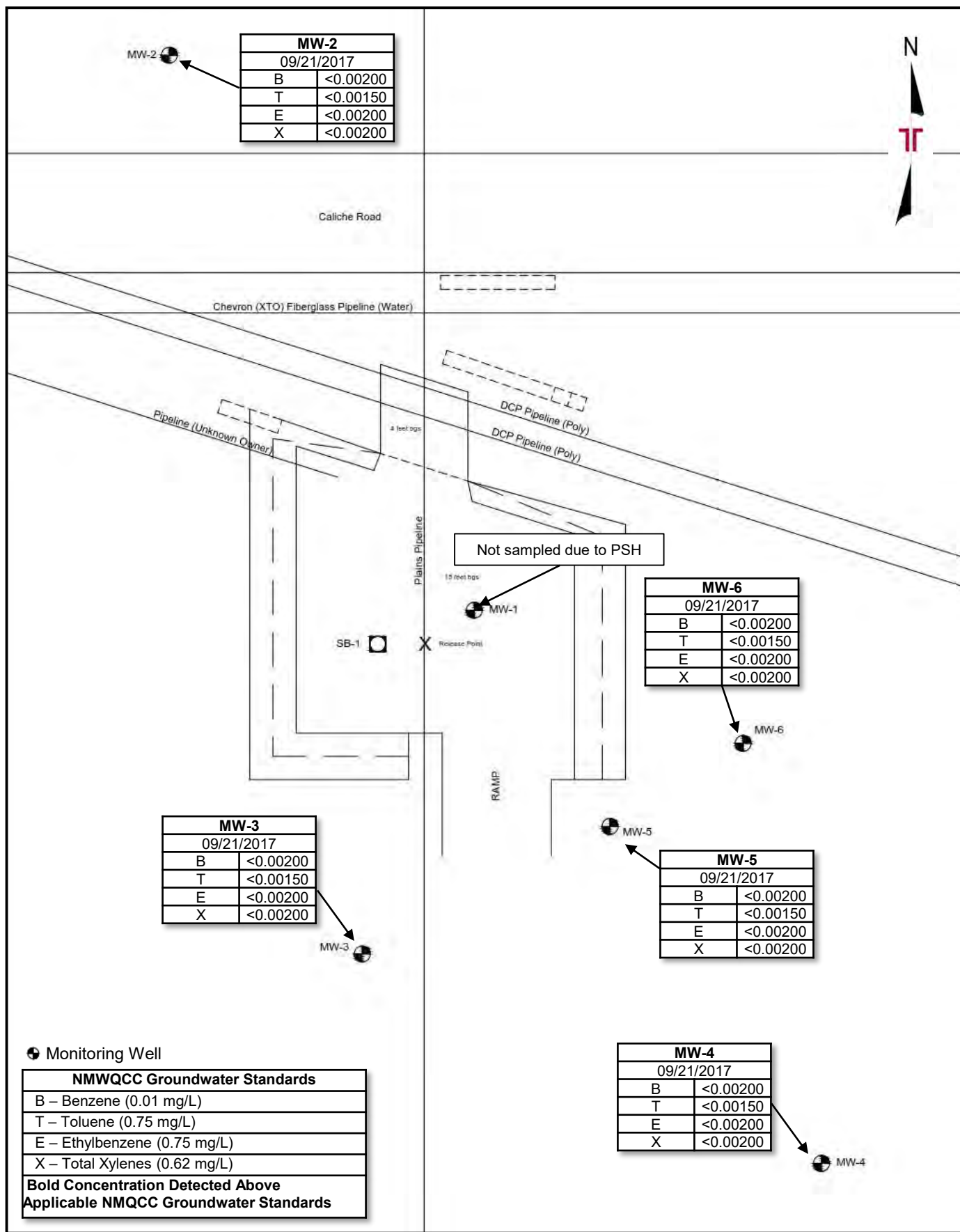
Project No. AR187004  
Scale: 1"=90'  
Source: GoogleEarth  
Date: 2017

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Figure 3b – Groundwater Concentration Map -2Q2017

DCP Plant to Lea Station 6-Inch Sec. 31  
NMOCD Ref. No. 1R-2166  
32.52733° , -103.29060°  
Lea County, New Mexico



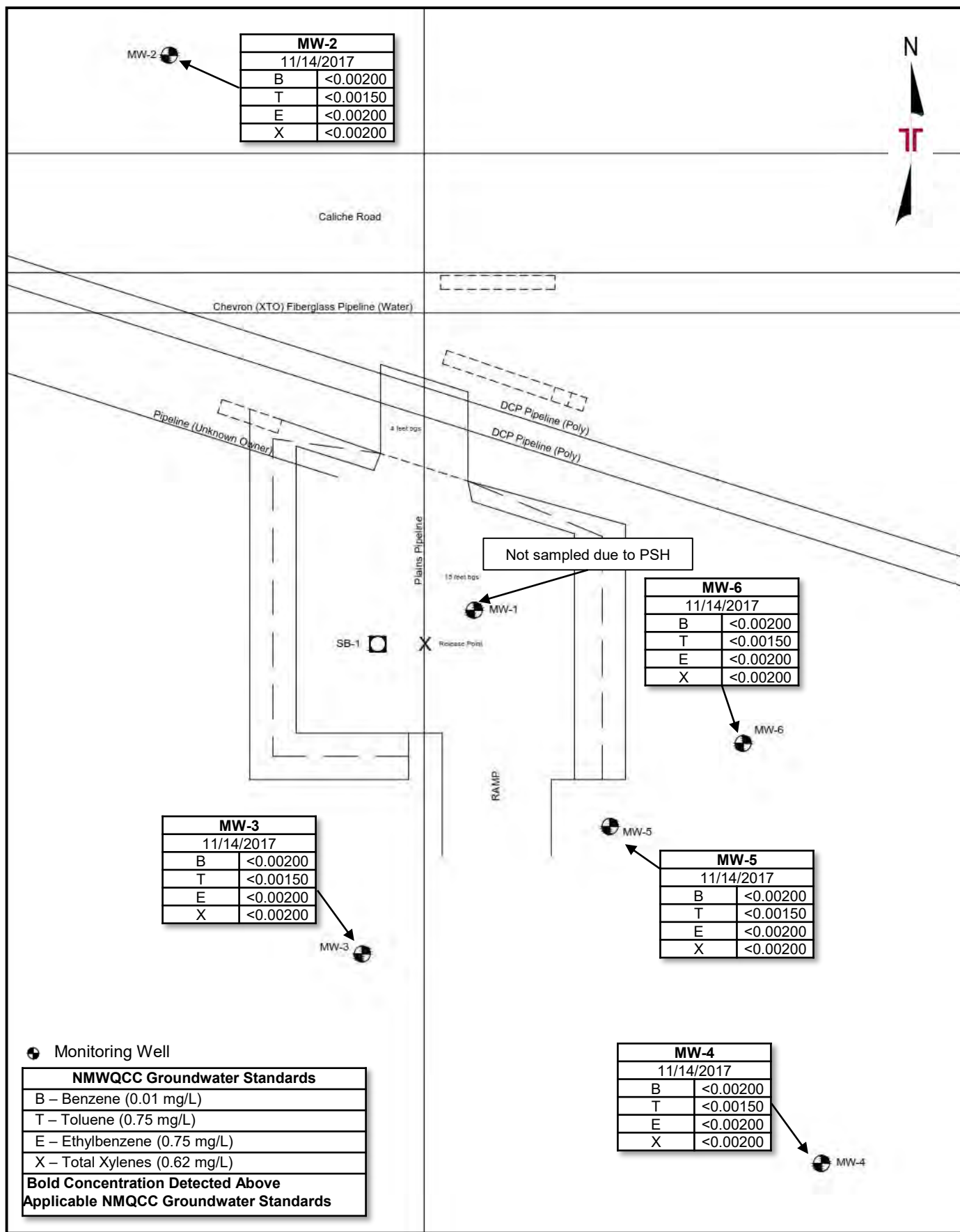
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Scale: 1"=90'  
Source: GoogleEarth  
Date: 2014

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Figure 3c – Groundwater Concentration Map -3Q2017

DCP Plant to Lea Station 6-Inch Sec. 31  
NMOCD Ref. No. 1R-2166  
32.52733°, -103.29060°  
Lea County, New Mexico



Project No. AR187004  
 Scale: 1"=90'  
 Source: GoogleEarth  
 Date: 2017

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Figure 3d – Groundwater Concentration Map-4Q2017

DCP Plant to Lea Station 6-Inch Sec. 31  
 NMOCD Ref. No. 1R-2166  
 32.52733°, -103.29060°  
 Lea County, New Mexico

## **APPENDIX B**

Table 1 – Groundwater Elevation and PSH Thickness Data

Table 2 – Groundwater Analytical Summary - BTEX

TABLE 1

**GROUNDWATER ELEVATION DATA**  
**DCP PLANT TO LEA STATION 6-INCH SEC. 31**  
**LEA COUNTY, NEW MEXICO**  
**PLAINS SRS #: 2009-084**  
**NMOCD REFERENCE #: 1RP-2166**  
**TERRACON PROJECT #: AR187004**

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-1	-	3,539.59	-	-	-	-
	-	3,539.59	-	-	-	-
	-	3,539.59	-	-	-	-
	12/22/2016	3,539.59	83.05	86.01	2.96	3,456.10
	03/01/2017	3,539.59	83.39	84.91	1.52	3,455.97
	06/27/2017	3,539.59	83.28	85.65	2.37	3,455.95
	09/21/2017	3,539.59	-	-	-	-*
	11/14/2017	3,539.59	-	-	-	-*
MW-2	02/10/2016	3,539.37	-	83.10	-	3,456.27
	05/03/2016	3,539.37	-	83.10	-	3,456.27
	08/04/2016	3,539.37	-	83.08	-	3,456.29
	12/22/2016	3,539.37	-	83.21	-	3,456.16
	03/01/2017	3,539.37	-	83.17	-	3,456.20
	06/27/2017	3,539.37	-	83.28	-	3,456.09
	09/21/2017	3,539.37	-	83.16	-	3,456.21
	11/14/2017	3,539.37	-	83.31	-	3,456.06
MW-3	02/10/2016	3,539.28	-	83.48	-	3,455.80
	05/03/2016	3,539.28	-	83.45	-	3,455.83
	08/04/2016	3,539.28	-	83.44	-	3,455.84
	12/22/2016	3,539.28	-	83.51	-	3,455.77
	03/01/2017	3,539.28	-	83.49	-	3,455.79
	06/27/2017	3,539.28	-	83.61	-	3,455.67
	09/21/2017	3,539.28	-	83.51	-	3,455.77
	11/14/2017	3,539.28	-	83.62	-	3,455.66
MW-4	02/10/2016	3,540.07	-	84.50	-	3,455.57
	05/03/2016	3,540.07	-	84.47	-	3,455.60
	08/04/2016	3,540.07	-	84.48	-	3,455.59
	12/22/2016	3,540.07	-	84.54	-	3,455.53
	03/01/2017	3,540.07	-	84.53	-	3,455.54
	06/27/2017	3,540.07	-	84.63	-	3,455.44
	09/21/2017	3,540.07	-	84.54	-	3,455.53
	11/14/2017	3,540.07	-	84.71	-	3,455.36
MW-5	02/10/2016	3,539.90	-	84.14	-	3,455.76
	05/03/2016	3,539.90	-	84.10	-	3,455.80
	08/04/2016	3,539.90	-	84.12	-	3,455.78
	12/22/2016	3,539.90	-	84.18	-	3,455.72
	03/01/2017	3,539.90	-	84.16	-	3,455.74
	06/27/2017	3,539.90	-	84.28	-	3,455.62
	09/21/2017	3,539.90	-	84.16	-	3,455.74
	11/14/2017	3,539.90	-	85.40	-	3,454.50
MW-6	02/10/2016	3540.82	-	85.00	-	3,455.82
	05/03/2016	3540.82	-	84.96	-	3,455.86
	08/04/2016	3540.82	-	85.03	-	3,455.79
	12/22/2016	3540.82	-	85.05	-	3,455.77
	03/01/2017	3540.82	-	85.06	-	3,455.76
	06/27/2017	3540.82	-	85.14	-	3,455.68
	09/21/2017	3540.82	-	85.04	-	3,455.78
	11/14/2017	3540.82	-	85.23	-	3,455.59

- = Not applicable

-\* = Not gauged due to presence of MDPE unit.

Elevations based on the North American Vertical Datum of 1988

TABLE 2

**GROUNDWATER ANALYTICAL SUMMARY - BTEX DCP**  
**PLANT TO LEA STATION 6-INCH SEC. 31**  
**LEA COUNTY, NEW MEXICO**  
**PLAINS SRS #: 2009-084**  
**NMOCD REFERENCE #: 1RP-2166**  
**TERRACON PROJECT #: AR187004**

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8260b						
		BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL-BENZENE (mg/L)	M,P-XYLENES (mg/L)	O-XYLENES (mg/L)	TOTAL XYLENES (mg/L)	TOTAL BTEX (mg/L)
MW-2	02/10/2016	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	05/03/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	08/04/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	12/22/2016	<0.00100	<0.00100	<0.00100	<0.00200	<0.00100	<0.00200	<0.00200
	03/08/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	06/27/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	09/21/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	11/14/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
MW-3	02/10/2016	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	05/03/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	08/04/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	12/22/2016	0.00110	<0.00100	<0.00100	<0.00200	<0.00100	<0.00200	0.00110
	03/08/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	06/27/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	09/21/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	11/14/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
MW-4	02/10/2016	0.0021	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0021
	05/03/2016	0.00205	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	0.00205
	08/04/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	12/22/2016	<0.00100	<0.00100	<0.00100	<0.00200	<0.00100	<0.00200	<0.00200
	03/08/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	06/27/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	09/21/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	11/14/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
MW-5	02/10/2016	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	05/03/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	08/04/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	12/22/2016	<0.00100	<0.00100	<0.00100	<0.00200	<0.00100	<0.00200	<0.00200
	03/08/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	06/27/2017	0.00318	0.00191	<0.00200	<0.00200	<0.00200	<0.00200	0.00509
	09/21/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	11/14/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
MW-6	02/10/2016	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	05/03/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	08/04/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	12/22/2016	<0.00100	<0.00100	<0.00100	<0.00200	<0.00100	<0.00200	<0.00200
	03/08/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	06/27/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	09/21/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	11/14/2017	<0.00200	<0.00150	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
NMOCD CRITERIA		0.01	0.75	0.75	TOTAL XYLENES 0.62			

## **APPENDIX C**

### Laboratory Data Sheets



# Certificate of Analysis Summary 548226

Terracon Lubbock, Lubbock, TX

Project Name: DCP Plant to Lea Station 6" Sec. 31 (SRS#2009-084)



Project Id: AR 167322

Contact: Joel Lowry

Project Location:

Date Received in Lab: Thu Mar-09-17 08:50 am

Report Date: 16-MAR-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	548226-001	548226-002	548226-003	548226-004	548226-005	
	<i>Field Id:</i>	MW-2	MW-3	MW-4	MW-5	MW-6	
	<i>Depth:</i>						
	<i>Matrix:</i>	WATER	WATER	WATER	WATER	WATER	
	<i>Sampled:</i>	Mar-08-17 12:24	Mar-08-17 15:02	Mar-08-17 14:08	Mar-08-17 15:49	Mar-08-17 13:15	
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Mar-15-17 07:20	Mar-15-17 07:20	Mar-15-17 07:20	Mar-15-17 07:20	Mar-15-17 07:20	
	<i>Analyzed:</i>	Mar-15-17 18:12	Mar-15-17 20:06	Mar-15-17 18:28	Mar-15-17 20:54	Mar-15-17 18:44	
	<i>Units/RL:</i>	mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL	
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	
Toluene		<0.00150 0.00150	<0.00150 0.00150	<0.00150 0.00150	<0.00150 0.00150	<0.00150 0.00150	
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	
m,p-Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	
Total BTEX		<0.00150 0.00150	<0.00150 0.00150	<0.00150 0.00150	<0.00150 0.00150	<0.00150 0.00150	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.  
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.  
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.  
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.9%

Kelsey Brooks  
Project Manager

# **Analytical Report 548226**

## **for Terracon Lubbock**

**Project Manager: Joel Lowry**

**DCP Plant to Lea Station 6" Sec. 31 (SRS#2009-084)**

**AR 167322**

**16-MAR-17**

Collected By: Client



**1211 W. Florida Ave, Midland TX 79701**

Xenco-Houston (EPA Lab code: TX00122):  
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)  
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)  
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)  
Xenco-San Antonio: Texas (T104704534)  
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)  
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



16-MAR-17

Project Manager: **Joel Lowry**

**Terracon Lubbock**

5827 50th st, Suite 1

Lubbock, TX 79424

Reference: XENCO Report No(s): **548226**

**DCP Plant to Lea Station 6" Sec. 31 (SRS#2009-084)**

Project Address:

**Joel Lowry:**

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) 548226. 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. 548226 will be filed for 60 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,

**Kelsey Brooks**

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 548226



### Terracon Lubbock, Lubbock, TX

DCP Plant to Lea Station 6" Sec. 31 (SRS#2009-084)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2	W	03-08-17 12:24		548226-001
MW-3	W	03-08-17 15:02		548226-002
MW-4	W	03-08-17 14:08		548226-003
MW-5	W	03-08-17 15:49		548226-004
MW-6	W	03-08-17 13:15		548226-005



## CASE NARRATIVE

*Client Name: Terracon Lubbock*

*Project Name: DCP Plant to Lea Station 6" Sec. 31 (SRS#2009-084)*

Project ID: AR 167322  
Work Order Number(s): 548226

Report Date: 16-MAR-17  
Date Received: 03/09/2017

---

**Sample receipt non conformances and comments:**

---

**Sample receipt non conformances and comments per sample:**

None



# Certificate of Analytical Results 548226



## Terracon Lubbock, Lubbock, TX DCP Plant to Lea Station 6" Sec. 31 (SRS#2009-084)

Sample Id: **MW-2**  
Lab Sample Id: 548226-001

Matrix: Water  
Date Collected: 03.08.17 12.24

Date Received: 03.09.17 08.50

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.15.17 07.20

Seq Number: 3012475

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	03.15.17 18.12	U	1
Toluene	108-88-3	<0.00150	0.00150	mg/L	03.15.17 18.12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	03.15.17 18.12	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/L	03.15.17 18.12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	03.15.17 18.12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	03.15.17 18.12	U	1
Total BTEX		<0.00150	0.00150	mg/L	03.15.17 18.12	U	1
<b>Surrogate</b>		<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>
1,4-Difluorobenzene		540-36-3	108	%	80-120	03.15.17 18.12	
4-Bromofluorobenzene		460-00-4	100	%	80-120	03.15.17 18.12	



# Certificate of Analytical Results 548226



## Terracon Lubbock, Lubbock, TX DCP Plant to Lea Station 6" Sec. 31 (SRS#2009-084)

Sample Id: **MW-3**  
Lab Sample Id: 548226-002

Matrix: Water  
Date Collected: 03.08.17 15.02

Date Received: 03.09.17 08.50

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.15.17 07.20

Seq Number: 3012475

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	03.15.17 20.06	U	1
Toluene	108-88-3	<0.00150	0.00150	mg/L	03.15.17 20.06	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	03.15.17 20.06	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/L	03.15.17 20.06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	03.15.17 20.06	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	03.15.17 20.06	U	1
Total BTEX		<0.00150	0.00150	mg/L	03.15.17 20.06	U	1
<b>Surrogate</b>		<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>
1,4-Difluorobenzene		540-36-3	96	%	80-120	03.15.17 20.06	
4-Bromofluorobenzene		460-00-4	101	%	80-120	03.15.17 20.06	



# Certificate of Analytical Results 548226



## Terracon Lubbock, Lubbock, TX DCP Plant to Lea Station 6" Sec. 31 (SRS#2009-084)

Sample Id: **MW-4**  
Lab Sample Id: 548226-003

Matrix: Water  
Date Collected: 03.08.17 14.08

Date Received: 03.09.17 08.50

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.15.17 07.20

Seq Number: 3012475

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	03.15.17 18.28	U	1
Toluene	108-88-3	<0.00150	0.00150	mg/L	03.15.17 18.28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	03.15.17 18.28	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/L	03.15.17 18.28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	03.15.17 18.28	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	03.15.17 18.28	U	1
Total BTEX		<0.00150	0.00150	mg/L	03.15.17 18.28	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	117	%	80-120	03.15.17 18.28		
4-Bromofluorobenzene	460-00-4	95	%	80-120	03.15.17 18.28		



# Certificate of Analytical Results 548226



## Terracon Lubbock, Lubbock, TX DCP Plant to Lea Station 6" Sec. 31 (SRS#2009-084)

Sample Id: **MW-5**  
Lab Sample Id: 548226-004

Matrix: Water  
Date Collected: 03.08.17 15.49

Date Received: 03.09.17 08.50

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.15.17 07.20

Seq Number: 3012475

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	03.15.17 20.54	U	1
Toluene	108-88-3	<0.00150	0.00150	mg/L	03.15.17 20.54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	03.15.17 20.54	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/L	03.15.17 20.54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	03.15.17 20.54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	03.15.17 20.54	U	1
Total BTEX		<0.00150	0.00150	mg/L	03.15.17 20.54	U	1
<b>Surrogate</b>		<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>
1,4-Difluorobenzene		540-36-3	110	%	80-120	03.15.17 20.54	
4-Bromofluorobenzene		460-00-4	120	%	80-120	03.15.17 20.54	



# Certificate of Analytical Results 548226



## Terracon Lubbock, Lubbock, TX DCP Plant to Lea Station 6" Sec. 31 (SRS#2009-084)

Sample Id: **MW-6**  
Lab Sample Id: 548226-005

Matrix: Water  
Date Collected: 03.08.17 13.15

Date Received: 03.09.17 08.50

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.15.17 07.20

Seq Number: 3012475

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	03.15.17 18.44	U	1
Toluene	108-88-3	<0.00150	0.00150	mg/L	03.15.17 18.44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	03.15.17 18.44	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/L	03.15.17 18.44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	03.15.17 18.44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	03.15.17 18.44	U	1
Total BTEX		<0.00150	0.00150	mg/L	03.15.17 18.44	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	112	%	80-120	03.15.17 18.44		
4-Bromofluorobenzene	460-00-4	104	%	80-120	03.15.17 18.44		

- 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

+ NELAC certification not offered for this compound.

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

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 5332 Blackberry Drive, San Antonio TX 78238  
 1211 W Florida Ave, Midland, TX 79701  
 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



## Terracon Lubbock

DCP Plant to Lea Station 6" Sec. 31 (SRS#2009-084)

Analytical Method: BTEX by EPA 8021B

Seq Number: 3012475

MB Sample Id: 721564-1-BLK

Matrix: Water

LCS Sample Id: 721564-1-BKS

Prep Method: SW5030B

Date Prep: 03.15.17

LCSD Sample Id: 721564-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0859	86	0.0890	89	70-125	4	25	mg/L	03.15.17 06:58	
Toluene	<0.00150	0.100	0.0958	96	0.0930	93	70-125	3	25	mg/L	03.15.17 06:58	
Ethylbenzene	<0.00200	0.100	0.0910	91	0.0932	93	71-129	2	25	mg/L	03.15.17 06:58	
m,p-Xylenes	<0.00200	0.200	0.178	89	0.181	91	70-131	2	25	mg/L	03.15.17 06:58	
o-Xylene	<0.00200	0.100	0.0967	97	0.0938	94	71-133	3	25	mg/L	03.15.17 06:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		95		119		80-120	%	03.15.17 06:58
4-Bromofluorobenzene	87		90		99		80-120	%	03.15.17 06:58

Analytical Method: BTEX by EPA 8021B

Seq Number: 3012475

Parent Sample Id: 548227-005

Matrix: Water

MS Sample Id: 548227-005 S

Prep Method: SW5030B

Date Prep: 03.15.17

MSD Sample Id: 548227-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0917	92	0.0921	92	70-125	0	25	mg/L	03.15.17 08:04	
Toluene	<0.00150	0.100	0.0990	99	0.101	101	70-125	2	25	mg/L	03.15.17 08:04	
Ethylbenzene	<0.00200	0.100	0.0992	99	0.101	101	71-129	2	25	mg/L	03.15.17 08:04	
m,p-Xylenes	<0.00200	0.200	0.194	97	0.196	98	70-131	1	25	mg/L	03.15.17 08:04	
o-Xylene	<0.00200	0.100	0.102	102	0.103	103	71-133	1	25	mg/L	03.15.17 08:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		108		80-120	%	03.15.17 08:04
4-Bromofluorobenzene	104		105		80-120	%	03.15.17 08:04



## CHAIN OF CUSTODY RECORD

Laboratory: Xenco Laboratories

Address: 1211 West Florida Ave.  
Midland, TX 79701

Office Location Lubbock

Phone: (432) 563-1800

Contact: Julian Martinez

PO/SO #:

Sampler's Signature

Project Manager: Joel Lowry

Sampler's Name:

Project Number AR167322

Project Name DCP Plant to Lea Station 6" Sec. 31 (SRS # 2009-084)

No. Type of Containers

ANALYSIS REQUESTED

LAB USE ONLY  
DUE DATE:Temp: 1.41R ID: R-8  
CF: + 0.1

Corrected Temp: 1.5

Page 1 of 1

5400226

Lab Sample ID

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	No. Type of Containers	BTEX (EPA Method 8021B)	Lab Sample ID
GW	03/08/17	1224		X	MW-2			X	3	
GW	03/08/17	1502		X	MW-3			X	3	
GW	03/08/17	1408		X	MW-4			X	3	
GW	03/08/17	1549		X	MW-5			X	3	
GW	03/08/17	1315		X	MW-6			X	3	
***** END OF COC *****										
TRRNAROUND TIME										
<input checked="" type="checkbox"/> Normal <input type="checkbox"/> 48-Hour Rush <input type="checkbox"/> 24-Hour Rush TRRP Laboratory Review Checklist <input type="checkbox"/> Yes <input type="checkbox"/> No										
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:	NOTES:				
Joel Lowry	3/9/17	2:00	Joel Lowry	3/9/17	08:00	E-MAIL RESULTS TO: CIBRYANT@PAALP.COM				
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:					
Joel Lowry	3-9-17	8:50	Joel Lowry	3-9-17	8:19	& JOEL.LOWRY@TERRACON.COM				
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:					
Joel Lowry	3-9-17	8:50	Joel Lowry	3-9-17	8:50	& 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 TL 250 ml - Glass wide mouth P/O - Plastic or other

Lubbock Office ■ 5827 50th Street ■ Lubbock, Texas 79424 ■ 806-300-0140

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# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



Client: Terracon Lubbock

Date/ Time Received: 03/09/2017 08:50:00 AM

Work Order #: 548226

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seal present on shipping container/ cooler?	N/A
#5 *Custody Seals intact on shipping container/ cooler?	N/A
#6 Custody Seals intact on sample bottles?	N/A
#7 *Custody Seals Signed and dated?	N/A
#8 *Chain of Custody present?	Yes
#9 Sample instructions complete on Chain of Custody?	Yes
#10 Any missing/extra samples?	No
#11 Chain of Custody signed when relinquished/ received?	Yes
#12 Chain of Custody agrees with sample label(s)?	Yes
#13 Container label(s) legible and intact?	Yes
#14 Sample matrix/ properties agree with Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	Yes
#16 Samples properly preserved?	Yes
#17 Sample container(s) intact?	Yes
#18 Sufficient sample amount for indicated test(s)?	Yes
#19 All samples received within hold time?	Yes
#20 Subcontract of sample(s)?	N/A
#21 VOC samples have zero headspace?	Yes
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	Yes
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

*Jessica Kramer*

Jessica Kramer

Date: 03/09/2017

Checklist reviewed by:

*Kelsey Brooks*

Kelsey Brooks

Date: 03/09/2017



# Certificate of Analysis Summary 556429

Terracon Lubbock, Lubbock, TX

Project Name: DCP Plant to Lea Station 6" Section 31

Project Id: AR167322

Contact: Joel Lowry

Project Location:

Date Received in Lab: Tue Jun-27-17 04:25 pm

Report Date: 03-JUL-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	556429-001	556429-002	556429-003	556429-004	556429-005	
	<i>Field Id:</i>	MW-2	MW-3	MW-4	MW-5	MW-6	
	<i>Depth:</i>						
	<i>Matrix:</i>	WATER	WATER	WATER	WATER	WATER	
	<i>Sampled:</i>	Jun-27-17 11:15	Jun-27-17 12:15	Jun-27-17 11:16	Jun-27-17 12:31	Jun-27-17 11:24	
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Jul-01-17 13:00	Jul-01-17 13:00	Jul-01-17 13:00	Jul-01-17 13:00	Jul-01-17 13:00	
	<i>Analyzed:</i>	Jul-02-17 05:30	Jul-02-17 05:57	Jul-02-17 06:24	Jul-02-17 07:45	Jul-02-17 08:12	
	<i>Units/RL:</i>	mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL	
Benzene		<0.00106 0.00106	<0.00106 0.00106	<0.00106 0.00106	0.00318 0.00106	<0.00106 0.00106	
Toluene		<0.00106 0.00106	<0.00106 0.00106	<0.00106 0.00106	0.00191 0.00106	<0.00106 0.00106	
Ethylbenzene		<0.00106 0.00106	<0.00106 0.00106	<0.00106 0.00106	<0.00106 0.00106	<0.00106 0.00106	
m,p-Xylenes		<0.00212 0.00212	<0.00212 0.00212	<0.00212 0.00212	<0.00212 0.00212	<0.00212 0.00212	
o-Xylene		<0.00106 0.00106	<0.00106 0.00106	<0.00106 0.00106	<0.00106 0.00106	<0.00106 0.00106	
Total Xylenes		<0.00106 0.00106	<0.00106 0.00106	<0.00106 0.00106	<0.00106 0.00106	<0.00106 0.00106	
Total BTEX		<0.00106 0.00106	<0.00106 0.00106	<0.00106 0.00106	0.00509 0.00106	<0.00106 0.00106	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks  
Project Manager

# **Analytical Report 556429**

**for  
Terracon Lubbock**

**Project Manager: Joel Lowry**

**DCP Plant to Lea Station 6" Section 31**

**AR167322**

**03-JUL-17**

Collected By: Client



**6701 Aberdeen, Suite 9 Lubbock, TX 79424**

Xenco-Houston (EPA Lab code: TX00122):  
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)  
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)  
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)  
Xenco-San Antonio: Texas (T104704534)  
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)  
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



03-JUL-17

Project Manager: **Joel Lowry**  
**Terracon Lubbock**  
5827 50th st, Suite 1  
Lubbock, TX 79424

Reference: XENCO Report No(s): **556429**  
**DCP Plant to Lea Station 6" Section 31**  
Project Address:

**Joel Lowry:**

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) 556429. 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. 556429 will be filed for 60 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

**Kelsey Brooks**

Project Manager

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## Sample Cross Reference 556429

### Terracon Lubbock, Lubbock, TX

DCP Plant to Lea Station 6" Section 31

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2	W	06-27-17 11:15		556429-001
MW-3	W	06-27-17 12:15		556429-002
MW-4	W	06-27-17 11:16		556429-003
MW-5	W	06-27-17 12:31		556429-004
MW-6	W	06-27-17 11:24		556429-005



## CASE NARRATIVE

*Client Name: Terracon Lubbock*

*Project Name: DCP Plant to Lea Station 6" Section 31*

Project ID: AR167322  
Work Order Number(s): 556429

Report Date: 03-JUL-17  
Date Received: 06/27/2017

---

**Sample receipt non conformances and comments:**

---

**Sample receipt non conformances and comments per sample:**

None



## Certificate of Analytical Results 556429

### Terracon Lubbock, Lubbock, TX

DCP Plant to Lea Station 6" Section 31

Sample Id: **MW-2**  
Lab Sample Id: 556429-001

Matrix: Water  
Date Collected: 06.27.17 11.15

Date Received: 06.27.17 16.25

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 07.01.17 13.00

Seq Number: 3021365

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00106	0.00106	mg/L	07.02.17 05.30	U	1.06
Toluene	108-88-3	<0.00106	0.00106	mg/L	07.02.17 05.30	U	1.06
Ethylbenzene	100-41-4	<0.00106	0.00106	mg/L	07.02.17 05.30	U	1.06
m,p-Xylenes	179601-23-1	<0.00212	0.00212	mg/L	07.02.17 05.30	U	1.06
o-Xylene	95-47-6	<0.00106	0.00106	mg/L	07.02.17 05.30	U	1.06
Total Xylenes	1330-20-7	<0.00106	0.00106	mg/L	07.02.17 05.30	U	1.06
Total BTEX		<0.00106	0.00106	mg/L	07.02.17 05.30	U	1.06
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
a,a,a-Trifluorotoluene	98-08-8	99	%	66-120	07.02.17 05.30		
4-Bromofluorobenzene	460-00-4	94	%	67-120	07.02.17 05.30		



## Certificate of Analytical Results 556429

### Terracon Lubbock, Lubbock, TX

DCP Plant to Lea Station 6" Section 31

Sample Id: **MW-3**  
Lab Sample Id: 556429-002

Matrix: Water  
Date Collected: 06.27.17 12.15

Date Received: 06.27.17 16.25

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 07.01.17 13.00

Seq Number: 3021365

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00106	0.00106	mg/L	07.02.17 05.57	U	1.06
Toluene	108-88-3	<0.00106	0.00106	mg/L	07.02.17 05.57	U	1.06
Ethylbenzene	100-41-4	<0.00106	0.00106	mg/L	07.02.17 05.57	U	1.06
m,p-Xylenes	179601-23-1	<0.00212	0.00212	mg/L	07.02.17 05.57	U	1.06
o-Xylene	95-47-6	<0.00106	0.00106	mg/L	07.02.17 05.57	U	1.06
Total Xylenes	1330-20-7	<0.00106	0.00106	mg/L	07.02.17 05.57	U	1.06
Total BTEX		<0.00106	0.00106	mg/L	07.02.17 05.57	U	1.06
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
a,a,a-Trifluorotoluene	98-08-8	96	%	66-120	07.02.17 05.57		
4-Bromofluorobenzene	460-00-4	94	%	67-120	07.02.17 05.57		



## Certificate of Analytical Results 556429

### Terracon Lubbock, Lubbock, TX

DCP Plant to Lea Station 6" Section 31

Sample Id: **MW-4**  
Lab Sample Id: 556429-003

Matrix: Water  
Date Collected: 06.27.17 11.16

Date Received: 06.27.17 16.25

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 07.01.17 13.00

Seq Number: 3021365

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00106	0.00106	mg/L	07.02.17 06.24	U	1.06
Toluene	108-88-3	<0.00106	0.00106	mg/L	07.02.17 06.24	U	1.06
Ethylbenzene	100-41-4	<0.00106	0.00106	mg/L	07.02.17 06.24	U	1.06
m,p-Xylenes	179601-23-1	<0.00212	0.00212	mg/L	07.02.17 06.24	U	1.06
o-Xylene	95-47-6	<0.00106	0.00106	mg/L	07.02.17 06.24	U	1.06
Total Xylenes	1330-20-7	<0.00106	0.00106	mg/L	07.02.17 06.24	U	1.06
Total BTEX		<0.00106	0.00106	mg/L	07.02.17 06.24	U	1.06
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
a,a,a-Trifluorotoluene	98-08-8	95	%	66-120	07.02.17 06.24		
4-Bromofluorobenzene	460-00-4	96	%	67-120	07.02.17 06.24		



## Certificate of Analytical Results 556429

### Terracon Lubbock, Lubbock, TX

DCP Plant to Lea Station 6" Section 31

Sample Id: **MW-5**  
Lab Sample Id: 556429-004

Matrix: Water  
Date Collected: 06.27.17 12.31

Date Received: 06.27.17 16.25

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 07.01.17 13.00

Seq Number: 3021365

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
<b>Benzene</b>	71-43-2	<b>0.00318</b>	0.00106	mg/L	07.02.17 07.45		1.06
<b>Toluene</b>	108-88-3	<b>0.00191</b>	0.00106	mg/L	07.02.17 07.45		1.06
Ethylbenzene	100-41-4	<0.00106	0.00106	mg/L	07.02.17 07.45	U	1.06
m,p-Xylenes	179601-23-1	<0.00212	0.00212	mg/L	07.02.17 07.45	U	1.06
o-Xylene	95-47-6	<0.00106	0.00106	mg/L	07.02.17 07.45	U	1.06
Total Xylenes	1330-20-7	<0.00106	0.00106	mg/L	07.02.17 07.45	U	1.06
<b>Total BTEX</b>		<b>0.00509</b>	0.00106	mg/L	07.02.17 07.45		1.06
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
a,a,a-Trifluorotoluene	98-08-8	95	%	66-120	07.02.17 07.45		
4-Bromofluorobenzene	460-00-4	97	%	67-120	07.02.17 07.45		



## Certificate of Analytical Results 556429

### Terracon Lubbock, Lubbock, TX

DCP Plant to Lea Station 6" Section 31

Sample Id: **MW-6**  
Lab Sample Id: 556429-005

Matrix: Water  
Date Collected: 06.27.17 11.24

Date Received: 06.27.17 16.25

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MIT

% Moisture:

Analyst: MIT

Date Prep: 07.01.17 13.00

Seq Number: 3021365

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00106	0.00106	mg/L	07.02.17 08.12	U	1.06
Toluene	108-88-3	<0.00106	0.00106	mg/L	07.02.17 08.12	U	1.06
Ethylbenzene	100-41-4	<0.00106	0.00106	mg/L	07.02.17 08.12	U	1.06
m,p-Xylenes	179601-23-1	<0.00212	0.00212	mg/L	07.02.17 08.12	U	1.06
o-Xylene	95-47-6	<0.00106	0.00106	mg/L	07.02.17 08.12	U	1.06
Total Xylenes	1330-20-7	<0.00106	0.00106	mg/L	07.02.17 08.12	U	1.06
Total BTEX		<0.00106	0.00106	mg/L	07.02.17 08.12	U	1.06
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
a,a,a-Trifluorotoluene	98-08-8	101	%	66-120	07.02.17 08.12		
4-Bromofluorobenzene	460-00-4	97	%	67-120	07.02.17 08.12		

- 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

+ NELAC certification not offered for this compound.

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

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 1211 W Florida Ave, Midland, TX 79701  
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(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



## Terracon Lubbock

DCP Plant to Lea Station 6" Section 31

Analytical Method: BTEX by EPA 8021B

Seq Number: 3021365

MB Sample Id: 727101-1-BLK

Matrix: Water

LCS Sample Id: 727101-1-BKS

Prep Method: SW5030B

Date Prep: 07.01.17

LCSD Sample Id: 727101-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00106	0.106	0.105	99	0.103	97	74-120	2	20	mg/L	07.01.17 23:13	
Toluene	<0.00106	0.106	0.106	100	0.106	100	74-120	0	20	mg/L	07.01.17 23:13	
Ethylbenzene	<0.00106	0.106	0.100	94	0.103	97	74-120	3	20	mg/L	07.01.17 23:13	
m,p-Xylenes	<0.00212	0.212	0.202	95	0.209	99	73-120	3	25	mg/L	07.01.17 23:13	
o-Xylene	<0.00106	0.106	0.101	95	0.105	99	73-120	4	25	mg/L	07.01.17 23:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	99		102		101		66-120	%	07.01.17 23:13
4-Bromofluorobenzene	103		97		98		67-120	%	07.01.17 23:13

Analytical Method: BTEX by EPA 8021B

Seq Number: 3021365

Parent Sample Id: 556741-004

Matrix: Water

MS Sample Id: 556741-004 S

Prep Method: SW5030B

Date Prep: 07.01.17

MSD Sample Id: 556741-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00106	0.106	0.107	101	0.110	104	15-147	3	25	mg/L	07.02.17 01:27	
Toluene	<0.00106	0.106	0.109	103	0.112	106	11-147	3	25	mg/L	07.02.17 01:27	
Ethylbenzene	<0.00106	0.106	0.106	100	0.109	103	10-149	3	25	mg/L	07.02.17 01:27	
m,p-Xylenes	<0.00212	0.212	0.214	101	0.221	104	62-124	3	25	mg/L	07.02.17 01:27	
o-Xylene	<0.00106	0.106	0.107	101	0.112	106	62-124	5	25	mg/L	07.02.17 01:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	97		99		66-120	%	07.02.17 01:27
4-Bromofluorobenzene	100		101		67-120	%	07.02.17 01:27





# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



Client: Terracon Lubbock

Date/ Time Received: 06/27/2017 04:25:00 PM

Work Order #: 556429

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)?	2.2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seal present on shipping container/ cooler?	N/A
#5 *Custody Seals intact on shipping container/ cooler?	N/A
#6 Custody Seals intact on sample bottles?	N/A
#7 *Custody Seals Signed and dated?	N/A
#8 *Chain of Custody present?	Yes
#9 Sample instructions complete on Chain of Custody?	Yes
#10 Any missing/extra samples?	No
#11 Chain of Custody signed when relinquished/ received?	Yes
#12 Chain of Custody agrees with sample label(s)?	Yes
#13 Container label(s) legible and intact?	Yes
#14 Sample matrix/ properties agree with Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	Yes
#16 Samples properly preserved?	Yes
#17 Sample container(s) intact?	Yes
#18 Sufficient sample amount for indicated test(s)?	Yes
#19 All samples received within hold time?	Yes
#20 Subcontract of sample(s)?	No
#21 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  
Brenda Ward

Date: 06/28/2017

Checklist reviewed by:

Kelsey Brooks  
Kelsey Brooks

Date: 06/28/2017

# **Analytical Report 563581**

**for  
Terracon Lubbock**

**Project Manager: Kris Williams**

**DCP Plant to Lea Station 6" Section 31**

**AR167322**

**25-SEP-17**

Collected By: Client



**6701 Aberdeen, Suite 9 Lubbock, TX 79424**

Xenco-Houston (EPA Lab code: TX00122):  
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)  
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)

Xenco-San Antonio: Texas (T104704534)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

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25-SEP-17

Project Manager: **Kris Williams**

**Terracon Lubbock**

5827 50th st, Suite 1

Lubbock, TX 79424

Reference: XENCO Report No(s): **563581**

**DCP Plant to Lea Station 6" Section 31**

Project Address:

**Kris Williams:**

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) 563581. 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. 563581 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,

A handwritten signature in black ink, appearing to read 'Kelsey Brooks', is written over a horizontal line.

**Kelsey Brooks**

Project Manager

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## Sample Cross Reference 563581

### Terracon Lubbock, Lubbock, TX

DCP Plant to Lea Station 6" Section 31

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2	W	09-21-17 14:25		563581-001
MW-3	W	09-21-17 11:25		563581-002
MW-4	W	09-21-17 11:50		563581-003
MW-5	W	09-21-17 13:00		563581-004
MW-6	W	09-21-17 13:45		563581-005



## CASE NARRATIVE

*Client Name: Terracon Lubbock*

*Project Name: DCP Plant to Lea Station 6" Section 31*

Project ID: AR167322  
Work Order Number(s): 563581

Report Date: 25-SEP-17  
Date Received: 09/22/2017

---

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

**Sample receipt non conformances and comments:**

---

**Sample receipt non conformances and comments per sample:**

None



# Certificate of Analytical Results

## 563581

**Terracon Lubbock, Lubbock, TX**  
DCP Plant to Lea Station 6" Section 31

Sample Id: **MW-2**

Matrix: Water

Sample Depth:

Lab Sample Id: 563581-001

Date Collected: 09.21.17 14.25

Date Received: 09.22.17 09.34

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3028531

Date Prep: 09.22.17 11.30

Prep seq: 731379

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	09.22.17 21:21	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	09.22.17 21:21	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	09.22.17 21:21	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	09.22.17 21:21	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	09.22.17 21:21	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	09.22.17 21:21	U	
Total BTEX		<0.000270		0.000270	mg/L	09.22.17 21:21	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	92	66 - 120	%		
4-Bromofluorobenzene	94	67 - 120	%		

Sample Id: **MW-3**

Matrix: Water

Sample Depth:

Lab Sample Id: 563581-002

Date Collected: 09.21.17 11.25

Date Received: 09.22.17 09.34

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3028531

Date Prep: 09.22.17 11.30

Prep seq: 731379

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	09.22.17 21:47	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	09.22.17 21:47	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	09.22.17 21:47	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	09.22.17 21:47	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	09.22.17 21:47	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	09.22.17 21:47	U	
Total BTEX		<0.000270		0.000270	mg/L	09.22.17 21:47	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	87	66 - 120	%		
4-Bromofluorobenzene	86	67 - 120	%		



# Certificate of Analytical Results

563581

## Terracon Lubbock, Lubbock, TX

DCP Plant to Lea Station 6" Section 31

Sample Id: MW-4

Matrix: Water

Sample Depth:

Lab Sample Id: 563581-003

Date Collected: 09.21.17 11.50

Date Received: 09.22.17 09.34

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3028531

Date Prep: 09.22.17 11.30

Prep seq: 731379

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	09.22.17 23:09	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	09.22.17 23:09	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	09.22.17 23:09	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	09.22.17 23:09	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	09.22.17 23:09	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	09.22.17 23:09	U	
Total BTEX		<0.000270		0.000270	mg/L	09.22.17 23:09	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	91	66 - 120	%		
4-Bromofluorobenzene	90	67 - 120	%		

Sample Id: MW-5

Matrix: Water

Sample Depth:

Lab Sample Id: 563581-004

Date Collected: 09.21.17 13.00

Date Received: 09.22.17 09.34

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3028531

Date Prep: 09.22.17 11.30

Prep seq: 731379

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	09.22.17 23:36	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	09.22.17 23:36	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	09.22.17 23:36	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	09.22.17 23:36	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	09.22.17 23:36	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	09.22.17 23:36	U	
Total BTEX		<0.000270		0.000270	mg/L	09.22.17 23:36	U	

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



# Certificate of Analytical Results

563581

Terracon Lubbock, Lubbock, TX

DCP Plant to Lea Station 6" Section 31

Sample Id: MW-6

Matrix: Water

Sample Depth:

Lab Sample Id: 563581-005

Date Collected: 09.21.17 13.45

Date Received: 09.22.17 09.34

Analytical Method: BTEX by EPA 8021B

Prep Method: 5030B

Analyst: MIT

% Moist:

Tech: MIT

Seq Number: 3028531

Date Prep: 09.22.17 11.30

Prep seq: 731379

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000480	0.00100	0.000480	mg/L	09.23.17 00:03	U	1
Toluene	108-88-3	<0.000512	0.00100	0.000512	mg/L	09.23.17 00:03	U	1
Ethylbenzene	100-41-4	<0.000616	0.00100	0.000616	mg/L	09.23.17 00:03	U	1
m,p-Xylenes	179601-23-1	<0.000454	0.00200	0.000454	mg/L	09.23.17 00:03	U	1
o-Xylene	95-47-6	<0.000270	0.00100	0.000270	mg/L	09.23.17 00:03	U	1
Total Xylenes	1330-20-7	<0.000270		0.000270	mg/L	09.23.17 00:03	U	
Total BTEX		<0.000270		0.000270	mg/L	09.23.17 00:03	U	

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
a,a,a-Trifluorotoluene	92	66 - 120	%		
4-Bromofluorobenzene	95	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

+ NELAC certification not offered for this compound.

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

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1211 W Florida Ave, Midland, TX 79701  
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(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	

## Form 2 - Surrogate Recoveries

Project Name: DCP Plant to Lea Station 6" Section 31

Work Orders : 563581,

Project ID: AR167322

Lab Batch #: 3028531

Sample: 731379-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L      Date Analyzed: 09/22/17 13:39		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.0914	0.100	91	66-120
4-Bromofluorobenzene		0.0874	0.100	87	67-120

Lab Batch #: 3028531

Sample: 731379-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L      Date Analyzed: 09/22/17 14:35		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.0901	0.100	90	66-120
4-Bromofluorobenzene		0.0872	0.100	87	67-120

Lab Batch #: 3028531

Sample: 731379-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L      Date Analyzed: 09/22/17 15:56		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.0912	0.100	91	66-120
4-Bromofluorobenzene		0.0888	0.100	89	67-120

Lab Batch #: 3028531

Sample: 563393-001 S / MS

Batch: 1 Matrix: Water

Units: mg/L      Date Analyzed: 09/22/17 17:17		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.0920	0.100	92	66-120
4-Bromofluorobenzene		0.0960	0.100	96	67-120

Lab Batch #: 3028531

Sample: 563393-001 SD / MSD

Batch: 1 Matrix: Water

Units: mg/L      Date Analyzed: 09/22/17 17:44		SURROGATE RECOVERY STUDY			
BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R
Analytes					
a,a,a-Trifluorotoluene		0.0944	0.100	94	66-120
4-Bromofluorobenzene		0.0950	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" Section 31

Work Order #: 563581

Project ID: AR167322

Analyst: MIT

Date Prepared: 09/22/2017

Date Analyzed: 09/22/2017

Lab Batch ID: 3028531

Sample: 731379-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

<b>BTEX by EPA 8021B</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
Benzene	0.0944	0.100	0.0944	94	0.100	0.0931	93	1	74-120	20	
Toluene	0.0938	0.100	0.0938	94	0.100	0.0918	92	2	74-120	20	
Ethylbenzene	0.0893	0.100	0.0893	89	0.100	0.0866	87	3	74-120	20	
m,p-Xylenes	0.179	0.200	0.179	90	0.200	0.174	87	3	73-120	25	
o-Xylene	0.0880	0.100	0.0880	88	0.100	0.0859	86	2	73-120	25	

Relative Percent Difference RPD =  $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] =  $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



# Form 3 - MS / MSD Recoveries

Project Name: DCP Plant to Lea Station 6" Section 31

Work Order # : 563581

Project ID: AR167322

Lab Batch ID: 3028531

QC- Sample ID: 563393-001 S

Batch #: 1 Matrix: Water

Date Analyzed: 09/22/2017

Date Prepared: 09/22/2017

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	0.0937	94	0.100	0.0959	96	2	15-147	25	
Toluene	<0.000512	0.100	0.0932	93	0.100	0.0958	96	3	11-147	25	
Ethylbenzene	<0.000616	0.100	0.0927	93	0.100	0.0928	93	0	10-149	25	
m,p-Xylenes	<0.000454	0.200	0.185	93	0.200	0.183	92	1	62-124	25	
o-Xylene	<0.000270	0.100	0.0919	92	0.100	0.0911	91	1	62-124	25	

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

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

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.





# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



Client: Terracon Lubbock

Date/ Time Received: 09/22/2017 09:34:00 AM

Work Order #: 563581

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)?	3.3
#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)?	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:

Brenda Ward  
Brenda Ward

Date: 09/22/2017

Checklist reviewed by:

Kelsey Brooks  
Kelsey Brooks

Date: 09/22/2017

# **Analytical Report 568793**

## **for Terracon Lubbock**

**Project Manager: Kris Williams**

**DCP Section 31(SRS # 2009-084)**

**AR167322**

**28-NOV-17**

Collected By: Client



**6701 Aberdeen, Suite 9 Lubbock, TX 79424**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):

Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)

Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



28-NOV-17

Project Manager: **Kris Williams**  
**Terracon Lubbock**  
5827 50th st, Suite 1  
Lubbock, TX 79424

Reference: XENCO Report No(s): **568793**  
**DCP Section 31(SRS # 2009-084)**  
Project Address:

**Kris Williams:**

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) 568793. 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. 568793 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,

A handwritten signature in black ink, appearing to read 'Mike Kimmel', is positioned above a horizontal line.

**Mike Kimmel**  
Client Services Manager

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## Sample Cross Reference 568793

### Terracon Lubbock, Lubbock, TX

DCP Section 31(SRS # 2009-084)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2	W	11-14-17 13:14		568793-001
MW-3	W	11-14-17 13:35		568793-002
MW-4	W	11-14-17 14:15		568793-003
MW-5	W	11-14-17 13:27		568793-004
MW-6	W	11-14-17 13:55		568793-005



## CASE NARRATIVE

*Client Name: Terracon Lubbock*

*Project Name: DCP Section 31(SRS # 2009-084)*

Project ID: AR167322  
Work Order Number(s): 568793

Report Date: 28-NOV-17  
Date Received: 11/17/2017

---

**Sample receipt non conformances and comments:**

---

**Sample receipt non conformances and comments per sample:**

None



# Certificate of Analysis Summary 568793

Terracon Lubbock, Lubbock, TX

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

Project Id: AR167322  
Contact: Kris Williams  
Project Location:

Date Received in Lab: Fri Nov-17-17 10:12 am  
Report Date: 28-NOV-17  
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	568793-001	568793-002	568793-003	568793-004	568793-005	
	<i>Field Id:</i>	MW-2	MW-3	MW-4	MW-5	MW-6	
	<i>Depth:</i>						
	<i>Matrix:</i>	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	GROUND WATER	
	<i>Sampled:</i>	Nov-14-17 13:14	Nov-14-17 13:35	Nov-14-17 14:15	Nov-14-17 13:27	Nov-14-17 13:55	
<b>BTEX by EPA 8021</b>	<i>Extracted:</i>	Nov-17-17 12:30	Nov-17-17 15:00	Nov-17-17 15:00	Nov-17-17 15:00	Nov-17-17 15:00	
	<i>Analyzed:</i>	Nov-17-17 13:24	Nov-17-17 16:53	Nov-17-17 17:19	Nov-17-17 17:46	Nov-17-17 18:14	
	<i>Units/RL:</i>	mg/L RL	mg/L RL	mg/L RL	mg/L RL	mg/L RL	
Benzene		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	
Toluene		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	
Ethylbenzene		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	
m_p-Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	
o-Xylene		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	
Xylenes, Total		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	
Total BTEX		<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.  
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.  
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.  
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.9%

Mike Kimmel  
Client Services Manager



## 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

+ NELAC certification not offered for this compound.

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

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5332 Blackberry Drive, San Antonio TX 78238  
1211 W Florida Ave, Midland, TX 79701  
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



# Form 2 - Surrogate Recoveries

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

Work Orders : 568793,

Lab Batch #: 3033698

Sample: 568793-001 / SMP

Project ID: AR167322

Batch: 1 Matrix: Ground Water

Units: mg/L

Date Analyzed: 11/17/17 13:24

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
a,a,a-Trifluorotoluene	0.0961	0.100	96	66-120	
4-Bromofluorobenzene	0.0985	0.100	99	67-120	

Lab Batch #: 3033698

Sample: 568793-002 / SMP

Batch: 1 Matrix: Ground Water

Units: mg/L

Date Analyzed: 11/17/17 16:53

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
a,a,a-Trifluorotoluene	0.0965	0.100	97	66-120	
4-Bromofluorobenzene	0.101	0.100	101	67-120	

Lab Batch #: 3033698

Sample: 568793-003 / SMP

Batch: 1 Matrix: Ground Water

Units: mg/L

Date Analyzed: 11/17/17 17:19

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
a,a,a-Trifluorotoluene	0.0963	0.100	96	66-120	
4-Bromofluorobenzene	0.0954	0.100	95	67-120	

Lab Batch #: 3033698

Sample: 568793-004 / SMP

Batch: 1 Matrix: Ground Water

Units: mg/L

Date Analyzed: 11/17/17 17:46

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
a,a,a-Trifluorotoluene	0.0946	0.100	95	66-120	
4-Bromofluorobenzene	0.0954	0.100	95	67-120	

Lab Batch #: 3033698

Sample: 568793-005 / SMP

Batch: 1 Matrix: Ground Water

Units: mg/L

Date Analyzed: 11/17/17 18:14

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
a,a,a-Trifluorotoluene	0.0969	0.100	97	66-120	
4-Bromofluorobenzene	0.0965	0.100	97	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 Section 31(SRS # 2009-084)

Work Orders : 568793,

Project ID: AR167322

Lab Batch #: 3033698

Sample: 7634610-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/17/17 11:53

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.0958	0.100	96	66-120	
4-Bromofluorobenzene	0.0962	0.100	96	67-120	

Lab Batch #: 3033698

Sample: 7634610-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/17/17 10:32

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.0978	0.100	98	66-120	
4-Bromofluorobenzene	0.0983	0.100	98	67-120	

Lab Batch #: 3033698

Sample: 7634610-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 11/17/17 10:59

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.0934	0.100	93	66-120	
4-Bromofluorobenzene	0.0958	0.100	96	67-120	

Lab Batch #: 3033698

Sample: 568793-001 S / MS

Batch: 1 Matrix: Ground Water

Units: mg/L

Date Analyzed: 11/17/17 13:51

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.0942	0.100	94	66-120	
4-Bromofluorobenzene	0.0957	0.100	96	67-120	

Lab Batch #: 3033698

Sample: 568793-001 SD / MSD

Batch: 1 Matrix: Ground Water

Units: mg/L

Date Analyzed: 11/17/17 14:18

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
a,a,a-Trifluorotoluene	0.0981	0.100	98	66-120	
4-Bromofluorobenzene	0.0991	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 Section 31(SRS # 2009-084)

Work Order #: 568793

Project ID: AR167322

Analyst: MIT

Date Prepared: 11/17/2017

Date Analyzed: 11/17/2017

Lab Batch ID: 3033698

Sample: 7634610-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

<b>BTEX by EPA 8021</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
Benzene	<0.00100	0.100	0.103	103	0.100	0.0992	99	4	74-120	20	
Toluene	<0.00100	0.100	0.102	102	0.100	0.0964	96	6	74-120	20	
Ethylbenzene	<0.00100	0.100	0.106	106	0.100	0.100	100	6	74-120	20	
m_p-Xylenes	<0.00200	0.200	0.212	106	0.200	0.201	101	5	73-120	25	
o-Xylene	<0.00100	0.100	0.105	105	0.100	0.101	101	4	73-120	25	

Relative Percent Difference RPD =  $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] =  $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



# Form 3 - MS / MSD Recoveries

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

Work Order # : 568793

Project ID: AR167322

Lab Batch ID: 3033698

QC- Sample ID: 568793-001 S

Batch #: 1 Matrix: Ground Water

Date Analyzed: 11/17/2017

Date Prepared: 11/17/2017

Analyst: MIT

Reporting Units: mg/L

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.0998	100	0.100	0.105	105	5	15-147	25	
Toluene	<0.00100	0.100	0.0955	96	0.100	0.102	102	7	11-147	25	
Ethylbenzene	<0.00100	0.100	0.0996	100	0.100	0.106	106	6	10-149	25	
m_p-Xylenes	<0.00200	0.200	0.200	100	0.200	0.212	106	6	62-124	25	
o-Xylene	<0.00100	0.100	0.101	101	0.100	0.106	106	5	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.

568793  
793  
568793  
568793

**Terracon**

CHAIN OF CUSTODY RECORD 568793

Laboratory: Xenco  
Address: 6701 Aberdeen  
Lubbock, Texas 79424

Office Location Lubbock

Project Manager Kris Williams

Sampler's Name Zach Conder

Phone: \_\_\_\_\_

Contact: \_\_\_\_\_

PO/SO #: SRS# 2009-084

Sampler's Signature \_\_\_\_\_

ANALYSIS REQUESTED

LAB USE ONLY  
DUE DATE:

TEMP OF COOLER  
WHEN RECEIVED (°C) 103.3.2

Page \_\_\_\_ of \_\_\_\_  
3.1  
10.1

Project Number AR167322 Project Name DCP Section 31 (SRS# 2009-084)

No. Type of Containers

40 ml VOA

Start Depth

End Depth

Identifying Marks of Sample(s)

Grab

Comp

Time

Date

Matrix

GW 11/14/2017 13:14 X MW-2

GW 11/15/2017 13:35 X MW-3

GW 11/15/2017 14:15 X MW-4

GW 11/15/2017 13:27 X MW-5

GW 11/15/2017 13:55 X MW-6

Lab Sample ID

1

2

3

4

5

TURNAROUND TIME  
Relinquished by (Signature)

Date: 11/17/17 Time: 10:12

Relinquished by (Signature)

Date: 11/17/17 Time: 10:12

Relinquished by (Signature)

Date: 11/17/17 Time: 10:12

Relinquished by (Signature)

Date: 11/17/17 Time: 10:12

Relinquished by (Signature)

Date: 11/17/17 Time: 10:12

Relinquished by (Signature)

Date: 11/17/17 Time: 10:12

Relinquished by (Signature)

Date: 11/17/17 Time: 10:12

Relinquished by (Signature)

Date: 11/17/17 Time: 10:12

Relinquished by (Signature)

Date: 11/17/17 Time: 10:12

Relinquished by (Signature)

Date: 11/17/17 Time: 10:12

Normal

48-Hour Rush

24-Hour Rush

TRRP Laboratory Review Checklist

Yes

No

NOTES:

e-mail results to:

kwilliams@terracon.com

zach.conder@terracon.com

Matrix

WW Wastewater

VOA - 40 ml vial

W - Water

A/G - Amber Glass 3L

S - Soil

250 ml - Glass wide mouth

L - Liquid

A - Air Bag

C - Charcoal tube

SI - Sludge

Lubbock Office 5827 50th Street, Suite 1 Lubbock, Texas 79424 806-300-0140

Responsive Resourceful Reliable



# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

Client: Terracon Lubbock

Date/ Time Received: 11/17/2017 10:12:00 AM

Work Order #: 568793

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)?	3.1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#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:

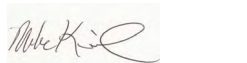
PH Device/Lot#:

Checklist completed by:

  
Brenda Ward

Date: 11/17/2017

Checklist reviewed by:

  
Mike Kimmel

Date: 11/20/2017

## **APPENDIX D**

Table 3 – Historical Quarterly Groundwater Elevation and PSH Thickness Data

Table 4 – Historical Groundwater Analytical Summary - BTEX

Table 5 – Historical Groundwater Analytical Summary - PAHs

**TABLE 3**  
**2017 ANNUAL REPORT**

**HISTORIC QUARTERLY GROUNDWATER ELEVATION AND PSH THICKNESS DATA**  
**DCP PLANT TO LEA STATION 6-INCH SEC. 31**  
**LEA COUNTY, NEW MEXICO**  
**PLAINS SRS #: 2009-084**  
**NMOCD REFERENCE #: 1RP-2166**  
**TERRACON PROJECT #: AR187004**

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-1	09/29/09	3,539.59	69.82	69.83	0.01	3,469.77
	12/10/09	3,539.59	69.51	71.41	1.90	3,469.80
	2/3/2012	3,539.59	79.55	83.00	3.45	3,459.52
	5/1/2012	3,539.59	78.46	83.00	4.54	3,460.45
	8/20/2012	3,539.59	78.50	82.95	4.45	3,460.42
	11/9/2012	3,539.59	*	*	*	*
	2/5/2013	3,539.59	79.95	82.80	2.85	3,459.21
	5/30/2013	3,539.59	83.64	86.23	2.59	3,455.56
	8/5/2013	3,539.59	*	*	*	*
	11/13/2013	3,539.59	*	*	*	*
	02/14/2014	3,539.59	82.68	86.32	3.64	3,456.36
	05/08/2014	3,539.59	*	*	*	*
	08/05/2014	3,539.59	82.68	85.77	3.09	3,456.45
	11/07/2014	3,539.59	*	*	*	*
	02/19/2015	3,539.59	83.39	86.32	2.93	3,455.76
	05/06/2015	3,539.59	83.57	84.07	0.50	3,455.95
	08/20/2015	3,539.59	83.67	86.19	2.52	3,455.54
	11/19/2015	3,539.59	83.43	86.00	2.57	3,455.77
	02/10/2016	3,539.59	*	*	*	*
	05/03/2016	3,539.59	*	*	*	*
	08/04/2016	3,539.59	*	*	*	*
	12/22/2016	3,539.59	83.05	86.01	2.96	3,456.10
MW-2	09/29/09	3,539.39	-	82.26	-	3,457.13
	12/10/09	3,539.39	-	82.36	-	3,457.03
	2/3/2012	3,539.37	-	81.00	-	3,458.37
	5/1/2012	3,539.37	-	82.60	-	3,456.77
	8/20/2012	3,539.37	-	82.75	-	3,456.62
	11/9/2012	3,539.37	-	82.76	-	3,456.61
	2/5/2013	3,539.37	-	82.75	-	3,456.62
	5/30/2013	3,539.37	-	82.90	-	3,456.47
	8/5/2013	3,539.37	-	82.91	-	3,456.46
	11/13/2013	3,539.37	-	82.89	-	3,456.48
	02/14/2014	3,539.37	-	82.92	-	3,456.45
	05/08/2014	3,539.37	-	82.93	-	3,456.44
	08/05/2014	3,539.37	-	82.97	-	3,456.40
	11/07/2014	3,539.37	-	83.02	-	3,456.35
	02/19/2015	3,539.37	-	83.04	-	3,456.33
	05/06/2015	3,539.37	-	83.03	-	3,456.34
	08/14/2015	3,539.37	-	82.73	-	3,456.64
	11/19/2015	3,539.37	-	83.10	-	3,456.27
	02/10/2016	3,539.37	-	83.10	-	3,456.27
	05/03/2016	3,539.37	-	83.10	-	3,456.27
	08/04/2016	3,539.37	-	83.08	-	3,456.29
	12/22/2016	3,539.37	-	83.21	-	3,456.16

**TABLE 3  
2017 ANNUAL REPORT**

**HISTORIC QUARTERLY GROUNDWATER ELEVATION AND PSH THICKNESS DATA  
DCP PLANT TO LEA STATION 6-INCH SEC. 31  
LEA COUNTY, NEW MEXICO  
PLAINS SRS #: 2009-084  
NMOCD REFERENCE #: 1RP-2166  
TERRACON PROJECT #: AR187004**

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-3	09/29/09	3,539.31	-	82.54	-	3,456.77
	12/10/09	3,539.31	-	82.67	-	3,456.64
	2/3/2012	3,539.28	-	83.00	-	3,456.28
	5/1/2012	3,539.28	-	83.00	-	3,456.28
	8/20/2012	3,539.28	-	83.06	-	3,456.22
	11/9/2012	3,539.28	-	83.01	-	3,456.27
	2/5/2013	3,539.28	-	83.08	-	3,456.20
	5/30/2013	3,539.28	-	83.21	-	3,456.07
	8/5/2013	3,539.28	-	83.20	-	3,456.08
	11/13/2013	3,539.28	-	83.24	-	3,456.04
	02/14/2014	3,539.28	-	83.31	-	3,455.97
	05/08/2014	3,539.28	-	83.26	-	3,456.02
	08/05/2014	3,539.28	-	83.31	-	3,455.97
	11/07/2014	3,539.28	-	83.39	-	3,455.89
	02/19/2015	3,539.28	-	83.34	-	3,455.94
	05/06/2015	3,539.28	-	83.35	-	3,455.93
	08/14/2015	3,539.28	-	83.29	-	3,455.99
	11/19/2015	3,539.28	-	83.43	-	3,455.85
	02/10/2016	3,539.28	-	83.48	-	3,455.80
	05/03/2016	3,539.28	-	83.45	-	3,455.83
	08/04/2016	3,539.28	-	83.44	-	3,455.84
	12/22/2016	3,539.28	-	83.51	-	3,455.77
MW-4	09/29/09	3,540.12	-	83.58	-	3,456.54
	12/10/09	3,540.12	-	84.68	-	3,455.44
	2/3/2012	3,540.07	-	84.05	-	3,456.02
	5/1/2012	3,540.07	-	83.93	-	3,456.14
	8/20/2012	3,540.07	-	84.11	-	3,455.96
	11/9/2012	3,540.07	-	83.99	-	3,456.08
	2/5/2013	3,540.07	-	84.13	-	3,455.94
	5/30/2013	3,540.07	-	84.28	-	3,455.79
	8/5/2013	3,540.07	-	84.25	-	3,455.82
	11/13/2013	3,540.07	-	84.29	-	3,455.78
	02/14/2014	3,540.07	-	84.33	-	3,455.74
	05/08/2014	3,540.07	-	84.32	-	3,455.75
	08/05/2014	3,540.07	-	84.34	-	3,455.73
	11/07/2014	3,540.07	-	84.46	-	3,455.61
	02/19/2015	3,540.07	-	84.41	-	3,455.66
	05/06/2015	3,540.07	-	84.40	-	3,455.67
	08/14/2015	3,540.07	-	84.34	-	3,455.73
	11/19/2015	3,540.07	-	84.50	-	3,455.57
	02/10/2016	3,540.07	-	84.50	-	3,455.57
	05/03/2016	3,540.07	-	84.47	-	3,455.60
	08/04/2016	3,540.07	-	84.48	-	3,455.59
	12/22/2016	3,540.07	-	84.54	-	3,455.53

**TABLE 3**  
**2017 ANNUAL REPORT**

**HISTORIC QUARTERLY GROUNDWATER ELEVATION AND PSH THICKNESS DATA**  
**DCP PLANT TO LEA STATION 6-INCH SEC. 31**  
**LEA COUNTY, NEW MEXICO**  
**PLAINS SRS #: 2009-084**  
**NMOCD REFERENCE #: 1RP-2166**  
**TERRACON PROJECT #: AR187004**

WELL NUMBER	DATE MEASURED	CASING WELL ELEVATION	DEPTH TO PRODUCT	DEPTH TO WATER	PSH THICKNESS	CORRECTED GROUNDWATER ELEVATION
MW-5	2/3/2012	3,539.90		83.60		3,456.30
	5/1/2012	3,539.90		83.75		3,456.15
	8/20/2012	3,539.90		83.68		3,456.22
	11/9/2012	3,539.90		83.72		3,456.18
	2/5/2013	3,539.90	-	83.80	-	3,456.10
	5/30/2013	3,539.90	-	83.89	-	3,456.01
	8/5/2013	3,539.90	-	83.85	-	3,456.05
	11/13/2013	3,539.90	-	83.90	-	3,456.00
	02/14/2014	3,539.90	-	83.95	-	3,455.95
	05/08/2014	3,539.90	-	83.94	-	3,455.96
	08/05/2014	3,539.90	-	84.00	-	3,455.90
	11/07/2014	3,539.90	-	84.00	-	3,455.90
	02/19/2015	3,539.90	-	84.02	-	3,455.88
	05/06/2015	3,539.90	-	84.04	-	3,455.86
	08/14/2015	3,539.90	-	84.00	-	3,455.90
	11/19/2015	3,539.90	-	84.12	-	3,455.78
	02/10/2016	3,539.90	-	84.14	-	3,455.76
	05/03/2016	3,539.90	-	84.10	-	3,455.80
	08/04/2016	3,539.90	-	84.12	-	3,455.78
	12/22/2016	3,539.90	-	84.18	-	3,455.72
MW-6	9/25/2013	3540.82	-	83.80	-	3,457.02
	11/13/2013	3540.82	-	84.79	-	3,456.03
	02/14/2014	3540.82	-	84.81	-	3,456.01
	05/08/2014	3540.82	-	84.81	-	3,456.01
	08/05/2014	3540.82	-	84.85	-	3,455.97
	11/07/2014	3540.82	-	84.91	-	3,455.91
	02/19/2015	3540.82	-	84.91	-	3,455.91
	05/06/2015	3540.82	-	84.92	-	3,455.90
	08/14/2015	3540.82	-	84.65	-	3,456.17
	11/19/2015	3540.82	-	85.00	-	3,455.82
	02/10/2016	3540.82	-	85.00	-	3,455.82
	05/03/2016	3540.82	-	84.96	-	3,455.86
	08/04/2016	3540.82	-	85.03	-	3,455.79
	12/22/2016	3540.82	-	85.05	-	3,455.77

Elevations based on the North American Vertical Datum of 1988

- = Not applicable

\* Indicates Monitor Well was not gauged due to the presences of a Mobile Dual Phase Extraction (MDPE) unit.

**TABLE 4**  
**2017 ANNUAL REPORT**

**HISTORIC GROUNDWATER ANALYTICAL SUMMARY - BTEX**  
**DCP PLANT TO LEA STATION 6-INCH SEC. 31**  
**LEA COUNTY, NEW MEXICO**  
**PLAINS SRS #: 2009-084**  
**NMOCD REFERENCE #: 1RP-2166**  
**TERRACON PROJECT #: AR187004**

SAMPLE LOCATION	SAMPLE DATE	METHODS: EPA SW 846-8260b						
		BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	M,P- XYLENES (mg/L)	O-XYLENES (mg/L)	TOTAL XYLENES (mg/L)	TOTAL BTEX (mg/L)
MW-1	12/10/2009	19.0	13.09	0.812	1.894	0.729	2.623	35.525
MW-2	9/29/2009	<0.005	<0.005	<0.005	<0.01	<0.005	<0.01	<0.01
	12/10/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	3/18/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	5/27/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	8/26/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	10/29/2010	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	3/25/2011	0.0072	0.0068	<0.0010	<0.0020	<0.0010	<0.0020	0.0139
	5/26/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	8/17/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	11/29/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	2/3/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	5/1/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	8/20/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	11/9/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	2/5/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	5/30/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	8/5/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	11/13/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	2/14/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	5/8/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	8/5/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	11/7/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	2/19/2015	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	5/6/2015	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	8/18/2015	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	12/8/2015	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	2/10/2016	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<0.00200
	5/3/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	8/4/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	12/22/2016	<0.00100	<0.00100	<0.00100	<0.00200	<0.00100	<0.00200	<0.00200

**TABLE 4**  
**2017 ANNUAL REPORT**

**HISTORIC GROUNDWATER ANALYTICAL SUMMARY - BTEX**  
**DCP PLANT TO LEA STATION 6-INCH SEC. 31**  
**LEA COUNTY, NEW MEXICO**  
**PLAINS SRS #: 2009-084**  
**NMOCD REFERENCE #: 1RP-2166**  
**TERRACON PROJECT #: AR187004**

MW-3	9/29/2009	<0.005	<0.005	<0.005	<0.01	<0.005	<0.01	<0.01
	12/10/2009	0.0031	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0031
	3/18/2010	0.0054	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0054
	5/27/2010	0.0043	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0043
	8/26/2010	0.0053	0.0023	<0.0010	<0.0020	<0.0010	<0.0020	0.0076
	10/29/2010	<b>0.0129</b>	0.0046	<0.0010	<0.0020	<0.0010	<0.0020	0.0175
	3/25/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	5/26/2011	0.00425	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.00425
	8/17/2011	<b>0.0138</b>	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0138
	11/29/2011	0.0050	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0050
	2/3/2012	<b>0.024</b>	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0240
	5/1/2012	<b>0.031</b>	0.0022	<0.0010	<0.0020	<0.0010	<0.0020	0.0332
	8/20/2012	<b>0.011</b>	<0.0020	0.0045	0.0303	0.0226	0.0303	0.0680
	11/9/2012	<b>0.026</b>	<0.0020	<0.0010	<0.0020	0.0017	<0.0020	0.0277
	2/5/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	5/30/2013	<b>0.0101</b>	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0101
	8/5/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	11/13/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	2/14/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	5/8/2014	0.0024	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0024
	8/5/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	11/7/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	2/19/2015	0.0013	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0013
	5/6/2015	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	8/18/2015	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	12/8/2015	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	2/10/2016	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<0.00200
	5/3/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	8/4/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	12/22/2016	0.00110	<0.00100	<0.00100	<0.00200	<0.00100	<0.00200	0.00110
MW-4	9/29/2009	<0.005	<0.005	<0.005	<0.01	<0.005	<0.01	<0.01
	12/10/2009	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	3/25/2011	0.0051	0.0046	<0.0010	<0.0020	<0.0010	<0.0020	0.0097
	5/26/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	8/17/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	11/29/2011	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	2/3/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	5/1/2012	0.0011	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0011
	8/20/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	11/9/2012	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	2/5/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	5/30/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	8/5/2013	0.0033	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0033
	11/13/2013	0.0023	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0023
	2/14/2014	<b>0.0240</b>	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0240
	5/8/2014	0.0079	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0079
	8/5/2014	0.0069	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0069
	11/7/2014	0.0047	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0047
	2/19/2015	0.0045	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0045
	5/6/2015	0.0027	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0027
	8/18/2015	0.0020	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0020
	12/8/2015	0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0010
	2/10/2016	0.00214	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	0.00214
	5/3/2016	0.00205	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	0.00205
	8/4/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	12/22/2016	<0.00100	<0.00100	<0.00100	<0.00200	<0.00100	<0.00200	<0.00200

**TABLE 4**  
**2017 ANNUAL REPORT**

**HISTORIC GROUNDWATER ANALYTICAL SUMMARY - BTEX**  
**DCP PLANT TO LEA STATION 6-INCH SEC. 31**  
**LEA COUNTY, NEW MEXICO**  
**PLAINS SRS #: 2009-084**  
**NMOCD REFERENCE #: 1RP-2166**  
**TERRACON PROJECT #: AR187004**

MW-5	3/25/2011	<b>0.371</b>	<0.0020	<0.0050	0.0115	0.0060	0.0175	0.3885
	5/26/2011	<b>1.12</b>	0.0265	<0.0010	0.0137	0.0138	0.0275	1.17
	8/17/2011	<b>1.73</b>	0.0560	<0.0020	<0.0040	0.0210	0.0210	1.81
	11/29/2011	<b>0.233</b>	0.0073	<0.0010	0.0020	0.00188	0.00388	0.244
	2/3/2012	<b>0.442</b>	0.0053	<0.0010	<0.0020	0.0020	<0.0020	0.449
	5/1/2012	<b>0.477</b>	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.477
	8/20/2012	<b>0.249</b>	0.0046	<0.0010	<0.0020	<0.0010	<0.0020	0.254
	11/9/2012	<b>0.541</b>	0.0145	<0.0050	<0.0100	<0.0050	<0.0100	0.556
	2/5/2013	0.0042	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0042
	5/30/2013	<b>0.0201</b>	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0201
	8/5/2013	<b>0.0107</b>	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0107
	11/13/2013	0.0013	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	0.0013
	2/14/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	5/8/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	8/5/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	11/7/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	2/19/2015	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	5/6/2015	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	8/18/2015	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	12/8/2015	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	2/10/2016	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<0.00200
MW-6	5/3/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	8/4/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	12/22/2016	<0.00100	<0.00100	<0.00100	<0.00200	<0.00100	<0.00200	<0.00200
	9/25/2013	<0.0050	<0.0050	<0.0050	<0.0100	<0.0050	<0.0100	<0.0100
	11/13/2013	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	2/14/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	5/8/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	8/5/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	11/7/2014	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	2/19/2015	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	5/6/2015	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	8/18/2015	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	12/8/2015	<0.0010	<0.0020	<0.0010	<0.0020	<0.0010	<0.0020	<0.0020
	2/10/2016	<0.00100	<0.00200	<0.00100	<0.00200	<0.00100	<0.00200	<0.00200
	5/3/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	8/4/2016	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200
	12/22/2016	<0.00100	<0.00100	<0.00100	<0.00200	<0.00100	<0.00200	<0.00200
<b>NMOCD CRITERIA</b>		<b>0.01</b>	<b>0.75</b>	<b>0.75</b>	<b>TOTAL XYLENES 0.62</b>			

TABLE 5  
2017 ANNUAL REPORT

HISTORIC CONCENTRATIONS OF POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)<sup>1</sup> IN GROUNDWATER  
DCP PLANT TO LEA STATION 6-INCH SEC 31  
PLAINS SRS #: 2009-084  
LEA COUNTY, NEW MEXICO  
NMOCD REFERENCE NUMBER 1RP-2166  
TERRACON PROJECT #: AR187004

All water concentrations are reported in mg/L

All water concentrations are reported in mg/L																			
SAMPLE LOCATION	SAMPLE DATE	EPA SW846-8270C, 3510																	
		Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Chrysene	Dibenz[a,h]anthracene	Fluoranthene	Fluorene	Indeno[1,2,3-cd]pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
MW-1	12/10/2009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05
MW-2	9/29/2009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			<0.005	<0.005
MW-3	9/29/2009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			<0.005	<0.005
MW-3	12/16/2011	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.00556	<0.0111	<0.0111	<0.0111	<0.0111
MW-3	11/9/2012	<0.00035	<0.00033	<0.00016	<0.00024	<0.00019	<0.00036	<0.00049	<0.00028	<0.00022	<0.00019	<0.00024	<0.00030	<0.00032	<0.00031	<0.00048	<0.00031	<0.00027	<0.00027
MW-4	9/29/2009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	-	<0.005	<0.005	<0.005
MW-4	12/21/2011	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.0102	<0.00510	<0.0102	<0.0102	<0.0102	<0.0102
MW-5	3/25/2011	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100			<0.0100	<0.0100
MW-5	11/9/2012	<0.00037	<0.00034	<0.00016	<0.00025	<0.00020	<0.00038	<0.00051	<0.00029	<0.00023	<0.00020	<0.00025	<0.00031	<0.00034	<0.00032	<0.00049	<0.00032	<0.00028	<0.00028
MW-5	12/23/2013	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	<0.000049	0.00054	<0.000049	<0.000049
MW-6	5/13/2014	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.000051	<0.00051			<0.000051	<0.000051
Maximum Contaminant Levels for NM WQCC Drinking Water Standards Sections 1-101.UU and 3-103A.		NA	NA	0.001	0.0001	0.0007	0.001	NA	0.001	0.0002	0.0003	0.001	0.001	0.0004	0.03			0.001	0.001

PAH<sup>1</sup>=Polynuclear aromatic hydrocarbon concentrations analyzed in accordance with EPA SW846-8270C and 3510

## **APPENDIX E**

CD of the 2017 Annual Groundwater Monitoring Report